aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 1M4

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

REPORT ID**: 17095.01.T52.RP2**

Belle River Wind Power Project – Turbine T52
IEC 61400-11 Edition 3.0 Measurement Report

Prepared for:

Belle River Wind LP
2050 Derry Road West, 2nd Floor
Mississauga, Ontario
L5N 0B9

Prepared by:

Sebastian Sanchez Eng. Tech.

Addie Denison, B.A.Sc., P.Eng.

Payam Ashtiani, B.A.Sc., P.Eng.

04 January 2019 – Revision 2

Revision History

Revision Number	Description	Date
1	Issued test report	26 November 2018
2	Minor correction to data point IDs in Appendix D and E Tables	4 January 2018

This report in its entirety, including appendices contains 104 pages.

Statement Qualifications and Limitations

This report was prepared by Aercoustics Engineering Limited in accordance with International Standard IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques". This report is specific only to the Wind Turbine identified in this report.

Aercoustics Engineering Limited shall not be responsible for any events or circumstances that may have occurred since the date on which the Wind Turbine was tested and/or this report was prepared, or for any inaccuracies contained in information that was provided to Aercoustics Engineering Limited. Further, Aercoustics Engineering Limited agrees that this report represents test data analysed as per the above described standard for the specific Wind Turbine described in this report, but Aercoustics Engineering Limited makes no other representations with respect to this report or any part thereof.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Aercoustics Engineering Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Any use of this report is subject to this Statement of Qualifications and Limitations. Any damages arising from improper use of this report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of this report.

Table of Contents

List of Appendices

List of Appendices (cont'd)

1 Introduction

Aercoustics Engineering Limited (Aercoustics) was retained by Belle River Wind LP to conduct an acoustic measurement of turbine T52 at the Belle River Wind Project. The purpose of the measurement was to provide verification of the maximum noise emission of the turbine. The measurement was carried out in accordance with International Standard IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques". This report is specific only to Turbine T52.

2 Wind Turbine Information

2.1 Wind turbine equipment specific information

Wind turbine specific equipment information for turbine T52 was provided by Siemens and is summarized in Tables 1 - 5.

Table 1 - Wind Turbine Details

Wind Turbine Details	
Manufacturer	Siemens Gamesa Renewable Energy
Model Number	SWT 3.2-113
Turbine ID	T52

Table 2 - Operating Details

Operating Details	
Vertical or Horizontal axis wind turbine	Horizontal
Upwind or downwind rotor	Upwind rotor
Hub height	99.5 m
Horizontal distance from rotor centre to tower axis	5.5 m
Diameter of rotor	113 m
Tower type (lattice or tube)	Tubular
Passive stall, active stall, or pitch controlled turbine	Pitch controlled turbine
Constant or variable speed	Variable speed
Power curve	Rev 0
Rotational speed at each integer standardised wind speed	Max speed, 14.4 rpm
Rated power output	3200 kW
Control software version	136.1.0.1

Table 3 - Rotor Details

Rotor Details	
Rotor control devices	Pitch control
Presence of vortex generators, stall strips, serrated trailing edges	Vortex generators and DinoTails
Blade type	B55
Serial number	Blade A: 550261001 Blade B: 550350601 Blade C: 550350301
Number of blades	3

Table 4 - Gearbox Details

Gearbox Details	
Manufacturer	N/A Direct drive
Model number	N/A Direct drive
Serial number	N/A Direct drive

Table 5 - Generator Details

Generator Details	
Manufacturer	Siemens
Model number	DD22_02
Serial number	5100218517

2.2 Wind Turbine Location

Turbine T52 is located in Lakeshore, Ontario approximately 780m North of Lakeshore Road 305, and in between Rochester Townline Road and Comber Sideroad. The area surrounding T52 is flat and consists primarily of farmland. The UTM coordinates of Turbine T52 are Zone 17T 370341m E 4680174m N.

A general layout of the area in which the turbine is located is provided in the site plan (Figure A.01).

3 Measurement Details

3.1 Measurement Equipment

3.1.1 Acoustic Measurement Equipment

A summary of acoustic equipment utilized by Aercoustics for the measurement of turbine T52 is summarized in Table 6.

Table 6 - Acoustic Measurement Equipment

Equipment	Manufacturer Name & Model	Serial Number
Acoustic Data acquisition system	LMS SCADA Mobile	22163146
Microphone	B&K 4189	2625417
Pre-amplifier	B&K 2671	2614900
Acoustic calibrator	B&K 4231	3012380

Calibration of the measurement setup was carried out before and after Aercoustics set of measurements.

3.1.2 Meteorological Equipment

Wind speed for Turbine ON was derived from the power curve (as per procedures outlined in IEC 61400-11). Wind direction for turbine ON measurements was utilized from the nacelle anemometer located at hub height (99.5m high) from turbine T52. Data for background measurements was obtained from a 10m high anemometer, which was placed as per guidelines outlined in IEC-61400-11.

The meteorological equipment is summarized in Table 7.

Table 7 – Meteorological Measurement Equipment

Equipment	Manufacturer Name & Model	Serial Number
Anemometer	VAISALA WXT520	G4420002
Serial to Analog Converter	NOKEVAL 7470	A159784

3.2 Measurement Setup

3.2.1 Microphone Placement

The measurement microphone was setup 136m from the base of the turbine in 'Position 1' (i.e. downwind of the turbine, as per IEC 61400-11), at an elevation of 0m relative to the base of T52. The slant distance (R_1) from microphone location to rotor centre includes the distance from rotor center (hub) to tower axis (R_1 = 173). The microphone was placed in the centre of a circular, acoustically reflective board.

During the measurement period only data points for which the microphone was within 15 degrees of downwind from the turbine were used. The microphone position relative to

downwind of the turbine was monitoring via the yaw angle output provided from the turbine system (discussed further in Section 3.5). During placement of the microphone the turbine was parked and the reference yaw angle for that measurement logged.

When measurements of T52 were taken, the surrounding land was tilled and had bare soil. There were no crops or vegetation nearby which would influence on the results of the measurement. There were no nearby reflecting surfaces (houses, barns etc.); as such the influence from reflecting surfaces was considered to be negligible.

Photos of the measurement setup are provided in Figure A.02, Appendix A.

3.2.2 Double Windscreen Setup

A double windscreen setup was not utilized.

3.3 Measurement Schedule

Table 8 provides a summary of the test date and times. Data was logged in 10 second intervals for post-processing (as per the measurement standard).

Table 8 - Measurement Schedule Summary

Date	Test Type	Start Time	Finish time
May 9, 2018	Turbine ON	2:17 pm	3:00 pm
	Background	3:09 pm	4:00 pm
	Turbine ON	4:06 pm	4:57 pm
	Turbine ON	5:00 pm	5:24 pm
	Turbine ON	5:38 pm	7:44 pm
	Turbine ON	8:23 pm	8:49 pm
	Turbine ON	8:52 pm	9:15 pm
	Background	9:18 pm	9:45 pm
	Turbine ON	9:58 pm	10:10 pm
	Turbine ON	10:16 pm	11:15 pm

3.4 Meteorological Conditions

Detailed meteorological data relevant to the measurement is provided in Appendix E.

As previously mentioned, wind speed for Turbine ON was derived from T52's power curve (as per the standard), while wind direction was provided by T52's nacelle yaw position (located at hub height). Background data was obtained from an anemometer located 10 m above ground level near T52.

Temperature and pressure readings during the measurement period were provided by the 10 m anemometer, located near turbine T52 for the duration of Aercoustics measurements.

3.5 Turbine operational information

Output data from the turbine (Power, yaw, RPM, pitch angle, and nacelle wind speed) were obtained as analog output signals that were simultaneously acquired with the acoustic and anemometer measurement data using Aercoustics data acquisition system.

4 Measurement Results

4.1 Deviations from IEC-61400-11 Edition 3.0

No deviations.

4.2 Special Notes & Considerations

No special notes and/or considerations.

4.3 Analysis Details

The following section outlines analysis of the measurement data acquired for T52. The data presented is exclusive of transient events such as vehicle traffic, wildlife, air traffic etc. The site has been assessed to have a roughness length of 0.05 m, representative of farmland with some vegetation.

4.3.1 Double Windscreen Adjustment

As previously mentioned, no double wind screen was used, as such the measurement data did not require adjustment.

4.3.2 Wind Speed Correction

The wind speed for each measurement data point for Turbine ON was derived through the power curve (as per Section 8.2.1.1 of IEC-61400-11). For data points during Turbine ON that were outside the allowed range of the power curve, the wind speed was derived from the nacelle anemometer wind speed (as specified in Section 8.2.1.2 of IEC-61400-11).

Background wind speed was derived utilizing data acquired with the 10m anemometer and normalizing the wind speed (as per Section 8.2.2 of IEC-61400-11).

Table 9 - Calculated nacelle anemometer (k_nac) and 10m (k_Z) wind speed k-factor

k_nac	k_Z
0.99	1.76

4.4 Type B uncertainties

Type B uncertainties were obtained through interpretation of information provided in Annex C of IEC-61400-11, and instrument uncertainties obtained from the calibration certificate. A summary of Type B uncertainties is provided in Table 10, while detailed information (including data in 1/3 octave) is provided in Appendix C.

Table 10 - Summary of Type B uncertainties

Component	Typical (dB)	Used (dB)
Calibration	0.2	0.2
Board	0.3	0.3
Distance & direction	0.1	0.1
Air absorption	0	0
Weather conditions	0.5	0.5
Wind speed measured	0.7	0.7
Wind speed derived	0.2	0.2
Wind speed from power curve	0.2	0.2

4.5 Sound Pressure Level Measurements

Sound pressure level measurements are summarized in Table 11. Detailed 1/3 Octave band spectrum data, respective uncertainties, and analysis plots are provided in Appendix C. A copy of the measurement data used for analysis is provided in Appendix E and includes meteorological and turbine operational data.

Table 11 - Summary of Sound Pressure Level Measurements

Wind Speed (m/s)	Turbine ON		Background		Turbine ON, Background adjusted L_{eq}, (dBA)
	L_{eq}, (dBA)	# of data pts	L_{eq}, (dBA)	# of data pts	
8	54.2	112	41.7	40	53.9
8.5	55.5	121	42.9	41	55.3
9	56.2	81	41.9	40	56.0
9.5	56.3	84	43.1	41	56.1
10	56.2	106	42.8	65	56.0
10.5	56.1	20	42.8	35	55.8
11	56.1	34	44.1	40	55.8
11.5	55.9	33	43.8	27	55.6
12	55.9	38	44.6	17	55.5
12.5	55.6	45	42.7	13	55.4
13	55.6	51	43.5	15	55.3

4.6 Sound Power Level of Turbine

The calculated sound power level of the turbine T52 (as per IEC 61400-11) is summarized in Table 12 (hub height) and Table 13 (10m height). Detailed 1/3 Octave band spectrum data and respective uncertainties are provided in Appendix C.

Table 12 - $L_{WA,K}$ at each integer wind speed

Wind Speed (m/s)	Apparent L_{WA}, (dBA)	Uncertainty (dB)
8	103.6	0.8
8.5	105.1	0.8
9	105.8	0.8
9.5	105.8	0.7
10	105.7	0.8
10.5	105.6	0.8
11	105.5	0.8
11.5	105.4	0.9
12	105.3	0.9
12.5	105.2	0.8
13	105.1	0.8

Table 13 - $L_{WA\ 10m,K}$ at each integer wind speed

Wind Speed (m/s)	Apparent L_{WA}, (dBA)	Uncertainty (dB)
5	100.8	0.7
6	105.0	0.8
7	105.7	0.7
8	105.4	0.8
9	105.1	0.8

4.7 Tonality Analysis

The tonality analysis for Turbine T52 is summarized in Table 14, while plots of narrow band spectra at each wind speed are provided in Appendix D. The ΔL_{tn} and ΔL_a values reported represent the energy average of all data points with an identified tone that falls within the same frequency origin (as specified in Section 9.5.8 in IEC-61400-11).

The narrow band spectra provided in the plots represents an energy average of all data points in the given wind speed bin for both Turbine ON and Background.

Table 14 - Tonality Assessment Summary

Wind Speed (m/s)	Frequency (Hz)	Tonality, ΔL_{tn} (dB)	Tonal audibility, ΔL_a (dB)	FFT's with tones	Total # of FFT's	Presence (%)
8	73	-3.8	-1.8	96	112	86%
10	78	-4.5	-2.5	73	106	69%
10.5	78	-2.8	-0.8	15	20	75%
11	78	-1.8	0.2	29	34	85%
11.5	78	-1.5	0.5	28	33	85%
12	78	-0.2	1.9	36	38	95%
12.5	78	0.0	2.0	45	45	100%
13	78	0.0	2.0	51	51	100%

5 Closure

Measurements and analyses per IEC 61400-11:2012 (Edition 3.0) were performed on turbine T52 of the Belle River Wind Power Project, located in the town of Lakeshore, Ontario. The test turbine was found to have a maximum apparent sound power level of 105.8 dBA and a maximum tonal audibility of 2.0 dB.

Supplementary information to address specific local regulatory requirements are attached separately in Appendix F.

Should you have any questions or comments please do not hesitate to contact the authors of this report.

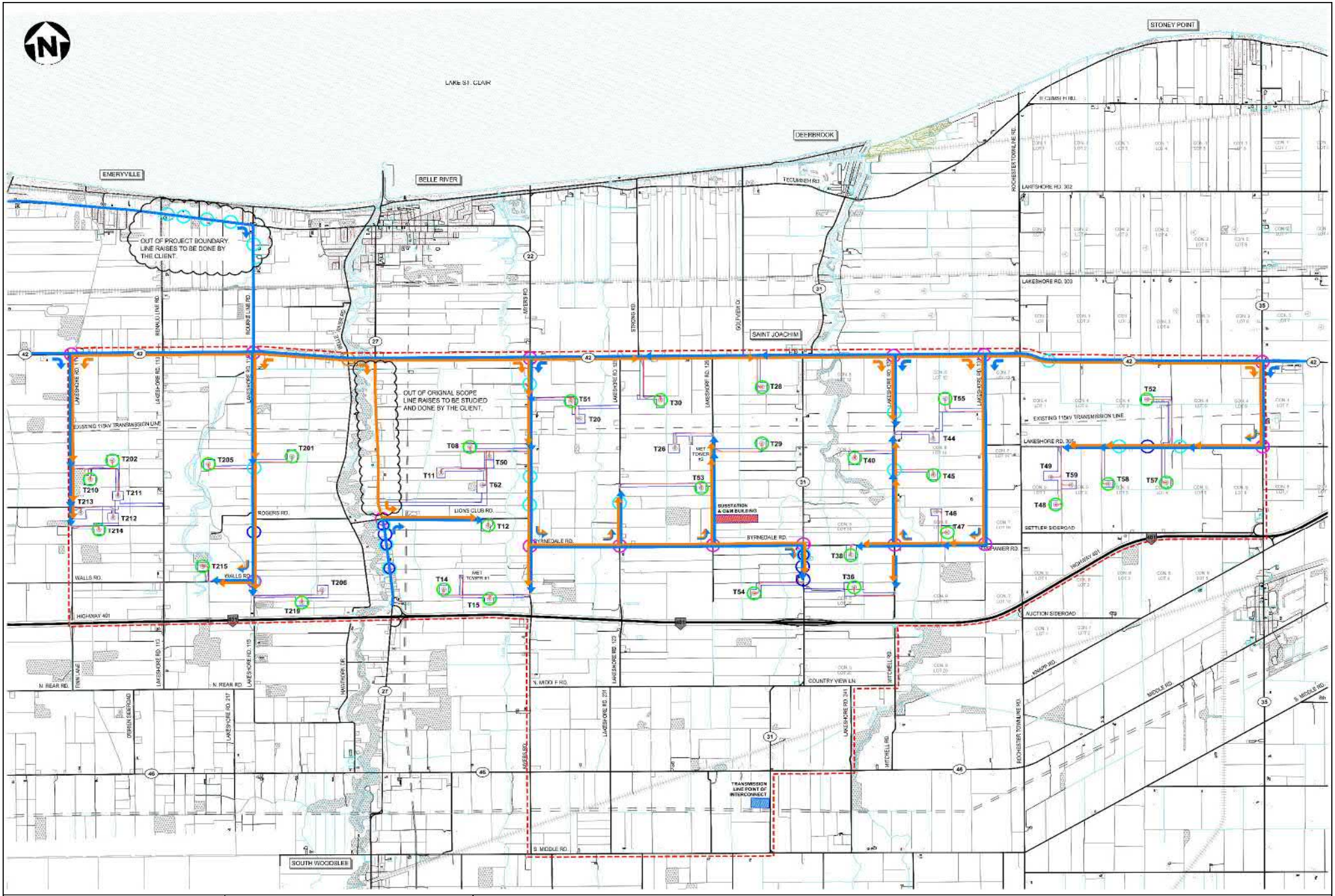
6 References

[1] IEC 61400-11 , *Wind Turbines - Part 11: Acoustic noise measurement techniques,* International Electrotechnical Commission, 2012.

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix A
Site Details



aercoustics	Project ID: 17095.01.T52.RP1 Scale: NTS Drawn by: SS Reviewed by: AD Date: May 24, 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Site Plan
		Figure A.01

aercoustics

Project ID: 17095.01.T52.RP1

Scale: NTS
Drawn by: SS
Reviewed by: AD
Date: May 24, 2018
Revision: 1

Project Name

Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52

Figure Title

Site Photos

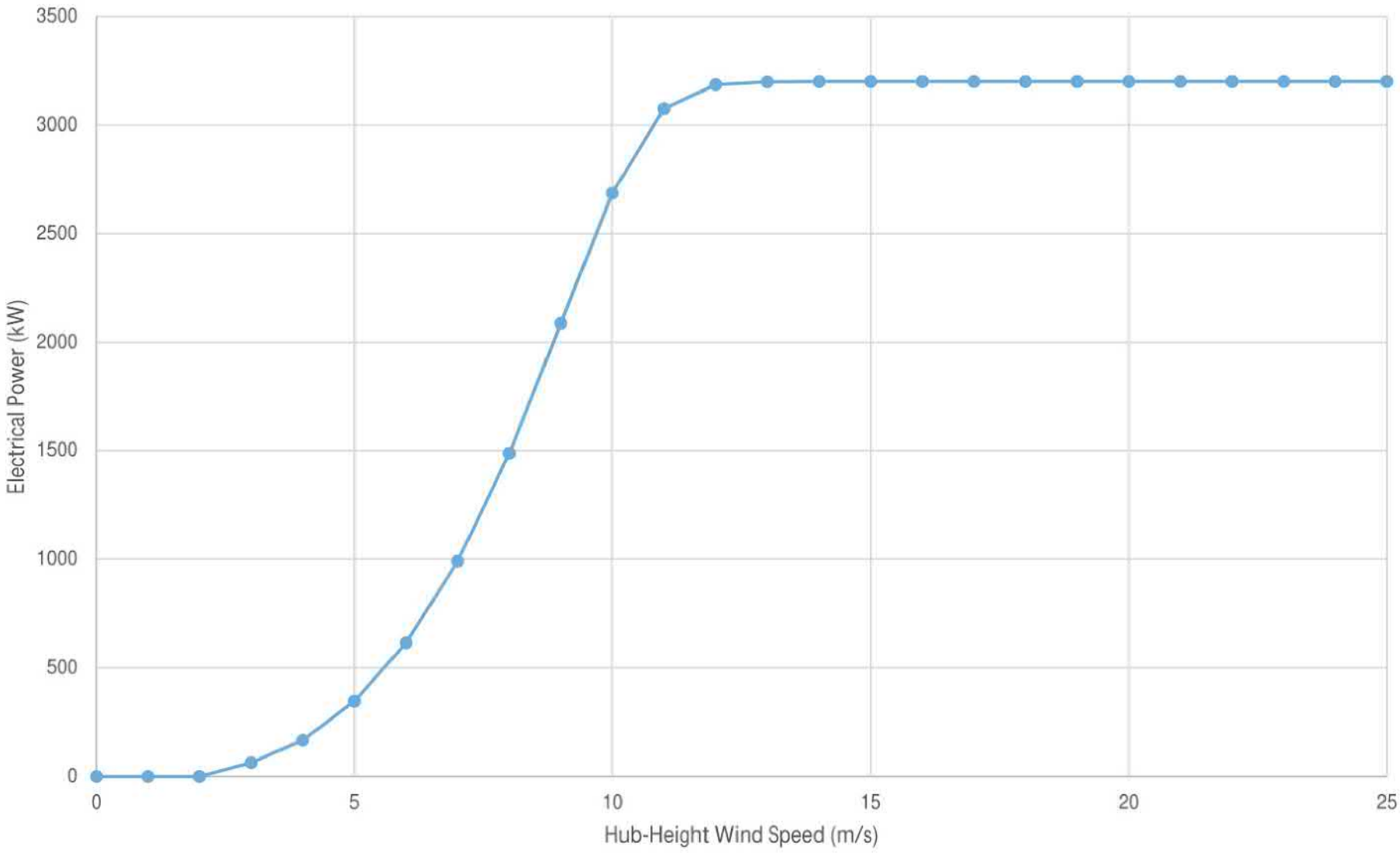
Figure A.02

aercoustics

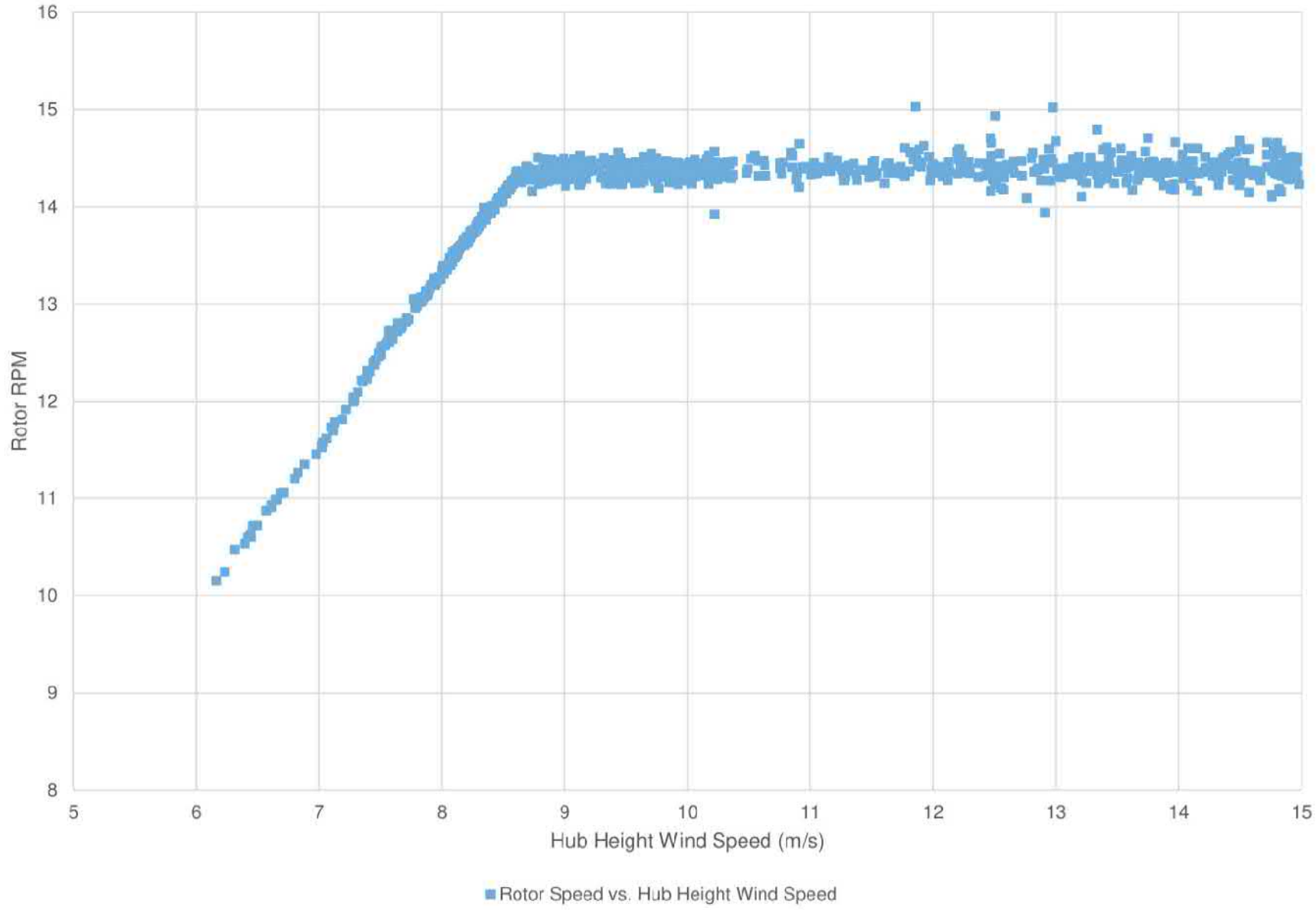
Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix B
Turbine Information



aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Power Curve
		Figure B.01



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Rotor RPM vs. Wind Speed

Figure B.02

Table B.01 Allowed range of power curve and required wind speeds

Power Curve & Required Wind Speeds		
Power Curve Tolerance	3%	
Acceptable range min	5	m/s
Acceptable range max	10	m/s
Min allowable range	5	m/s
Max allowable range	10	m/s
Power Output	3200	kW
85% Power	2720	kW
Corresponding wind speed	10.09	m/s
Minimum bin	8.0	m/s
Maximum bin	13.0	m/s

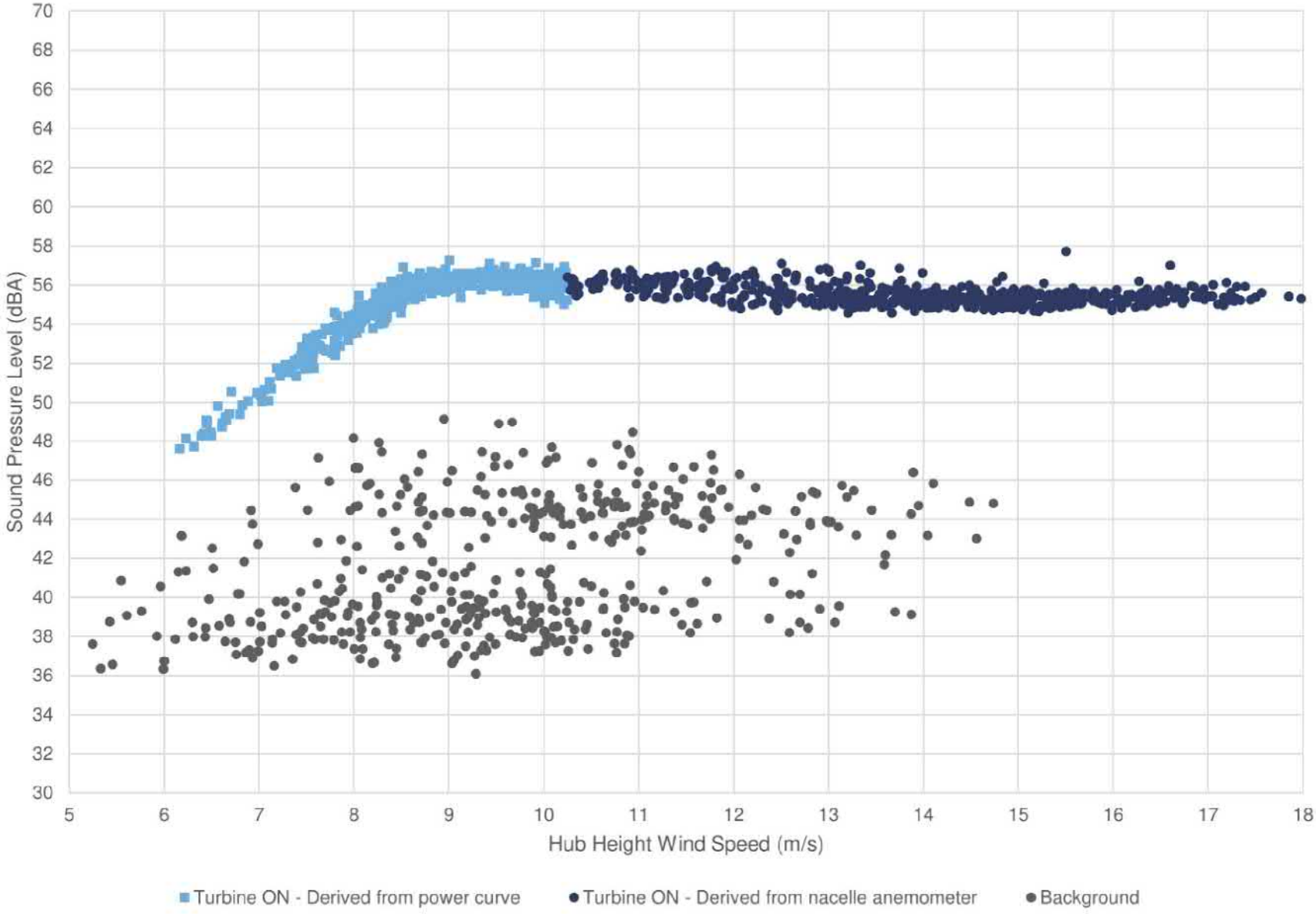
Power Curve (+ value = acceptable)		
Hub Wind Speed (m/s)	Power [kW]	Slope of Power Curve
0	0	-192
1	0	-192
2	0	-129
3	63	-88
4	167	-13
5	346	77
6	615	184
7	991	304
8	1487	410
9	2089	406
10	2687	196
11	3075	-81
12	3186	-179
13	3199	-191
14	3200	-192
15	3200	-192
16	3200	-192
17	3200	-192
18	3200	-192
19	3200	-192
20	3200	-192
21	3200	-192
22	3200	-192
23	3200	-192
24	3200	-192
25	3200	

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

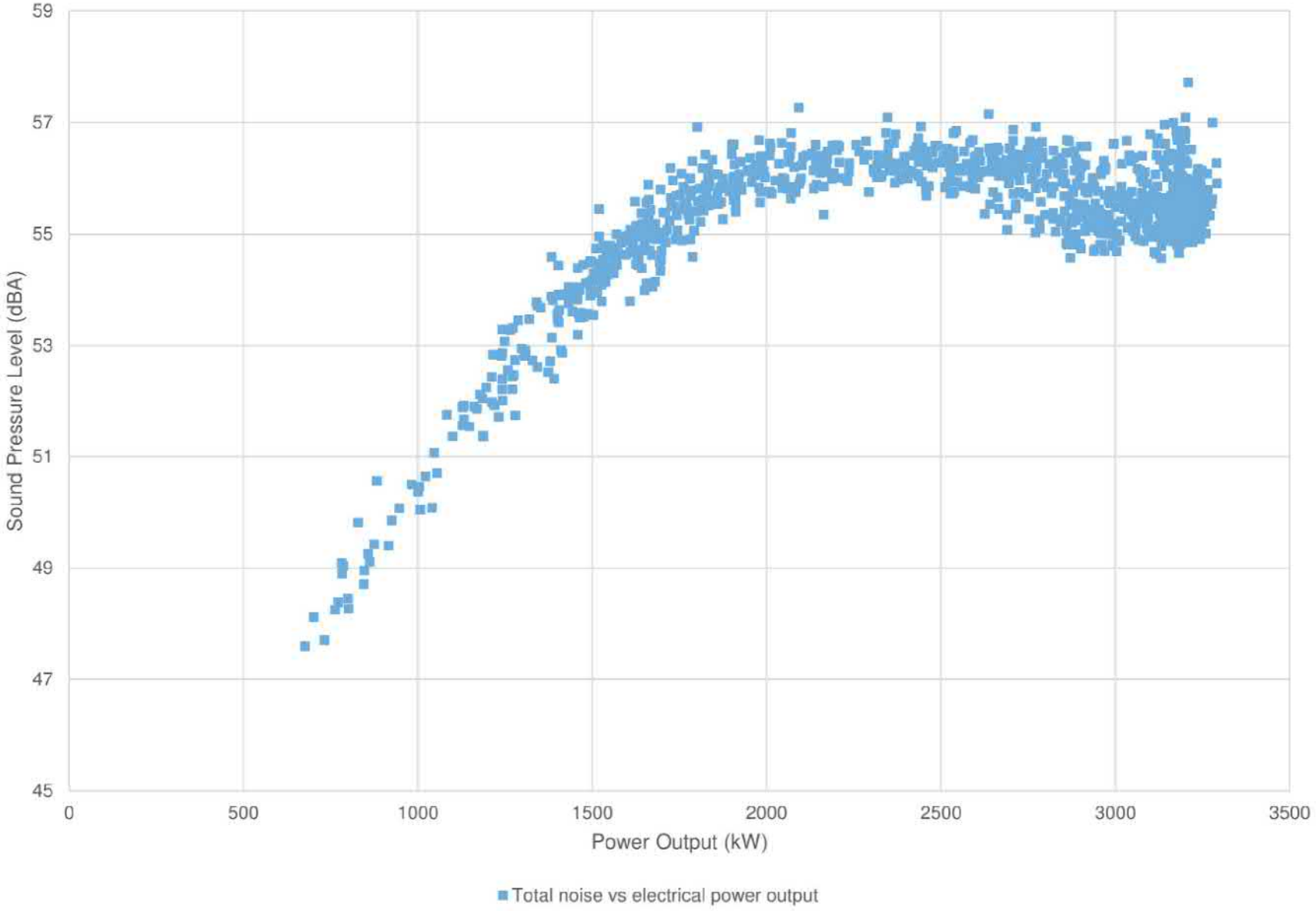
Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix C
Apparent Sound Power Level

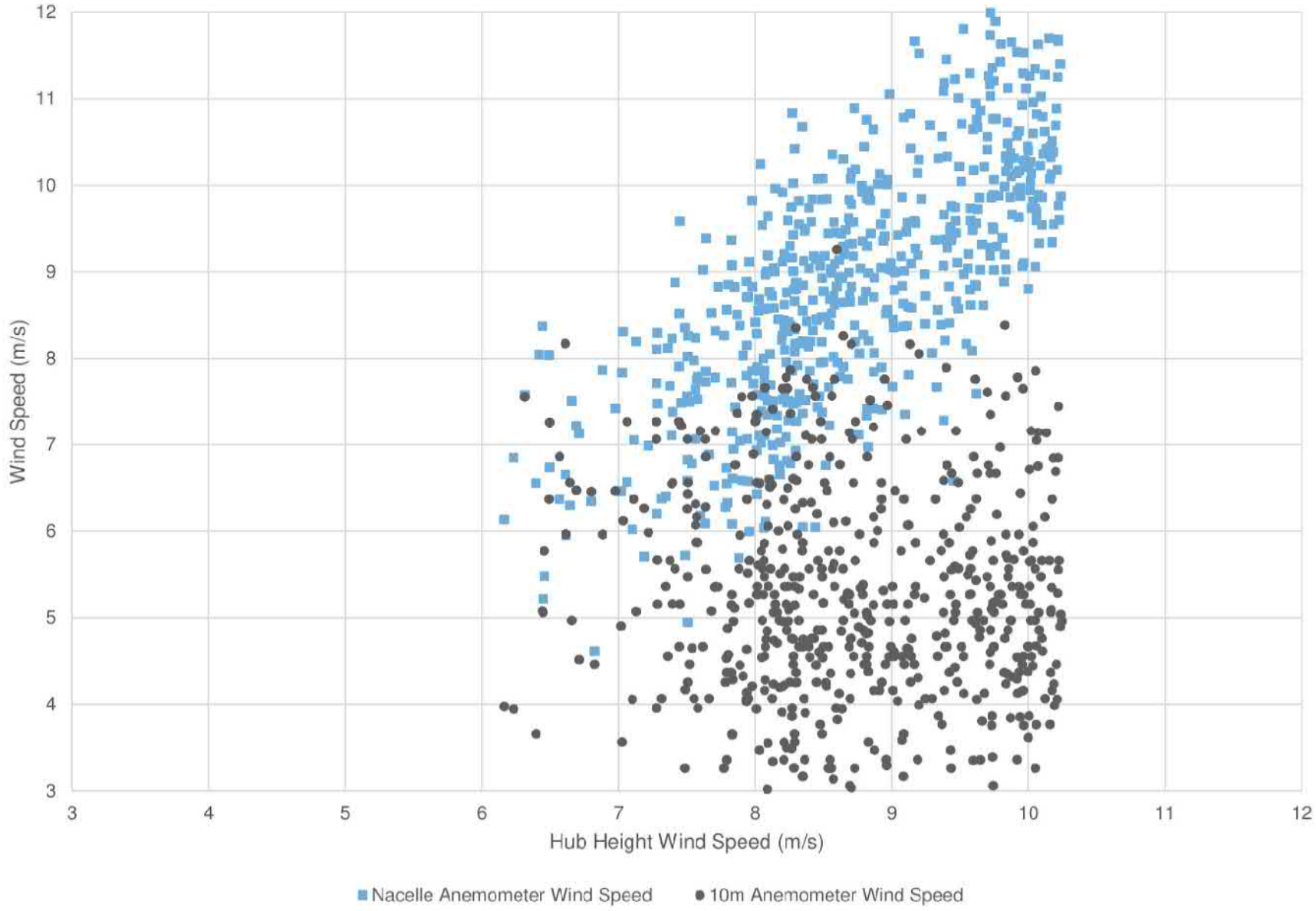


aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of overall measurement data pairs at Position 1 (Turbine ON & Background)

Figure C.01

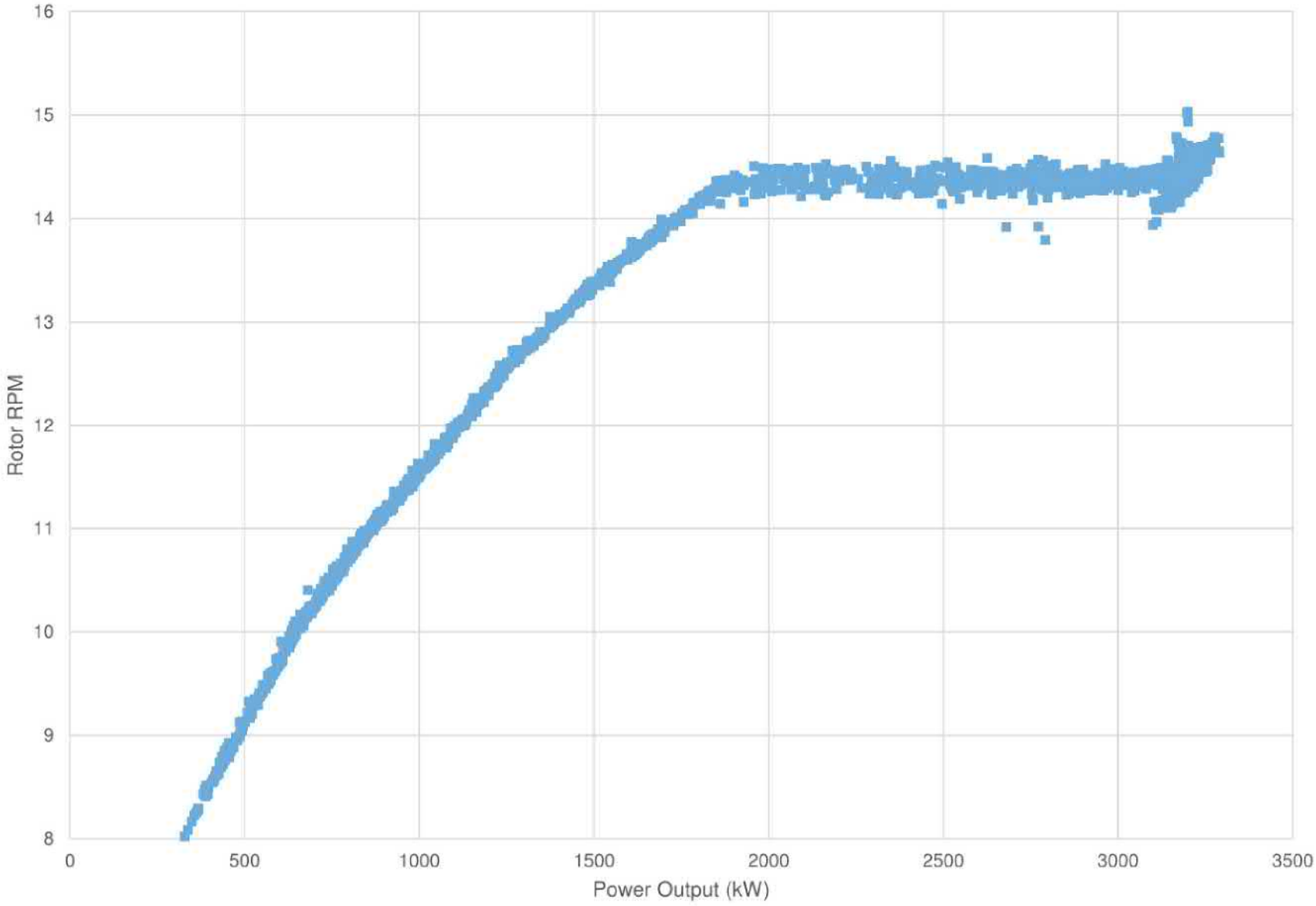


aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of measured total noise vs. electrical power output
		Figure C.02

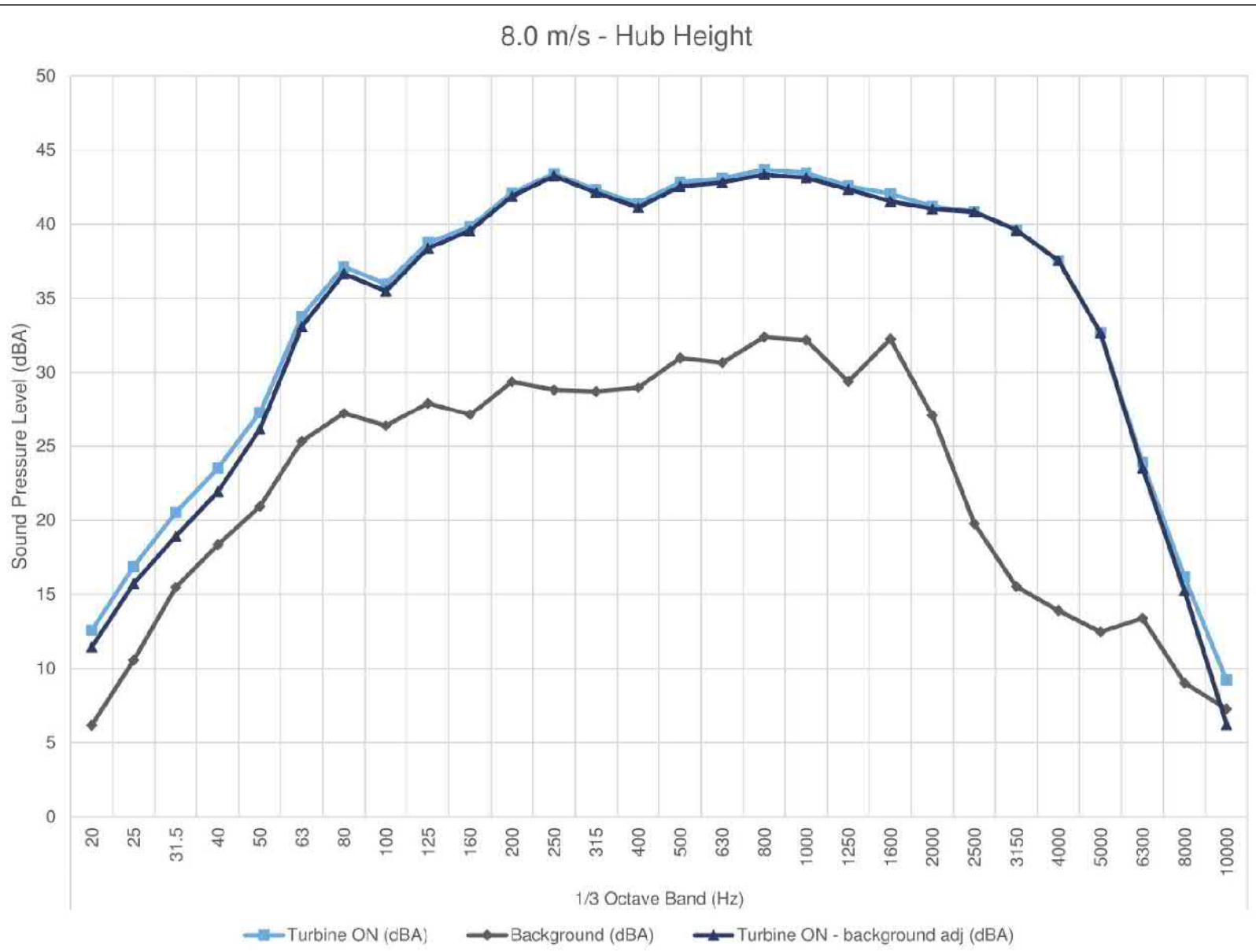


aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of power curve relative to nacelle anemometer and 10 m anemometer

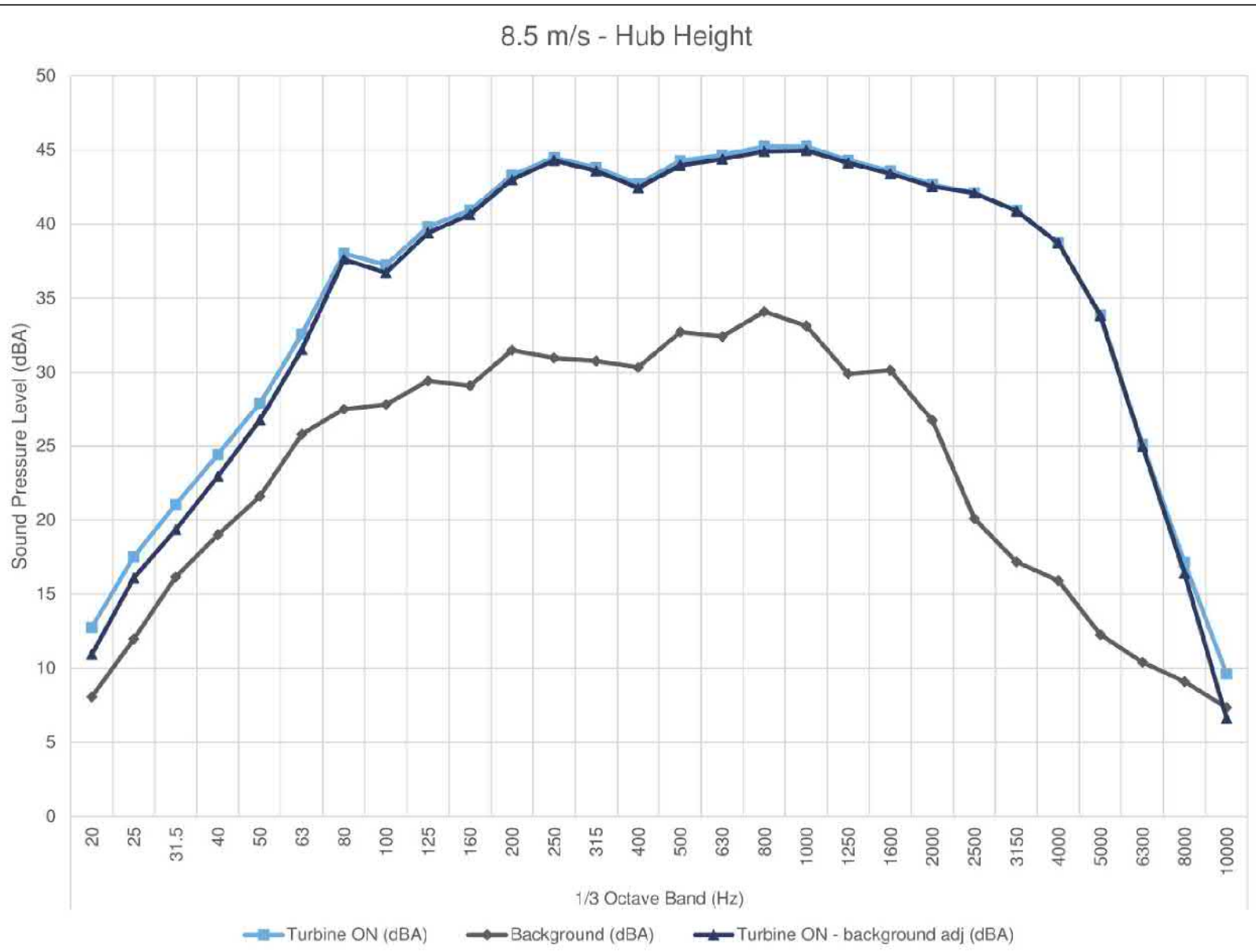
Figure C.03



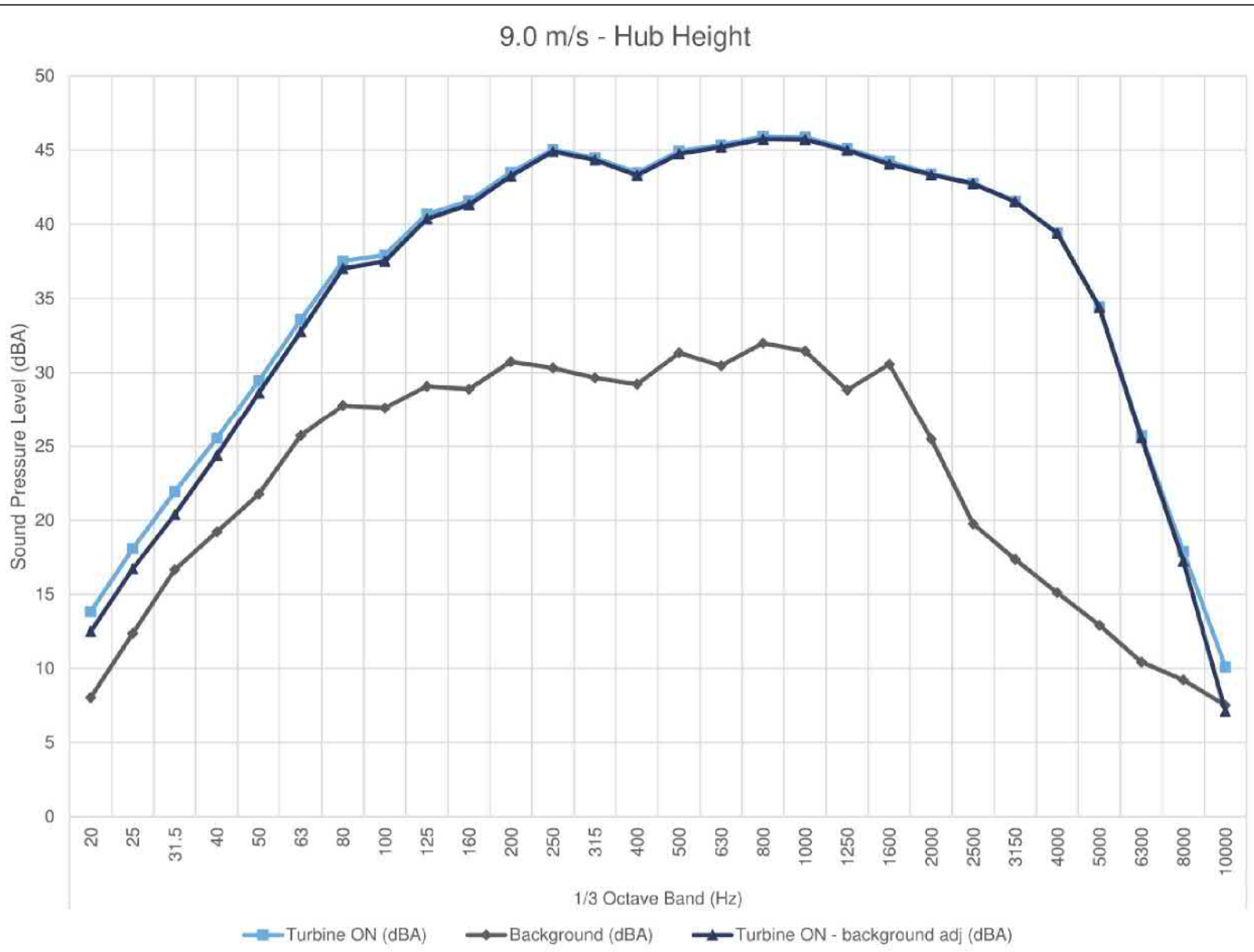
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of rotor RPM vs. electrical power output **Figure C.04**



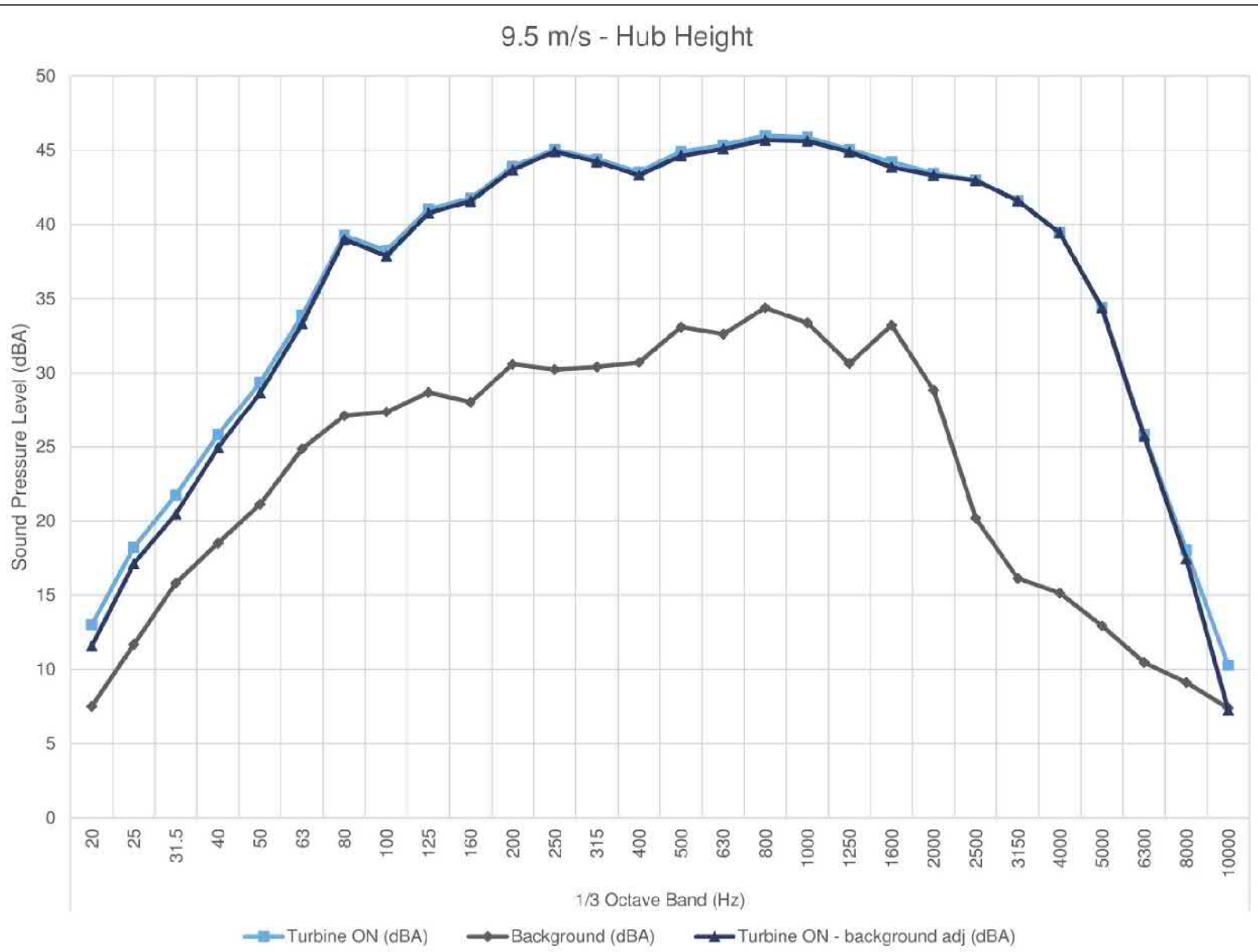
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of sound pressure spectrum in 1/3 Octave at 8 m/s	**Figure C.05**



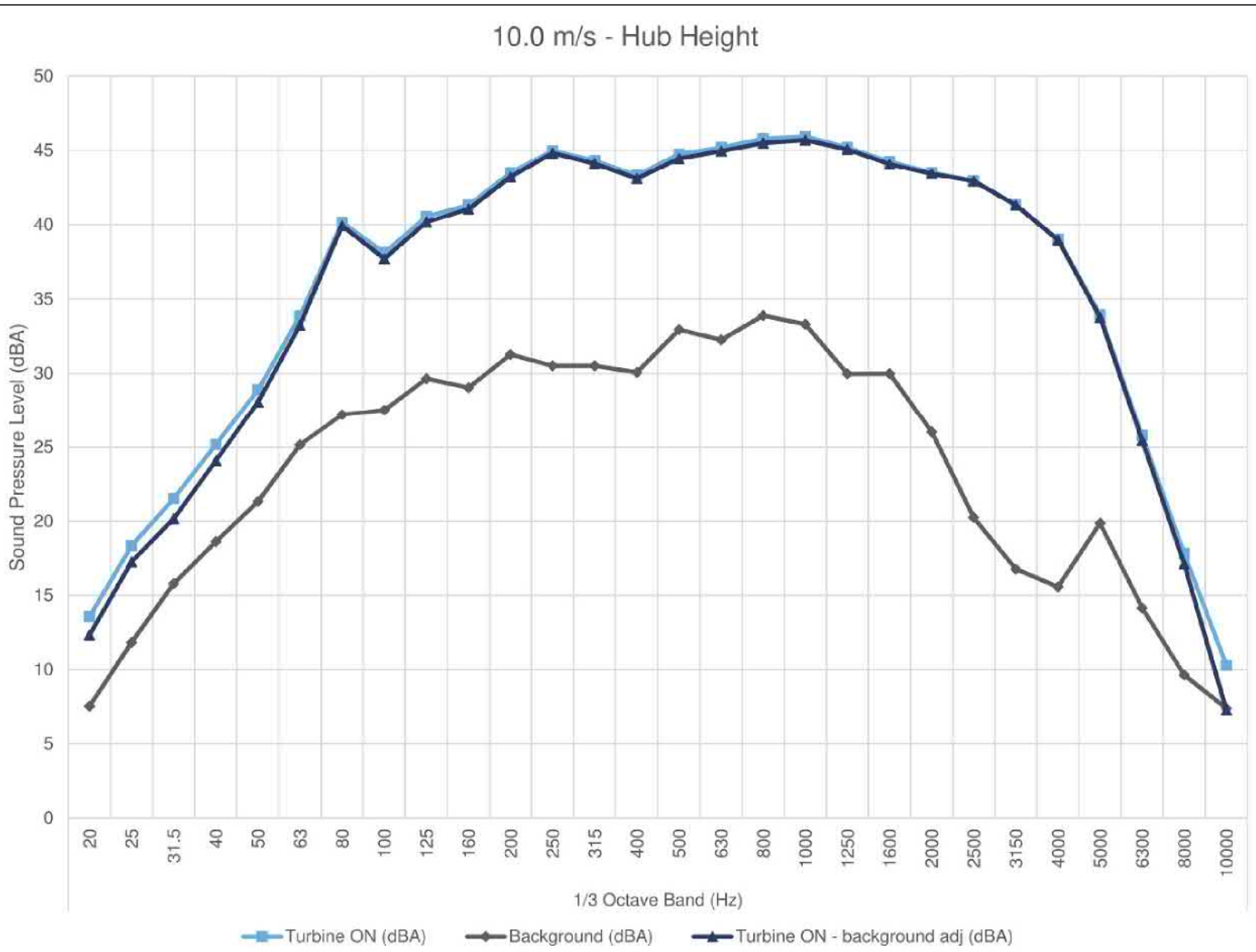
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 8.5 m/s	**Figure C.06**



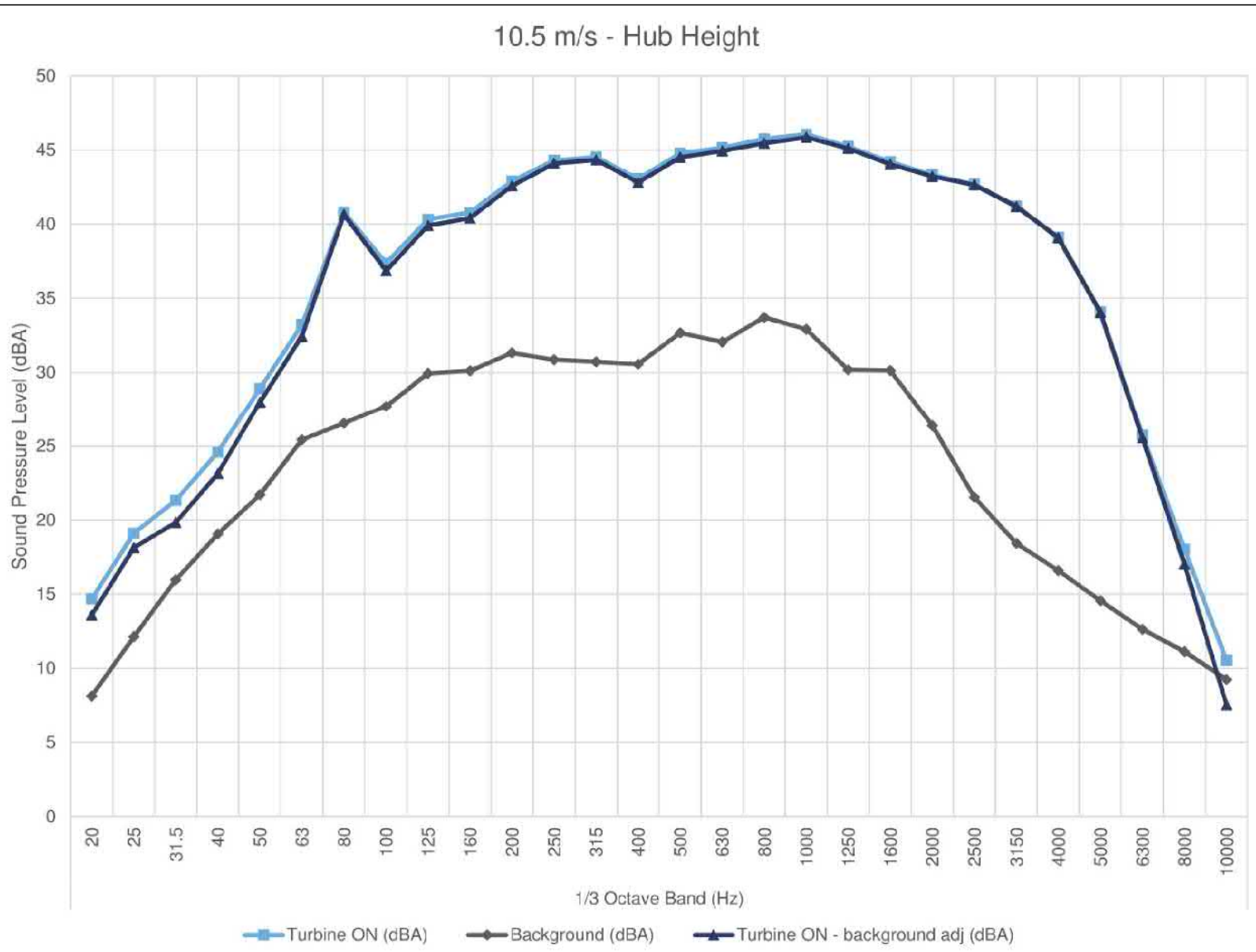
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 9 m/s	**Figure C.07**



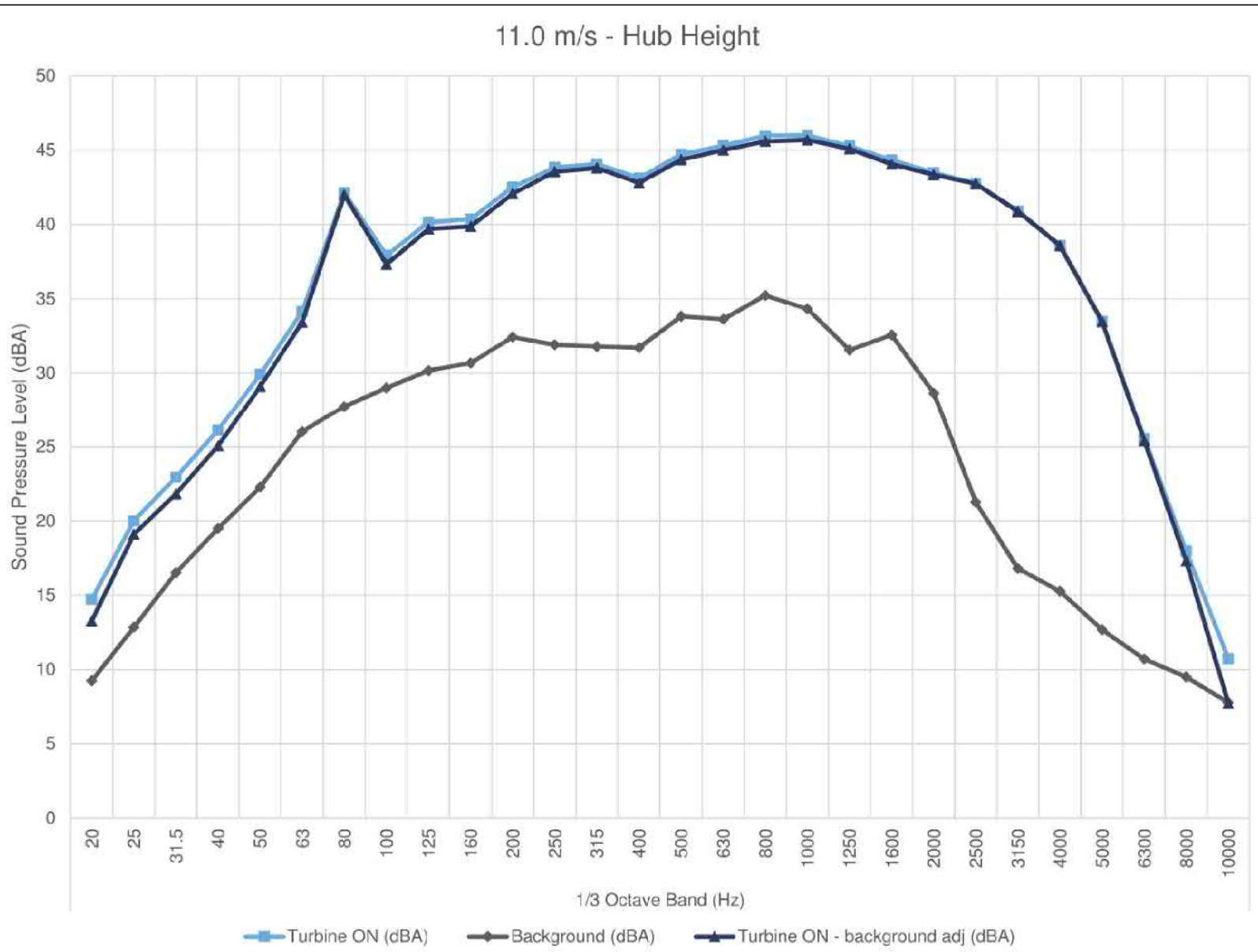
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 9.5 m/s	**Figure C.08**



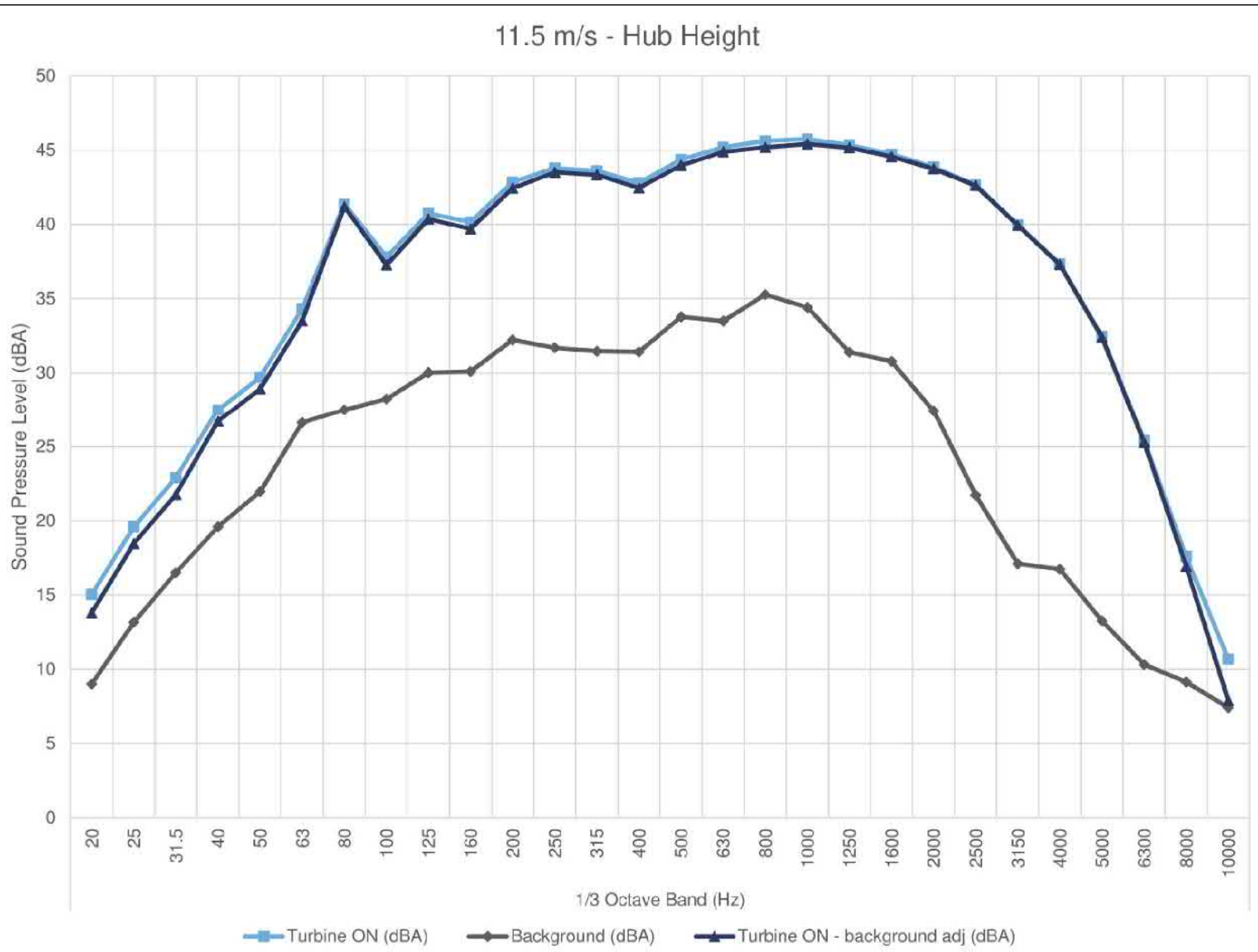
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 10 m/s	**Figure C.09**



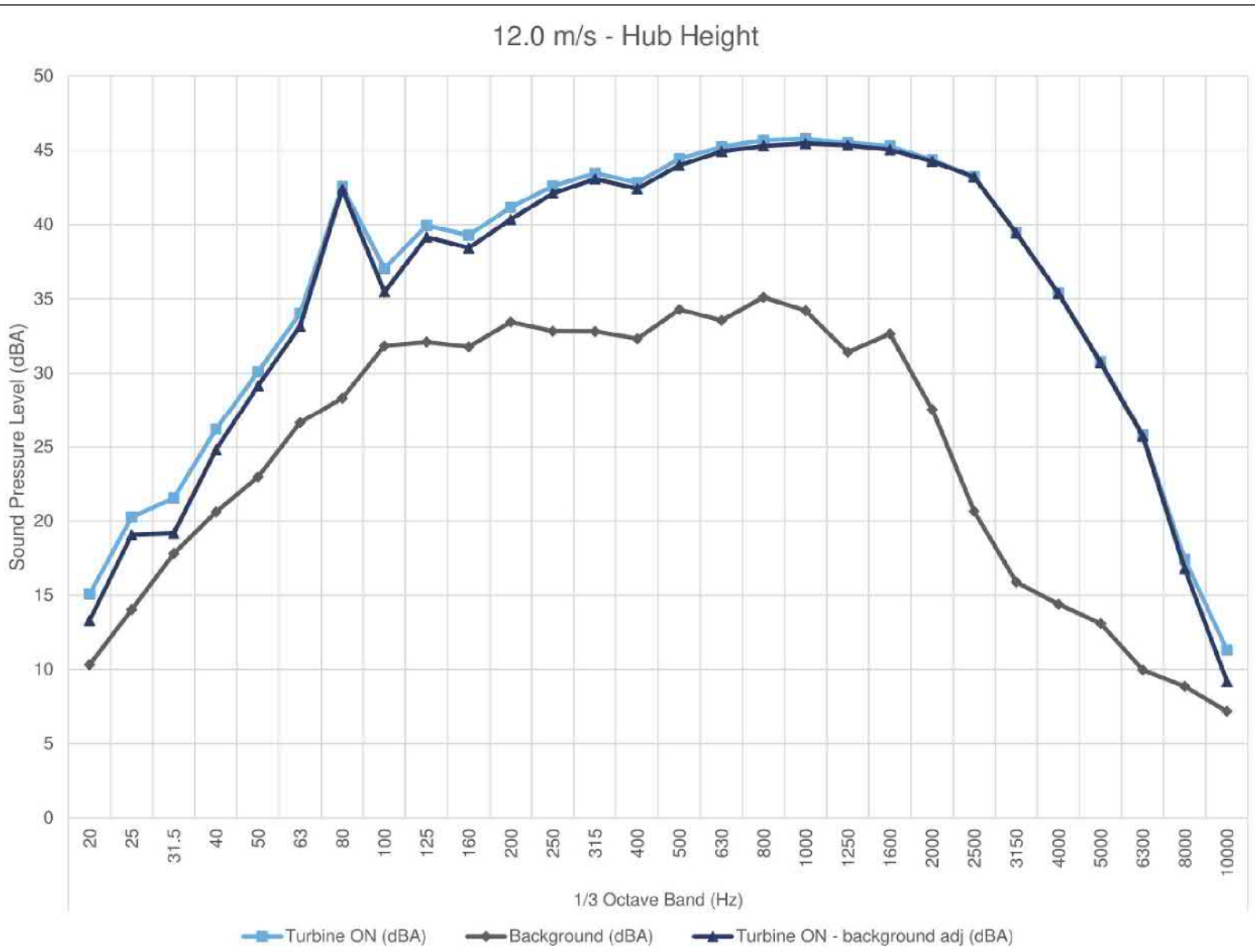
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of sound pressure spectrum in 1/3 Octave at 10.5 m/s **Figure C.10**



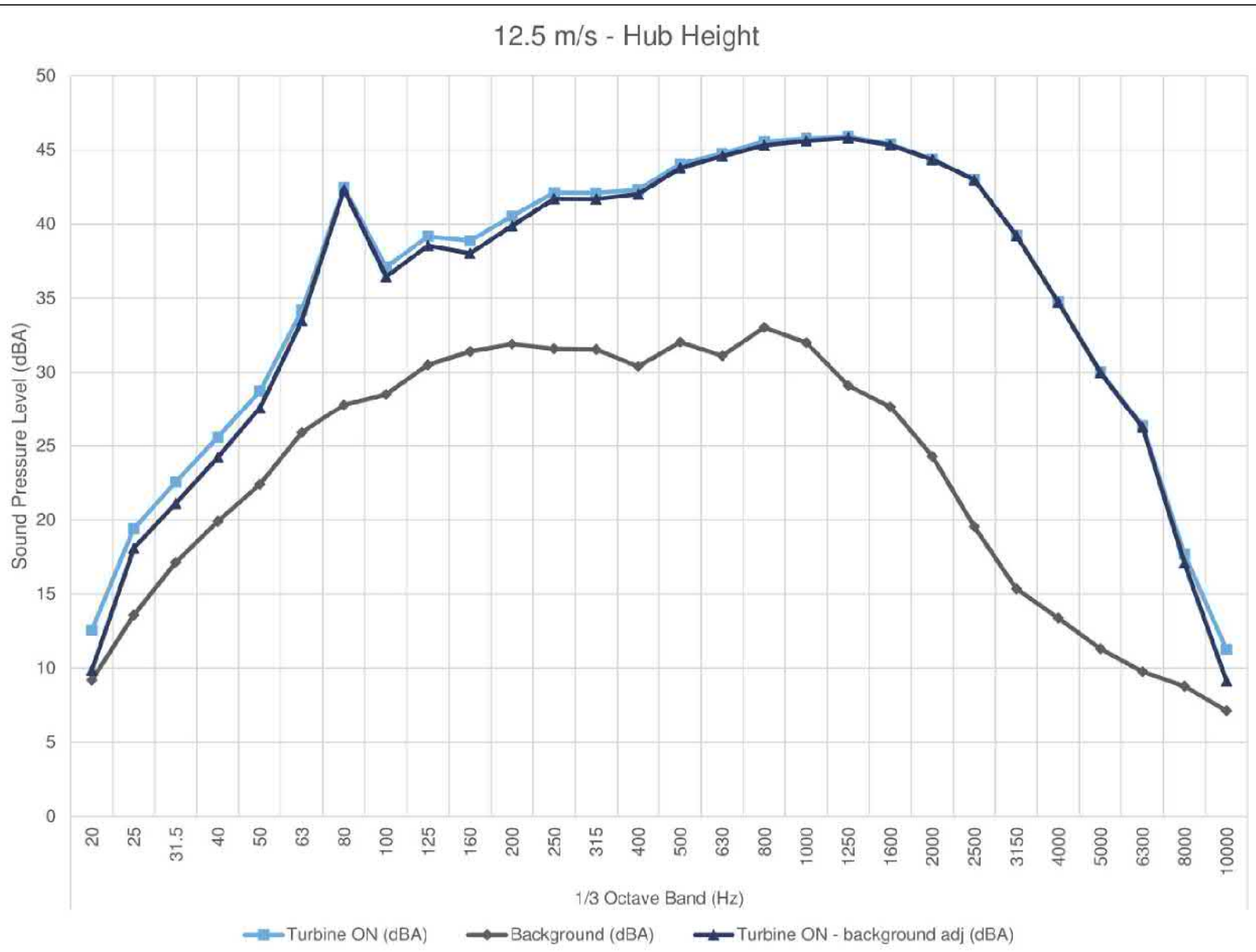
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 11 m/s	**Figure C.11**



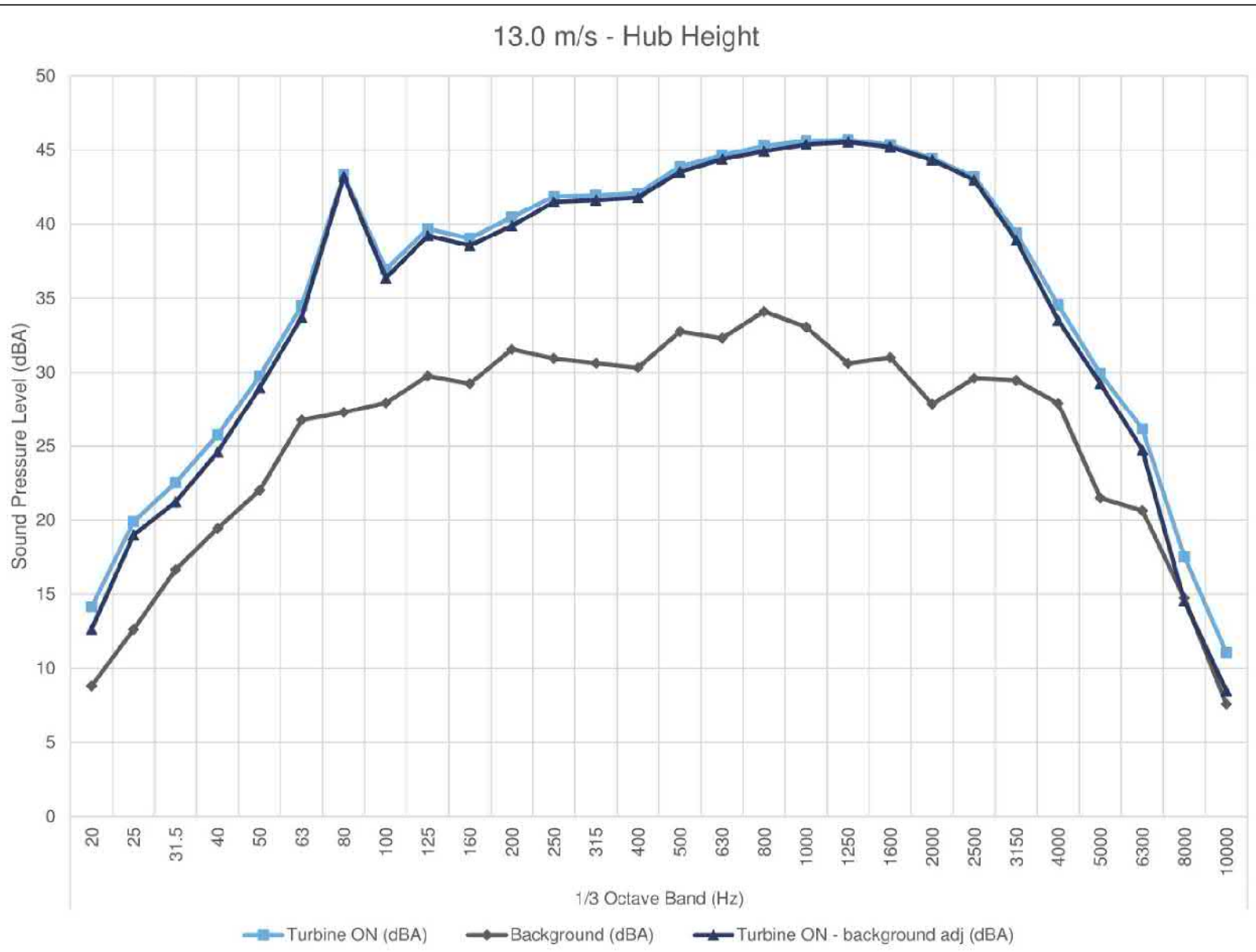
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 11.5 m/s	**Figure C.12**



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 12 m/s	**Figure C.13**



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 12.5 m/s	**Figure C.14**



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of sound pressure spectrum in 1/3 Octave at 13 m/s	**Figure C.15**

Table C.01 Detailed apparent sound power level data at hub height

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP1

Created on: 2018-11-22

1/3 Octave values marked with brackets [ ] denote less than 3 dB difference between Turbine ON and Background

Overall levels marked with an asterisk * denote 3 to 6 dB difference between Turbine ON and Background, while Overall values with less than 3 dB difference between Turbine ON and Background are not reported

Wind Bin (m/s)	Parameter	1/3 Octave Band (Hz)																														Overall
		20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
8.0	Turbine ON (dBA)	12.6	16.9	20.5	23.5	27.3	33.8	37.1	36.0	38.8	39.8	42.1	43.4	42.3	41.4	42.8	43.1	43.7	43.5	42.6	42.0	41.2	40.9	39.6	37.6	32.7	23.9	16.2	9.2	54.2
	Background (dBA)	6.2	10.6	15.5	18.3	20.9	25.3	27.2	26.4	27.9	27.1	29.4	28.8	28.7	29.0	31.0	30.7	32.4	32.2	29.4	32.3	27.1	19.8	15.5	13.9	12.5	13.4	9.0	7.3	41.7
	Turbine ON - background adj (dBA)	11.5	15.7	18.9	21.9	26.2	33.1	36.7	35.5	38.4	39.6	41.9	43.3	42.1	41.1	42.5	42.8	43.3	43.1	42.3	41.6	41.0	40.8	39.6	37.5	32.7	23.5	15.2	[6.2]	53.9
	Signal to noise (dB)	6.4	6.3	5.1	5.2	6.4	8.4	9.9	9.6	10.8	12.7	12.7	14.6	13.6	12.4	11.8	12.4	11.3	11.3	13.2	9.8	14.1	21.1	24.1	23.6	20.2	10.5	7.1	2.0	12.4
	Uncertainty (dB)	2.5	2.1	1.6	2.1	1.3	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.0	1.0	0.9	1.1	1.6	3.5	0.8
	PWL (dBA)	61.2	65.5	68.7	71.7	75.9	82.9	86.4	85.2	88.1	89.3	91.6	93.0	91.9	90.9	92.3	92.6	93.1	92.9	92.1	91.3	90.8	90.6	89.4	87.3	82.4	73.3	65.0	[56]	103.6
8.5	Turbine ON (dBA)	12.8	17.5	21.1	24.4	27.9	32.6	38.0	37.2	39.8	40.9	43.3	44.5	43.8	42.7	44.3	44.6	45.2	45.2	44.3	43.6	42.7	42.1	40.9	38.7	33.9	25.1	17.1	9.6	55.5
	Background (dBA)	8.1	12.0	16.2	19.0	21.6	25.8	27.5	27.8	29.4	29.1	31.5	31.0	30.8	30.3	32.7	32.4	34.1	33.1	29.9	30.2	26.7	20.1	17.2	15.9	12.3	10.4	9.1	7.3	42.9
	Turbine ON - background adj (dBA)	10.9	16.1	19.3	22.9	26.8	31.6	37.6	36.7	39.4	40.6	43.0	44.3	43.6	42.4	44.0	44.4	44.9	45.0	44.1	43.4	42.5	42.1	40.9	38.7	33.8	24.9	16.4	[6.6]	55.3
	Signal to noise (dB)	4.7	5.5	4.9	5.4	6.3	6.8	10.5	9.4	10.4	11.8	11.8	13.5	13.0	12.4	11.6	12.2	11.1	12.1	14.4	13.4	15.9	22.0	23.7	22.8	21.6	14.7	8.0	2.3	12.7
	Uncertainty (dB)	3.1	2.3	1.7	2.2	1.4	1.2	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.0	1.0	1.0	1.1	1.6	3.6	0.8
	PWL (dBA)	60.7	65.9	69.1	72.7	76.5	81.3	87.4	86.5	89.1	90.4	92.7	94.0	93.3	92.2	93.7	94.1	94.6	94.7	93.9	93.1	92.3	91.8	90.6	88.5	83.6	74.7	66.2	[56.4]	105.1
9.0	Turbine ON (dBA)	13.8	18.1	21.9	25.5	29.5	33.6	37.5	37.9	40.7	41.6	43.5	45.1	44.5	43.5	44.9	45.3	45.9	45.9	45.1	44.2	43.4	42.8	41.5	39.4	34.4	25.7	17.9	10.1	56.2
	Background (dBA)	8.0	12.4	16.7	19.2	21.8	25.7	27.8	27.6	29.1	28.9	30.8	30.3	29.7	29.2	31.3	30.5	32.0	31.5	28.8	30.6	25.5	19.8	17.4	15.1	12.9	10.4	9.2	7.5	41.9
	Turbine ON - background adj (dBA)	12.5	16.7	20.4	24.4	28.7	32.8	37.0	37.5	40.4	41.3	43.3	44.9	44.3	43.3	44.7	45.2	45.7	45.7	45.0	44.1	43.3	42.7	41.5	39.4	34.4	25.6	17.3	[7.1]	56.0
	Signal to noise (dB)	5.8	5.7	5.3	6.3	7.7	7.8	9.7	10.3	11.6	12.7	12.7	14.7	14.8	14.2	13.6	14.9	13.9	14.4	16.3	13.7	17.9	23.0	24.2	24.3	21.5	15.3	8.7	2.6	14.3
	Uncertainty (dB)	2.8	2.3	1.6	2.0	1.3	1.2	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.0	1.0	1.0	1.1	1.6	3.7	0.8
	PWL (dBA)	62.3	66.5	70.1	74.1	78.4	82.5	86.8	87.3	90.1	91.1	93.0	94.7	94.1	93.1	94.5	95.0	95.5	95.5	94.7	93.8	93.1	92.5	91.3	89.2	84.2	75.3	67.0	[56.9]	105.8
9.5	Turbine ON (dBA)	13.0	18.2	21.7	25.8	29.4	33.9	39.3	38.3	41.0	41.8	43.9	45.0	44.4	43.5	44.9	45.3	46.0	45.9	45.1	44.2	43.5	43.0	41.6	39.4	34.4	25.8	18.0	10.3	56.3
	Background (dBA)	7.5	11.7	15.8	18.5	21.1	24.9	27.1	27.4	28.7	28.0	30.6	30.2	30.4	30.7	33.1	32.6	34.4	33.4	30.6	33.2	28.9	20.2	16.1	15.2	12.9	10.5	9.1	7.4	43.1
	Turbine ON - background adj (dBA)	11.6	17.1	20.5	24.9	28.7	33.3	39.0	37.9	40.8	41.6	43.7	44.9	44.2	43.3	44.6	45.1	45.7	45.6	44.9	43.9	43.3	43.0	41.6	39.4	34.4	25.7	17.4	[7.3]	56.1
	Signal to noise (dB)	5.5	6.5	5.9	7.3	8.3	9.0	12.2	10.9	12.3	13.7	13.3	14.8	14.0	12.8	11.8	12.7	11.6	12.5	14.4	11.0	14.6	22.8	25.5	24.3	21.5	15.4	8.9	2.9	13.1
	Uncertainty (dB)	2.7	2.1	1.4	1.8	1.2	1.0	0.8	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.8	1.0	1.0	0.9	1.0	1.5	3.5	0.7
	PWL (dBA)	61.3	66.9	70.2	74.7	78.4	83.1	88.8	87.6	90.5	91.3	93.4	94.7	94.0	93.1	94.4	94.8	95.4	95.4	94.6	93.6	93.1	92.7	91.3	89.2	84.1	75.5	67.2	[57]	105.8
10.0	Turbine ON (dBA)	13.6	18.4	21.5	25.2	28.9	33.9	40.2	38.1	40.5	41.3	43.5	45.0	44.3	43.3	44.7	45.2	45.8	45.9	45.2	44.2	43.5	43.0	41.3	39.0	33.9	25.8	17.8	10.3	56.2
	Background (dBA)	7.5	11.8	15.8	18.6	21.3	25.2	27.2	27.5	29.6	29.0	31.3	30.5	30.5	30.1	32.9	32.3	33.9	33.3	30.0	30.0	26.0	20.3	16.8	15.6	19.9	14.1	9.6	7.4	42.8
	Turbine ON - background adj (dBA)	12.3	17.3	20.2	24.1	28.1	33.3	39.9	37.7	40.2	41.1	43.2	44.8	44.1	43.1	44.5	45.0	45.5	45.7	45.1	44.1	43.4	42.9	41.3	39.0	33.8	25.5	17.1	[7.3]	56.0
	Signal to noise (dB)	6.0	6.5	5.7	6.6	7.6	8.7	13.0	10.6	10.9	12.3	12.2	14.5	13.8	13.3	11.8	12.9	11.9	12.6	15.2	14.2	17.5	22.7	24.6	23.4	14.1	11.6	8.2	2.9	13.4
	Uncertainty (dB)	2.7	2.2	1.5	2.0	1.3	1.1	0.9	0.9	0.9	0.9	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.1	1.1	1.6	3.8	0.8
	PWL (dBA)	62.1	67.0	69.9	73.8	77.8	83.0	89.7	87.5	89.9	90.8	93.0	94.6	93.9	92.9	94.2	94.7	95.2	95.4	94.8	93.8	93.2	92.7	91.1	88.7	83.5	75.2	66.9	[57]	105.7
10.5	Turbine ON (dBA)	14.7	19.1	21.3	24.6	28.9	33.2	40.8	37.4	40.3	40.8	42.9	44.3	44.5	43.1	44.8	45.2	45.7	46.1	45.2	44.2	43.3	42.7	41.2	39.1	34.1	25.7	18.0	10.5	56.1
	Background (dBA)	8.1	12.1	16.0	19.1	21.7	25.4	26.6	27.7	29.9	30.1	31.3	30.9	30.7	30.6	32.7	32.1	33.7	32.9	30.2	30.1	26.4	21.5	18.4	16.6	14.6	12.6	11.1	9.2	42.8
	Turbine ON - background adj (dBA)	13.6	18.1	19.8	23.1	28.0	32.5	40.7	36.9	39.9	40.4	42.6	44.1	44.3	42.8	44.5	44.9	45.5	45.9	45.1	44.0	43.2	42.6	41.2	39.1	34.0	25.5	17.0	[7.5]	55.8
	Signal to noise (dB)	6.5	7.0	5.4	5.5	7.2	7.8	14.3	9.7	10.4	10.7	11.6	13.4	13.8	12.5	12.1	13.1	12.0	13.2	15.1	14.1	16.9	21.1	22.8	22.5	19.5	13.1	6.9	1.3	13.2
	Uncertainty (dB)	2.6	2.1	1.6	2.2	1.3	1.2	0.9	1.0	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	1.0	1.0	1.0	1.0	1.6	3.5	0.8
	PWL (dBA)	63.3	67.9	69.6	72.9	77.8	82.2	90.4	86.6	89.7	90.2	92.3	93.8	94.1	92.6	94.3	94.7	95.2	95.6	94.9	93.8	93.0	92.4	90.9	88.8	83.8	75.3	66.8	[57.3]	105.6

Table C.01 Detailed apparent sound power level data at hub height

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP1

Created on: 2018-11-22

1/3 Octave values marked with brackets [ ] denote less than 3 dB difference between Turbine ON and Background

Overall levels marked with an asterisk * denote 3 to 6 dB difference between Turbine ON and Background, while Overall values with less than 3 dB difference between Turbine ON and Background are not reported

Wind Bin (m/s)	Parameter	1/3 Octave Band (Hz)																													Overall
		20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
11.0	Turbine ON (dBA)	14.7	20.0	22.9	26.1	29.9	34.2	42.1	37.9	40.2	40.4	42.5	43.8	44.1	43.1	44.7	45.3	46.0	46.0	45.3	44.3	43.5	42.8	40.9	38.6	33.5	25.6	18.0	10.7	56.1
	Background (dBA)	9.2	12.9	16.5	19.5	22.3	26.0	27.7	29.0	30.2	30.7	32.4	31.9	31.8	31.7	33.8	33.6	35.2	34.3	31.6	32.6	28.6	21.3	16.8	15.3	12.7	10.7	9.5	7.8	44.1
	Turbine ON - background adj (dBA)	13.3	19.1	21.8	25.1	29.1	33.4	42.0	37.3	39.7	39.9	42.1	43.5	43.8	42.8	44.4	45.0	45.6	45.7	45.1	44.1	43.3	42.7	40.9	38.6	33.5	25.4	17.3	[7.7]	55.8
	Signal to noise (dB)	5.5	7.2	6.4	6.6	7.6	8.1	14.4	8.9	10.0	9.7	10.1	11.9	12.3	11.4	10.9	11.7	10.8	11.7	13.7	11.8	14.9	21.5	24.1	23.3	20.8	14.8	8.5	2.9	12.0
	Uncertainty (dB)	3.0	2.2	1.7	2.2	1.4	1.2	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.1	1.2	1.1	1.1	1.6	3.8	0.8
	PWL (dBA)	63.0	68.9	71.6	74.8	78.9	83.2	91.7	87.1	89.5	89.6	91.8	93.3	93.6	92.6	94.1	94.8	95.4	95.4	94.8	93.8	93.1	92.5	90.6	88.3	83.2	75.2	67.1	[57.5]	105.5
11.5	Turbine ON (dBA)	15.0	19.6	22.9	27.5	29.7	34.3	41.4	37.8	40.8	40.2	42.8	43.8	43.6	42.8	44.4	45.2	45.6	45.7	45.3	44.7	43.9	42.7	40.0	37.3	32.5	25.4	17.6	10.7	55.9
	Background (dBA)	9.0	13.2	16.5	19.6	22.0	26.6	27.5	28.3	30.0	30.1	32.2	31.7	31.5	31.4	33.8	33.5	35.3	34.4	31.4	30.8	27.4	21.7	17.1	16.7	13.3	10.3	9.1	7.4	43.8
	Turbine ON - background adj (dBA)	13.8	18.5	21.8	26.7	28.9	33.5	41.2	37.3	40.4	39.7	42.4	43.5	43.3	42.5	44.0	44.9	45.2	45.4	45.2	44.6	43.8	42.6	39.9	37.3	32.4	25.3	16.9	7.9	55.6
	Signal to noise (dB)	6.0	6.4	6.4	7.9	7.8	7.7	13.9	9.5	10.7	10.0	10.6	12.1	12.1	11.4	10.6	11.7	10.3	11.3	13.9	13.9	16.4	20.9	22.9	20.6	19.2	15.1	8.5	3.3	12.1
	Uncertainty (dB)	3.0	2.3	1.6	2.0	1.4	1.2	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.3	1.2	1.1	1.6	3.6	0.9
	PWL (dBA)	63.6	68.2	71.5	76.5	78.7	83.3	90.9	87.0	90.1	89.5	92.2	93.3	93.1	92.2	93.7	94.6	94.9	95.2	94.9	94.3	93.5	92.4	89.7	87.1	82.2	75.0	66.7	57.7	105.4
12.0	Turbine ON (dBA)	15.1	20.3	21.6	26.2	30.1	34.0	42.6	37.1	39.9	39.3	41.2	42.6	43.5	42.8	44.4	45.2	45.7	45.8	45.5	45.3	44.3	43.2	39.5	35.4	30.8	25.8	17.4	11.3	55.9
	Background (dBA)	10.3	14.0	17.8	20.6	23.0	26.6	28.3	31.9	32.1	31.8	33.5	32.8	32.8	32.3	34.3	33.6	35.1	34.2	31.4	32.7	27.6	20.7	15.9	14.4	13.1	10.0	8.9	7.2	44.6
	Turbine ON - background adj (dBA)	13.3	19.1	19.2	24.8	29.2	33.2	42.4	35.5	39.2	38.4	40.4	42.1	43.1	42.4	44.0	44.9	45.3	45.5	45.3	45.0	44.3	43.2	39.4	35.4	30.7	25.7	16.8	9.2	55.5
	Signal to noise (dB)	4.8	6.2	3.8	5.6	7.1	7.4	14.2	5.2	7.8	7.5	7.7	9.8	10.6	10.5	10.1	11.7	10.6	11.6	14.1	12.6	16.8	22.6	23.6	21.0	17.7	15.9	8.6	4.1	11.3
	Uncertainty (dB)	3.2	2.3	2.2	2.3	1.5	1.2	0.9	1.4	1.1	1.1	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.6	3.0	0.9
	PWL (dBA)	63.1	68.8	68.9	74.5	78.9	82.9	92.1	85.2	88.9	88.2	90.1	91.9	92.8	92.2	93.7	94.7	95.0	95.2	95.1	94.8	94.0	92.9	89.2	85.1	80.5	75.5	66.5	58.9	105.3
12.5	Turbine ON (dBA)	12.6	19.4	22.6	25.6	28.7	34.2	42.5	37.1	39.2	38.9	40.5	42.1	42.1	42.3	44.1	44.8	45.6	45.8	45.9	45.4	44.4	43.0	39.2	34.7	30.0	26.4	17.7	11.3	55.6
	Background (dBA)	9.2	13.6	17.1	19.9	22.4	25.9	27.8	28.5	30.5	31.4	31.9	31.6	31.6	30.4	32.0	31.1	33.0	32.0	29.1	27.7	24.3	19.6	15.3	13.4	11.3	9.8	8.8	7.1	42.7
	Turbine ON - background adj (dBA)	9.9	18.1	21.1	24.2	27.6	33.5	42.3	36.5	38.5	38.0	39.9	41.7	41.7	42.0	43.8	44.6	45.3	45.6	45.8	45.3	44.3	43.0	39.2	34.7	30.0	26.3	17.1	9.1	55.4
	Signal to noise (dB)	3.4	5.8	5.4	5.7	6.3	8.3	14.7	8.6	8.7	7.5	8.6	10.5	10.5	11.9	12.0	13.6	12.5	13.8	16.8	17.7	20.1	23.4	23.9	21.4	18.7	16.6	8.9	4.1	13.0
	Uncertainty (dB)	4.1	2.4	1.7	2.2	1.5	1.2	0.9	1.0	1.0	1.1	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.6	3.0	0.8
	PWL (dBA)	59.6	67.8	70.9	74.0	77.3	83.2	92.1	86.2	88.3	87.8	89.6	91.5	91.4	91.8	93.5	94.3	95.1	95.3	95.5	95.1	94.1	92.7	89.0	84.5	79.7	76.0	66.8	58.9	105.2
13.0	Turbine ON (dBA)	14.1	19.9	22.5	25.7	29.8	34.5	43.3	37.0	39.7	39.0	40.5	41.9	41.9	42.1	43.9	44.6	45.3	45.6	45.7	45.4	44.4	43.2	39.4	34.6	29.9	26.2	17.5	11.1	55.6
	Background (dBA)	8.8	12.6	16.6	19.4	22.0	26.8	27.3	27.9	29.8	29.2	31.6	31.0	30.6	30.3	32.8	32.3	34.1	33.1	30.6	31.0	27.9	29.6	29.5	27.9	21.5	20.6	14.8	7.6	43.5
	Turbine ON - background adj (dBA)	12.6	19.0	21.2	24.6	29.0	33.7	43.2	36.4	39.2	38.6	39.9	41.5	41.6	41.8	43.5	44.4	44.9	45.4	45.5	45.2	44.3	43.0	38.9	33.5	29.3	24.7	[14.5]	8.5	55.3
	Signal to noise (dB)	5.3	7.3	5.9	6.3	7.8	7.8	16.0	9.0	9.9	9.8	8.9	10.9	11.3	11.8	11.1	12.3	11.1	12.5	15.1	14.4	16.6	13.6	9.9	6.6	8.4	5.5	2.8	3.5	12.1
	Uncertainty (dB)	2.9	2.0	1.5	2.0	1.3	1.1	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.8	1.2	1.7	1.3	1.9	3.5	3.3	0.8
	PWL (dBA)	62.4	68.8	71.0	74.3	78.7	83.5	93.0	86.1	89.0	88.3	89.6	91.2	91.4	91.5	93.3	94.1	94.7	95.1	95.3	95.0	94.1	92.7	88.7	83.3	79.0	74.5	[64.3]	58.2	105.1

Table C.02 Detailed apparent sound power level data at 10m height

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP1

Created on: 2018-11-22

1/3 Octave values marked with brackets [ ] denote less than 3 dB difference between Turbine ON and Background

Overall levels marked with an asterisk * denote 3 to 6 dB difference between Turbine ON and Background, while Overall values with less than 3 dB difference between Turbine ON and Background are not reported

‡ marks values derived from a data set with less than 10 points

Wind Bin (m/s)	Parameter	1/3 Octave Band (Hz)																														Overall
		20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
5.0	Turbine ON (dBA)	12.3	15.4	19.3	22.8	25.9	33.4	33.1	34.0	36.8	37.7	39.8	40.8	39.6	38.4	39.8	39.8	40.5	40.2	39.5	39.2	38.6	38.5	37.2	35.1	30.3	21.6	14.2	8.4	51.4
	Background (dBA)	7.4	11.5	16.3	18.9	21.3	25.7	27.4	27.1	28.4	28.0	29.4	29.3	28.8	27.7	29.4	28.4	30.4	29.9	27.0	27.2	23.1	18.7	16.7	15.3	13.2	10.5	9.1	7.4	40.5
	Turbine ON - background adj (dBA)	10.6	13.2	16.4	20.5	24.0	32.6	31.7	33.1	36.1	37.2	39.4	40.5	39.2	38.0	39.3	39.5	40.0	39.7	39.3	38.9	38.5	38.4	37.1	35.0	30.2	21.3	12.6	[5.4]	51.0
	Signal to noise (dB)	4.9	3.9	3.0	3.9	4.5	7.7	5.7	6.9	8.4	9.7	10.5	11.6	10.8	10.6	10.4	11.4	10.1	10.2	12.5	12.0	15.6	19.8	20.5	19.8	17.1	11.1	5.1	1.0	10.9
	Uncertainty (dB)	2.6	2.6	2.1	2.4	1.5	1.0	1.1	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.9	0.9	0.8	1.0	1.7	3.2	0.7
	PWL (dBA)	60.4	63.0	66.1	70.3	73.7	82.4	81.4	82.8	85.9	87.0	89.2	90.3	89.0	87.7	89.1	89.2	89.8	89.5	89.0	88.6	88.3	88.2	86.9	84.8	79.9	71.0	62.4	[55.2]	100.8
6.0	Turbine ON (dBA)	13.0	17.6	21.2	24.6	28.3	33.2	37.9	37.2	39.9	40.9	43.1	44.4	43.7	42.7	44.2	44.6	45.1	45.1	44.2	43.5	42.6	42.1	40.9	38.7	33.8	25.1	17.2	9.7	55.5
	Background (dBA)	7.7	11.8	16.1	18.9	21.5	25.5	27.4	27.4	28.9	28.5	30.7	30.2	29.9	29.6	31.9	31.4	33.1	32.4	29.5	31.0	26.5	19.9	16.9	15.2	12.6	11.7	9.1	7.4	42.3
	Turbine ON - background adj (dBA)	11.5	16.3	19.6	23.3	27.4	32.4	37.5	36.8	39.6	40.7	42.9	44.3	43.5	42.5	43.9	44.4	44.9	44.9	44.1	43.2	42.5	42.1	40.8	38.7	33.8	24.9	16.5	[6.7]	55.3
	Signal to noise (dB)	5.4	5.8	5.1	5.8	6.9	7.7	10.5	9.9	11.0	12.4	12.4	14.2	13.8	13.1	12.3	13.1	12.1	12.7	14.8	12.4	16.1	22.2	24.0	23.5	21.2	13.4	8.1	2.3	13.2
	Uncertainty (dB)	2.7	2.2	1.5	2.0	1.3	1.1	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.8	1.0	1.0	0.9	1.0	1.5	3.6	0.8
	PWL (dBA)	61.3	66.0	69.4	73.0	77.1	82.2	87.2	86.5	89.3	90.4	92.6	94.0	93.3	92.2	93.7	94.1	94.6	94.6	93.8	93.0	92.3	91.8	90.6	88.5	83.5	74.6	66.2	[56.5]	105.0
7.0	Turbine ON (dBA)	13.5	18.5	21.7	25.5	29.2	33.9	40.2	38.1	40.7	41.3	43.5	44.8	44.3	43.3	44.8	45.2	45.9	45.9	45.2	44.3	43.5	43.0	41.3	39.0	34.0	25.7	17.9	10.3	56.2
	Background (dBA)	7.6	11.9	15.8	18.7	21.4	25.2	27.1	27.6	29.5	29.2	31.2	30.6	30.6	30.5	33.0	32.5	34.1	33.4	30.4	31.5	27.4	20.7	17.1	15.7	17.8	13.0	10.0	7.9	43.0
	Turbine ON - background adj (dBA)	12.3	17.4	20.3	24.5	28.4	33.2	39.9	37.7	40.3	41.0	43.2	44.6	44.1	43.1	44.5	45.0	45.6	45.7	45.0	44.1	43.4	42.9	41.3	39.0	33.9	25.5	17.1	[7.3]	56.0
	Signal to noise (dB)	5.9	6.6	5.8	6.8	7.8	8.6	13.1	10.5	11.1	12.1	12.3	14.2	13.7	12.8	11.8	12.8	11.7	12.6	14.8	12.8	16.2	22.3	24.2	23.3	16.2	12.7	7.9	2.4	13.2
	Uncertainty (dB)	2.5	2.0	1.4	1.8	1.2	1.0	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	1.0	1.0	0.9	1.0	1.5	3.5	0.7
	PWL (dBA)	62.0	67.1	70.1	74.2	78.1	83.0	89.7	87.4	90.1	90.8	93.0	94.4	93.9	92.9	94.2	94.7	95.3	95.4	94.8	93.8	93.2	92.7	91.1	88.7	83.6	75.2	66.9	[57.1]	105.7
8.0	Turbine ON (dBA)	15.0	19.7	22.7	26.7	30.1	34.2	42.0	37.7	40.3	40.0	42.3	43.5	43.8	42.9	44.5	45.2	45.8	45.9	45.4	44.9	43.9	42.9	40.3	37.4	32.5	25.2	17.3	10.4	56.0
	Background (dBA)	9.5	13.3	16.9	19.8	22.4	26.4	27.9	29.0	30.4	30.9	32.7	32.1	32.0	31.8	34.0	33.6	35.2	34.3	31.5	32.2	28.1	21.3	16.8	15.7	13.0	10.5	9.3	7.6	44.1
	Turbine ON - background adj (dBA)	13.6	18.5	21.4	25.7	29.3	33.4	41.8	37.1	39.9	39.5	41.8	43.2	43.5	42.5	44.1	44.9	45.4	45.6	45.2	44.6	43.8	42.9	40.2	37.4	32.4	25.1	16.5	[7.4]	55.7
	Signal to noise (dB)	5.5	6.4	5.9	6.9	7.7	7.8	14.1	8.7	9.9	9.1	9.6	11.4	11.7	11.1	10.5	11.6	10.6	11.6	13.9	12.6	15.8	21.6	23.5	21.8	19.5	14.7	8.0	2.8	11.8
	Uncertainty (dB)	2.9	2.2	1.5	2.0	1.3	1.2	0.9	1.0	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.1	1.1	1.7	3.7	0.8
	PWL (dBA)	63.3	68.3	71.2	75.4	79.0	83.1	91.6	86.8	89.6	89.2	91.5	93.0	93.2	92.3	93.8	94.6	95.2	95.3	95.0	94.4	93.6	92.6	90.0	87.2	82.2	74.8	66.3	[57.2]	105.4
9.0	Turbine ON (dBA)	13.7	19.8	22.3	25.7	29.3	34.1	42.5	36.9	39.5	38.8	40.5	41.9	42.3	42.2	44.0	44.7	45.4	45.7	45.8	45.4	44.5	43.3	39.4	34.4	29.6	25.7	16.7	10.1	55.6
	Background (dBA) ‡	9.1	13.2	16.9	19.7	22.3	26.3	27.6	30.1	30.7	30.4	31.8	31.4	31.2	30.3	32.7	31.8	33.6	32.7	29.9	30.0	26.8	25.8	25.0	23.4	17.6	16.6	12.0	7.2	43.2
	Turbine ON - background adj (dBA) ‡	11.9	18.7	20.8	24.5	28.3	33.3	42.4	35.9	38.9	38.1	39.9	41.5	42.0	42.0	43.7	44.5	45.1	45.5	45.7	45.3	44.4	43.2	39.2	34.0	29.3	25.1	14.9	[7.1]	55.4
	Signal to noise (dB)	4.6	6.6	5.4	6.0	7.0	7.8	14.9	6.8	8.8	8.4	8.8	10.5	11.1	11.9	11.3	12.9	11.8	13.1	15.9	15.4	17.7	17.5	14.4	11.0	12.0	9.0	4.7	2.8	12.4
	Uncertainty (dB)	3.2	2.1	1.5	2.1	1.3	1.1	0.8	1.0	0.9	1.0	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.1	1.2	2.1	3.7	0.8
	PWL (dBA) ‡	61.6	68.5	70.6	74.2	78.0	83.1	92.1	85.7	88.6	87.9	89.7	91.2	91.7	91.7	93.4	94.2	94.9	95.3	95.4	95.0	94.2	93.0	88.9	83.8	79.1	74.8	64.7	[56.8]	105.1

Table C.03 Type B measurement uncertainty summary

Overall Equipment Uncertainties		
	Typical values	Used values
Calibration	0.2 dB	0.2 dB
Board	0.3 dB	0.3 dB
Distance	0.1 dB	0.1 dB
Air absorption	0 dB	0 dB
Weather	0.5 dB	0.5 dB

1/3 Octave Band Uncertainties		
Frequency (Hz)	Microphone Uncertainty	Overall (including overall equipment Uncertainties)
20	0.8 dB	2 dB
25	0.8 dB	1.6 dB
31.5	0.5 dB	1.1 dB
40	0.5 dB	1.5 dB
50	0.5 dB	1.1 dB
63	0.5 dB	0.9 dB
80	0.5 dB	0.8 dB
100	0.5 dB	0.8 dB
125	0.5 dB	0.8 dB
160	0.5 dB	0.8 dB
200	0.3 dB	0.7 dB
250	0.3 dB	0.7 dB
315	0.3 dB	0.7 dB
400	0.3 dB	0.7 dB
500	0.3 dB	0.7 dB
630	0.3 dB	0.7 dB
800	0.3 dB	0.7 dB
1000	0.3 dB	0.8 dB
1250	0.3 dB	0.8 dB
1600	0.3 dB	0.8 dB
2000	0.3 dB	0.7 dB
2500	0.5 dB	0.8 dB
3150	0.5 dB	1.1 dB
4000	0.5 dB	1.1 dB
5000	0.5 dB	1 dB
6300	0.5 dB	1.1 dB
8000	0.5 dB	1.4 dB
10000	1.3 dB	1.7 dB

Table C.04 Detailed measurement uncertainty at hub height

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP1

Created on: 2018-11-22

Wind Bin (m/s)	Parameter	Average Wind Speed (m/s)	# of data points	Parameter	1/3 Octave Band (Hz)																												Overall
					20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
8.0	Turbine ON	8.05	112	Average (dBA)	12.5	16.8	20.6	23.5	27.4	33.7	37.5	36.1	38.9	39.9	42.2	43.5	42.4	41.6	43.0	43.3	43.9	43.7	42.8	42.2	41.4	41.0	39.8	37.7	32.8	24.0	16.3	9.3	54.3
				Uncertainty A (dB)	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
	Background	8.02	40	Average (dBA)	6.1	10.5	15.4	18.3	20.9	25.4	27.2	26.4	27.9	27.1	29.3	28.8	28.7	29.0	31.0	30.7	32.4	32.2	29.5	32.4	27.2	19.8	15.5	13.9	12.4	13.5	9.0	7.3	41.8
				Uncertainty A (dB)	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.7	0.7	0.6	0.7	1.4	1.1	0.4	0.3	0.3	0.4	0.7	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.5	1.1	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.6	1.3	0.9	1.1	1.1	1.1	1.3	1.4	1.7		
8.5	Turbine ON	8.48	121	Average (dBA)	12.7	17.5	21.0	24.4	27.8	32.5	38.0	37.2	39.8	40.9	43.3	44.5	43.8	42.7	44.2	44.6	45.2	45.2	44.3	43.6	42.6	42.1	40.9	38.7	33.8	25.1	17.1	9.6	55.5
				Uncertainty A (dB)	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
	Background	8.54	41	Average (dBA)	8.2	12.1	16.2	19.0	21.7	25.8	27.5	28.0	29.6	29.3	31.7	31.1	30.9	30.4	32.9	32.6	34.2	33.2	30.0	30.0	26.7	20.1	17.3	16.1	12.2	10.2	9.1	7.4	43.0
				Uncertainty A (dB)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.8	0.7	0.7	1.0	0.9	0.4	0.5	0.6	0.4	0.2	0.2	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.0	1.0	1.2	1.2	0.9	1.2	1.2	1.1	1.1	1.4	1.7		
9.0	Turbine ON	8.99	81	Average (dBA)	13.9	18.1	21.9	25.5	29.5	33.6	37.5	37.9	40.7	41.6	43.5	45.1	44.5	43.5	44.9	45.3	45.9	45.9	45.1	44.2	43.4	42.8	41.5	39.4	34.4	25.7	17.9	10.1	56.2
				Uncertainty A (dB)	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
	Background	9.03	40	Average (dBA)	8.0	12.4	16.7	19.2	21.8	25.7	27.8	27.6	29.1	28.9	30.7	30.3	29.6	29.1	31.2	30.3	31.8	31.3	28.8	30.6	25.4	19.7	17.4	15.1	13.0	10.5	9.2	7.5	41.8
				Uncertainty A (dB)	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.6	0.6	0.7	0.6	0.5	0.6	1.2	0.9	0.4	0.5	0.4	0.3	0.2	0.2	0.2		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.9	0.9	1.0	0.9	0.9	1.0	1.4	1.1	0.9	1.2	1.1	1.1	1.1	1.4	1.7		
9.5	Turbine ON	9.55	84	Average (dBA)	12.9	18.2	21.7	25.8	29.4	33.9	39.4	38.3	41.1	41.8	43.9	45.0	44.4	43.6	44.9	45.3	46.0	45.9	45.0	44.2	43.5	43.0	41.6	39.4	34.4	25.8	18.1	10.3	56.3
				Uncertainty A (dB)	0.4	0.4	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
	Background	9.48	41	Average (dBA)	7.5	11.7	15.8	18.5	21.1	24.9	27.1	27.4	28.7	28.0	30.6	30.2	30.4	30.8	33.1	32.6	34.4	33.4	30.7	33.4	29.0	20.2	16.1	15.1	12.6	10.3	9.1	7.4	43.2
				Uncertainty A (dB)	0.4	0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.7	0.8	0.9	0.9	0.7	0.8	1.4	1.3	0.5	0.4	0.5	0.4	0.2	0.2	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.5	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.0	1.1	1.6	1.4	1.0	1.1	1.2	1.1	1.1	1.4	1.7		
10.0	Turbine ON	10.01	106	Average (dBA)	13.6	18.4	21.5	25.2	28.9	33.9	40.2	38.1	40.5	41.3	43.5	45.0	44.3	43.3	44.7	45.2	45.8	45.9	45.2	44.2	43.5	43.0	41.3	39.0	33.9	25.8	17.8	10.3	56.2
				Uncertainty A (dB)	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
	Background	9.99	65	Average (dBA)	7.5	11.8	15.8	18.6	21.3	25.1	27.2	27.5	29.6	29.0	31.3	30.5	30.5	30.0	33.0	32.3	33.9	33.3	30.0	30.0	26.0	20.2	16.7	15.5	20.0	14.2	9.6	7.3	42.8
				Uncertainty A (dB)	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.5	0.5	0.7	0.7	0.3	0.3	0.4	1.1	0.6	0.2	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.5	1.1	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.0	0.9	1.1	1.1	1.5	1.2	1.4	1.7		
10.5	Turbine ON	10.43	20	Average (dBA)	14.7	19.0	21.1	24.4	28.8	33.1	40.6	37.3	40.3	40.9	43.0	44.4	44.6	43.1	44.8	45.1	45.7	46.1	45.2	44.2	43.3	42.7	41.3	39.2	34.2	25.8	18.0	10.5	56.1
				Uncertainty A (dB)	1.0	0.9	0.6	0.8	0.5	0.6	0.6	0.5	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.2	0.2	0.1		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.2	1.9	1.2	1.7	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.4	1.7		
	Background	10.50	35	Average (dBA)	8.1	12.1	16.0	19.1	21.7	25.4	26.6	27.7	29.9	30.1	31.3	30.9	30.7	30.6	32.7	32.1	33.7	32.9	30.2	30.1	26.4	21.5	18.4	16.6	14.5	12.6	11.1	9.2	42.8
				Uncertainty A (dB)	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.6	0.6	0.5	0.7	0.7	0.8	0.7	0.6	0.6	0.9	0.9	0.6	0.6	0.7	0.7	0.6	0.6	0.5		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.5	1.1	1.0	0.9	0.9	1.0	1.1	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.1	1.0	1.2	1.3	1.2	1.2	1.5	1.8		

Table C.04 Detailed measurement uncertainty at hub height

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP1

Created on: 2018-11-22

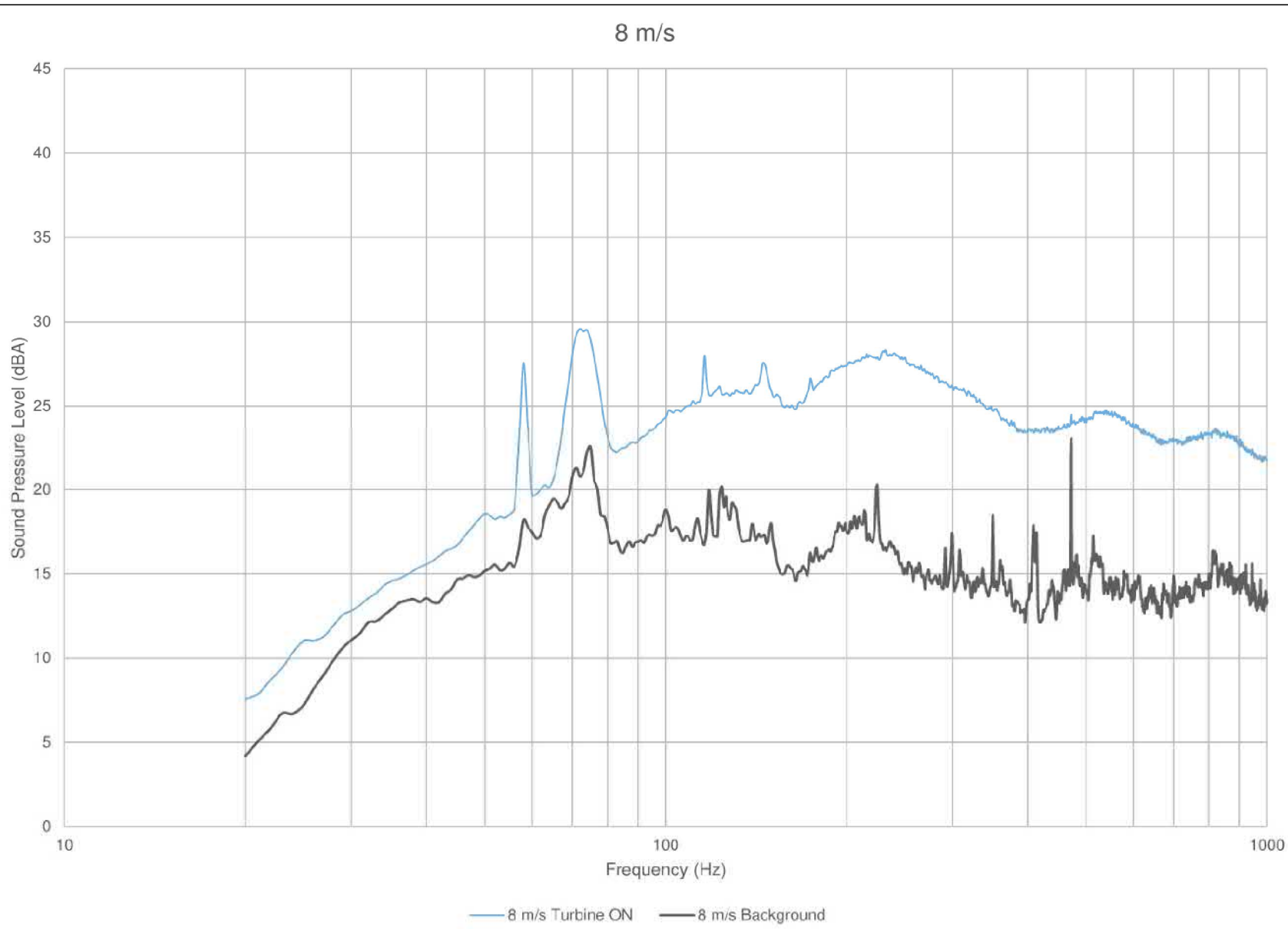
Wind Bin (m/s)	Parameter	Average Wind Speed (m/s)	# of data points	Parameter	1/3 Octave Band (Hz)																													Overall
					20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
11.0	Turbine ON	11.00	34	Average (dBA)	14.7	20.0	22.9	26.1	29.9	34.2	42.1	37.9	40.2	40.4	42.5	43.8	44.1	43.1	44.7	45.3	46.0	46.0	45.3	44.3	43.5	42.8	40.9	38.6	33.5	25.6	18.0	10.7	56.1
				Uncertainty A (dB)	0.8	0.7	0.7	0.7	0.5	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.5	0.2	0.2	0.2		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.8	1.3	1.7	1.2	1.0	0.9	0.9	0.9	0.9	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.4	1.7		
	Background	10.93	40	Average (dBA)	9.3	12.8	16.5	19.5	22.3	25.9	27.8	29.1	30.2	30.8	32.5	31.9	31.8	31.7	33.8	33.7	35.2	34.3	31.6	32.8	28.8	21.2	16.8	15.1	12.6	10.8	9.6	7.8	44.1
				Uncertainty A (dB)	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.6	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.6	0.6	1.0	0.9	0.4	0.4	0.5	0.4	0.3	0.3	0.3		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.3	1.2	0.9	1.1	1.2	1.1	1.1	1.4	1.7		
11.5	Turbine ON	11.50	33	Average (dBA)	15.0	19.6	22.9	27.5	29.7	34.3	41.4	37.8	40.8	40.2	42.8	43.8	43.6	42.8	44.4	45.2	45.6	45.7	45.3	44.7	43.8	42.7	40.0	37.4	32.5	25.4	17.6	10.7	55.9
				Uncertainty A (dB)	1.1	0.6	0.5	0.7	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.7	0.7	0.3	0.3	0.3		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.2	1.8	1.2	1.7	1.2	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	1.1	1.3	1.2	1.1	1.4	1.7		
	Background	11.50	27	Average (dBA)	9.0	13.2	16.5	19.6	22.0	26.6	27.5	28.3	30.0	30.1	32.2	31.7	31.5	31.4	33.8	33.5	35.3	34.4	31.4	30.8	27.4	21.7	17.1	16.7	13.3	10.3	9.1	7.4	43.8
				Uncertainty A (dB)	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.7	0.7	0.9	0.9	0.5	0.4	0.9	0.6	0.3	0.2	0.2		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.1	1.6	1.1	1.0	0.9	0.9	0.9	1.0	0.9	0.9	0.9	0.9	1.0	1.1	1.1	1.0	1.0	1.2	1.1	1.0	1.1	1.4	1.1	1.1	1.4	1.7		
12.0	Turbine ON	12.01	38	Average (dBA)	15.1	20.3	21.5	26.2	30.1	34.0	42.6	37.0	39.9	39.3	41.1	42.6	43.5	42.8	44.4	45.2	45.7	45.8	45.5	45.3	44.3	43.2	39.4	35.4	30.8	25.8	17.4	11.3	55.9
				Uncertainty A (dB)	0.6	0.6	0.5	0.6	0.5	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.6	0.5	0.2	0.3	0.4		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.7	1.2	1.6	1.2	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.2	1.1	1.1	1.4	1.7		
	Background	11.96	17	Average (dBA)	10.4	14.1	17.9	20.7	23.0	26.7	28.4	32.1	32.2	31.8	33.6	32.9	32.9	32.5	34.5	33.8	35.3	34.4	31.6	33.1	27.8	20.8	15.9	14.5	13.2	10.0	8.9	7.2	44.8
				Uncertainty A (dB)	0.6	0.6	0.6	0.5	0.4	0.4	0.5	1.0	0.6	0.7	0.6	0.6	0.7	0.7	0.8	1.0	1.0	1.0	1.0	1.7	1.3	0.6	0.5	0.8	0.8	0.3	0.2	0.2		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.8	1.2	1.6	1.1	1.0	0.9	1.3	1.0	1.1	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.9	1.5	1.0	1.2	1.3	1.3	1.1	1.4	1.7		
12.5	Turbine ON	12.50	45	Average (dBA)	12.6	19.4	22.6	25.6	28.7	34.2	42.5	37.1	39.2	38.9	40.5	42.1	42.1	42.3	44.1	44.8	45.6	45.8	45.9	45.4	44.4	43.0	39.2	34.7	30.0	26.4	17.7	11.3	55.6
				Uncertainty A (dB)	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.4		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.2	1.6	1.1	1.0	0.9	0.9	0.9	0.9	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.1	1.1	1.4	1.7		
	Background	12.56	13	Average (dBA)	9.1	13.5	17.1	19.8	22.3	25.8	27.7	28.1	30.3	31.4	31.7	31.5	31.4	30.2	31.8	30.8	32.8	31.8	28.9	27.1	23.9	19.4	15.3	13.3	11.1	9.7	8.8	7.1	42.5
				Uncertainty A (dB)	0.8	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.7	1.1	0.8	0.8	0.9	0.9	0.9	0.9	1.0	0.8	0.8	1.0	0.9	0.5	0.3	0.5	0.4	0.2	0.2	0.2		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.8	1.2	1.6	1.1	1.0	0.9	1.0	1.1	1.4	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.1	1.1	1.2	1.2	1.0	1.1	1.2	1.1	1.1	1.4	1.7		
13.0	Turbine ON	13.04	51	Average (dBA)	14.3	19.9	22.5	25.8	29.8	34.5	43.4	36.9	39.7	39.0	40.5	41.8	41.9	42.1	43.9	44.6	45.2	45.6	45.7	45.4	44.4	43.2	39.4	34.6	29.9	26.1	17.5	11.1	55.6
				Uncertainty A (dB)	0.5	0.5	0.5	0.5	0.4	0.3	0.4	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.2	0.3	0.3		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.0	1.7	1.2	1.6	1.1	1.0	0.9	0.9	0.9	0.9	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.1	1.1	1.4	1.7		
	Background	12.97	15	Average (dBA)	8.8	12.7	16.7	19.5	22.0	26.7	27.3	28.0	29.8	29.4	31.6	31.0	30.7	30.3	32.7	32.2	34.0	33.0	30.5	30.7	27.6	28.8	28.4	26.8	20.7	19.8	14.3	7.6	43.4
				Uncertainty A (dB)	0.7	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.4	0.6	0.6	0.6	0.6	0.9	1.0	1.1	1.1	0.9	0.9	1.3	1.2	2.2	3.1	3.5	2.6	2.7	1.6	0.3		
				Uncertainty B (dB)	2.0	1.6	1.1	1.5	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	1.1	1.1	1.0	1.1	1.4	1.7		
				Combined Uncertainty (dB)	2.1	1.7	1.1	1.6	1.1	1.1	0.9	0.9	0.9	1.0	0.9	1.0	0.9	1.1	1.2	1.3	1.3	1.1	1.2	1.5	1.4	2.4	3.3	3.7	2.8	2.9	2.1	1.7		

aercoustics

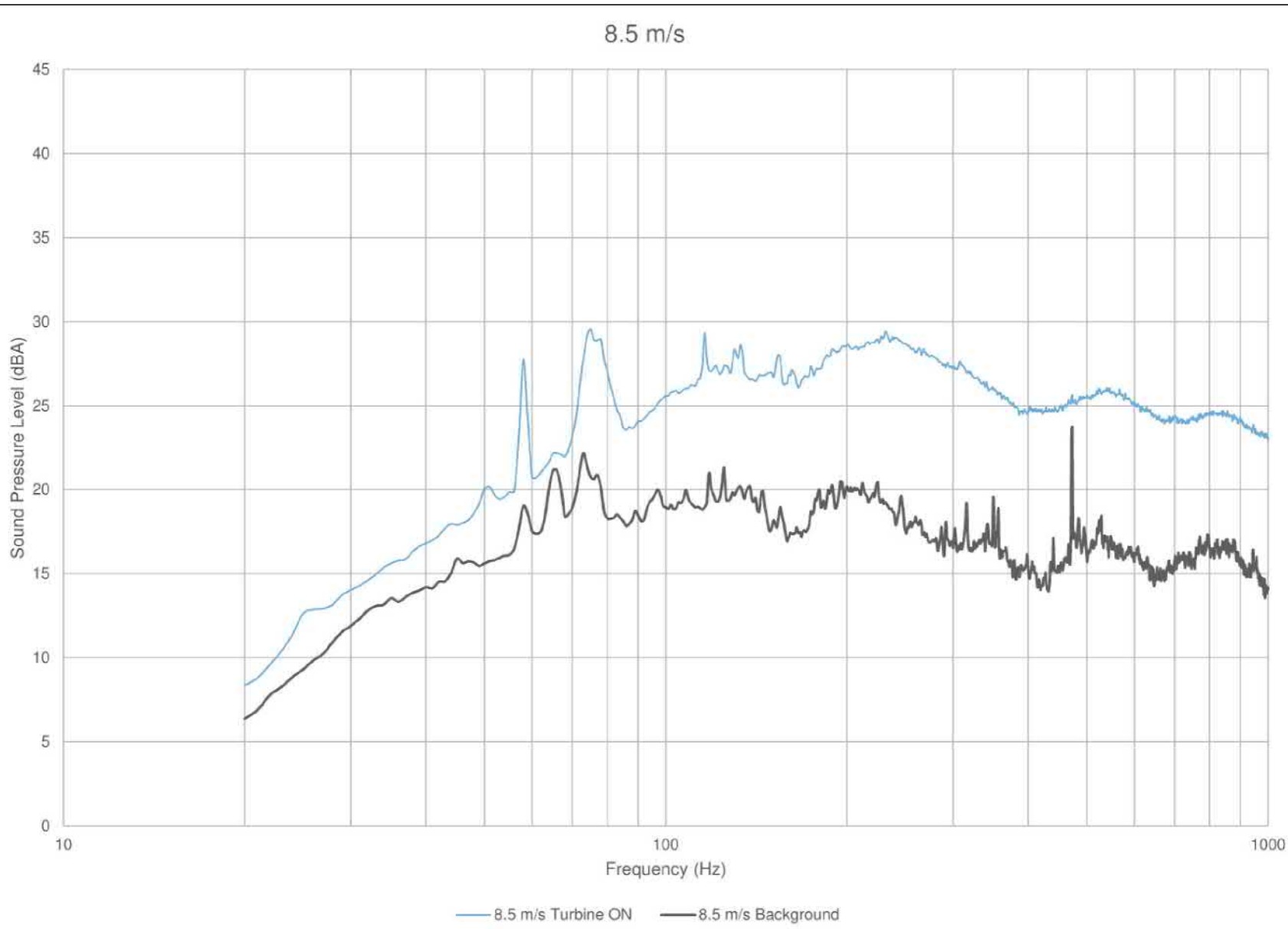
Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

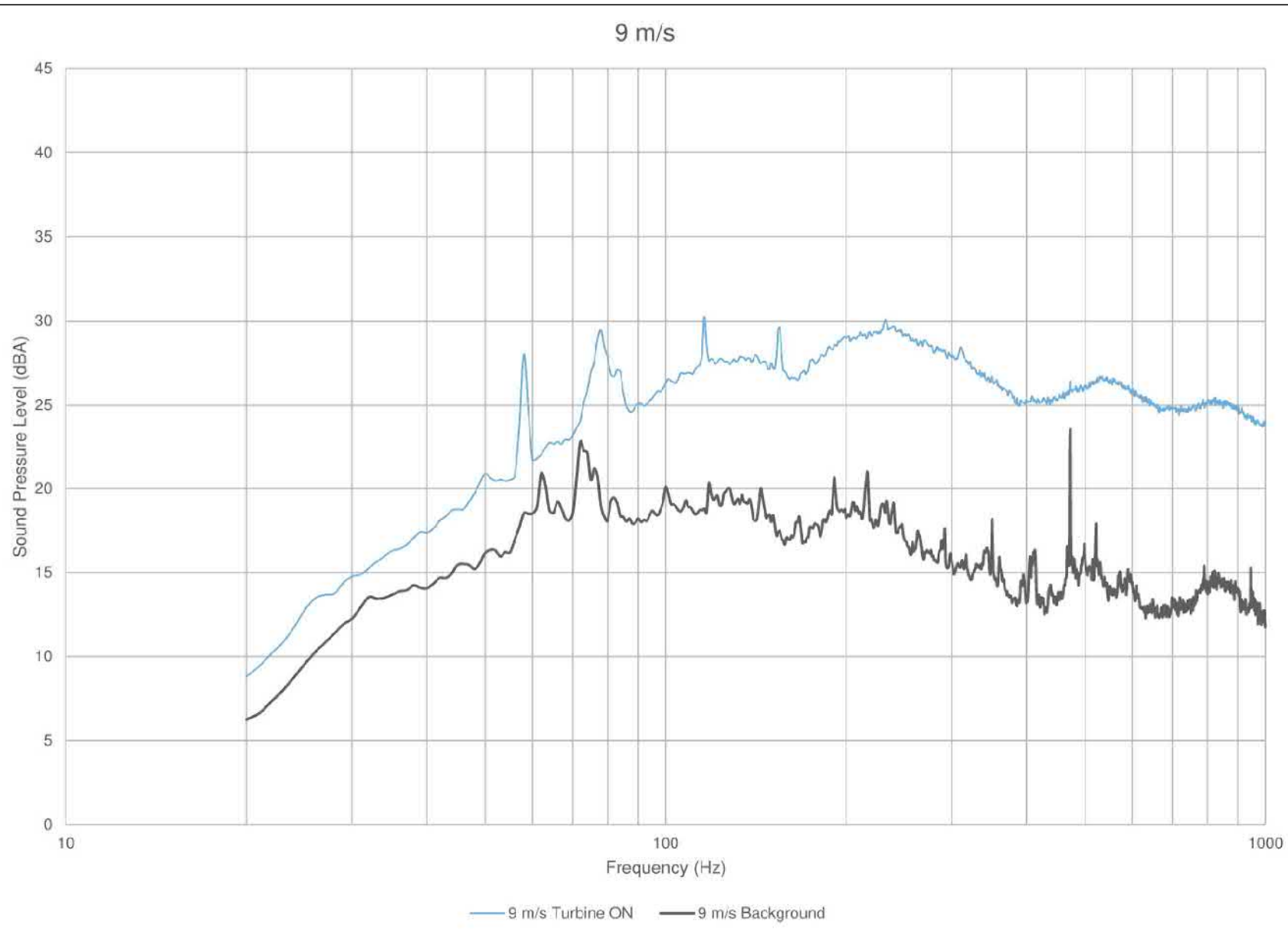
Appendix D
Tonality Assessment



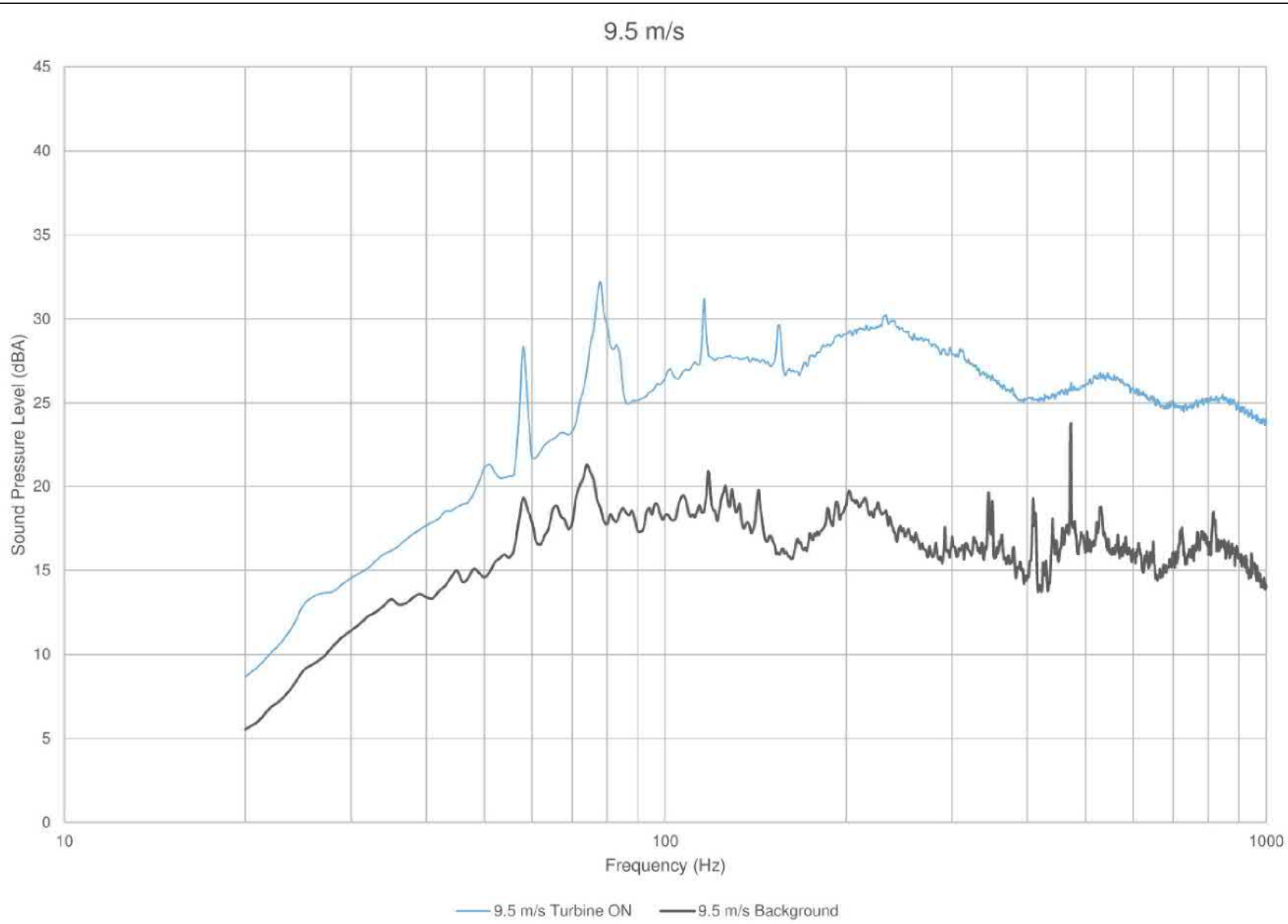
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of narrow band spectra - Turbine ON vs. Background at 8 m/s **Figure D.01**



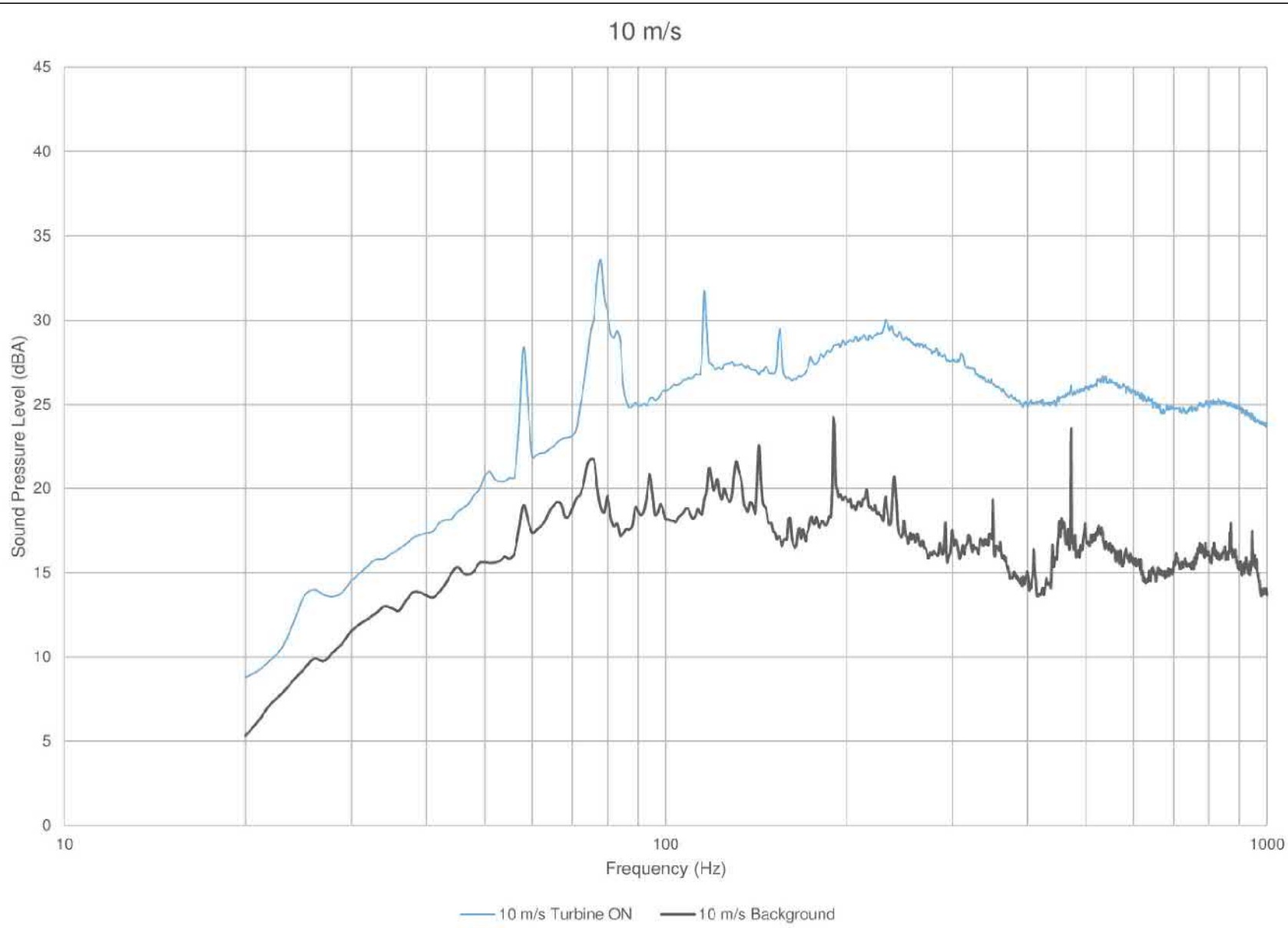
aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 8.5 m/s
		Figure D.02



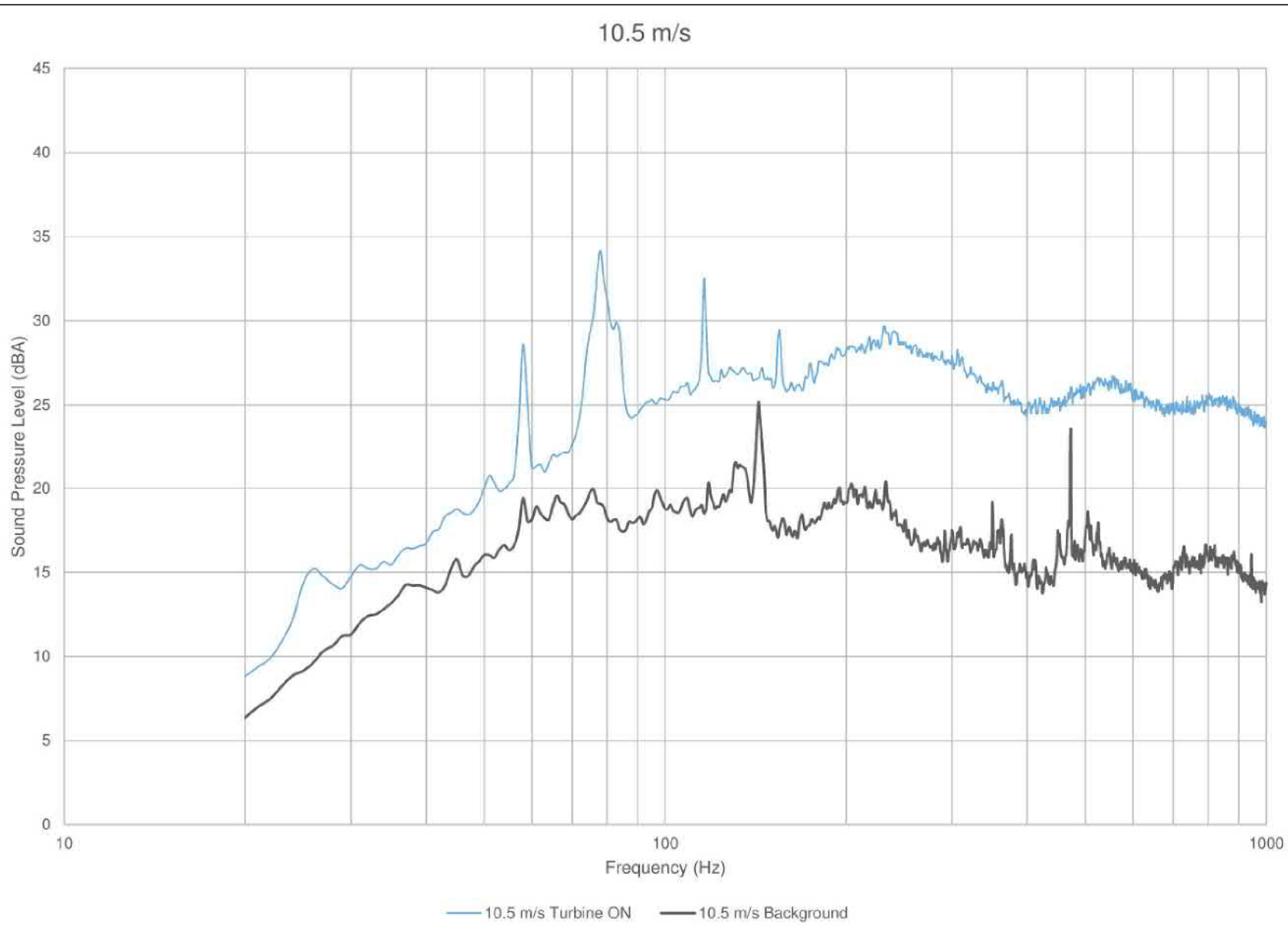
aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 9 m/s
		Figure D.03



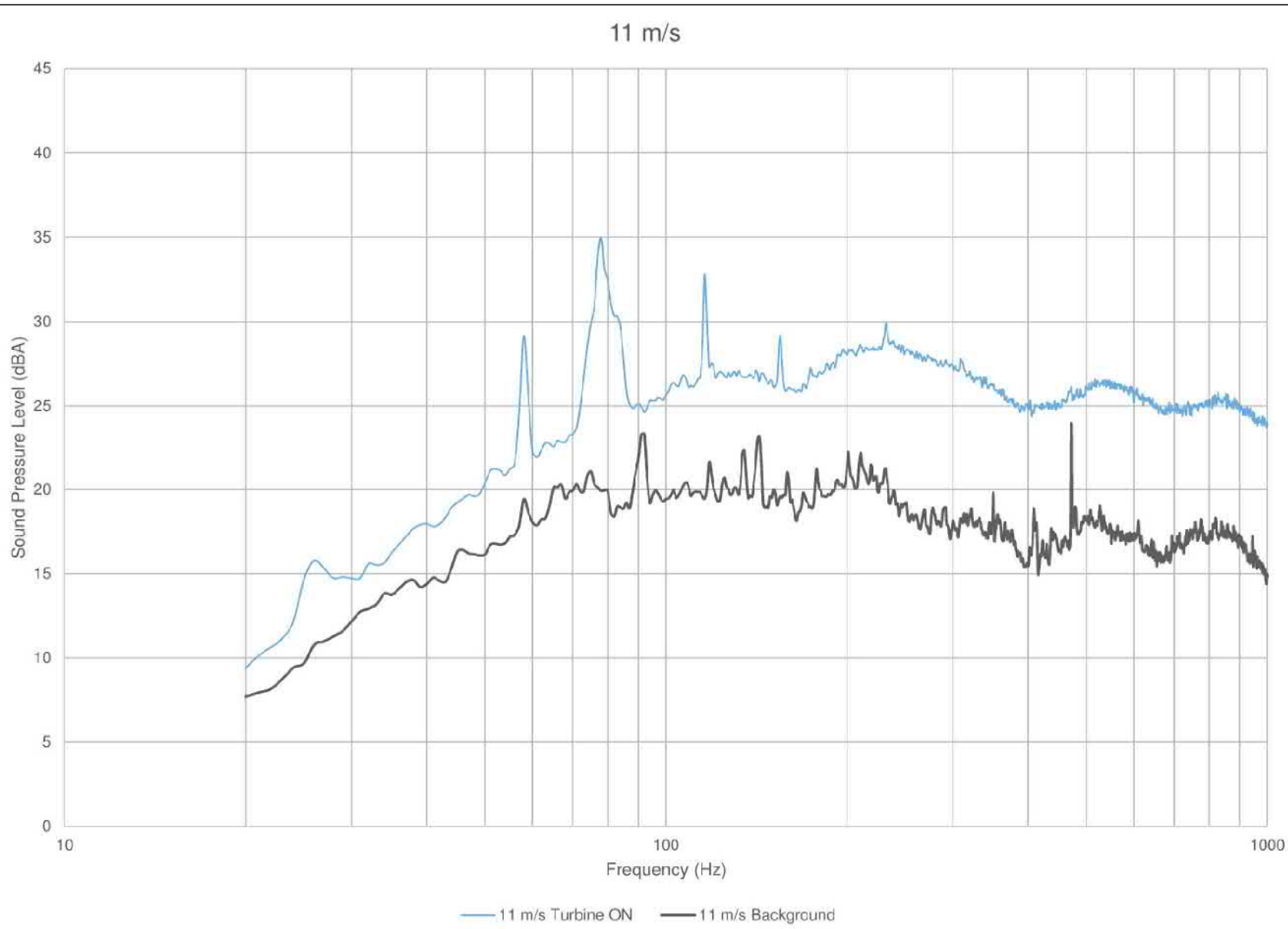
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of narrow band spectra - Turbine ON vs. Background at 9.5 m/s **Figure D.04**



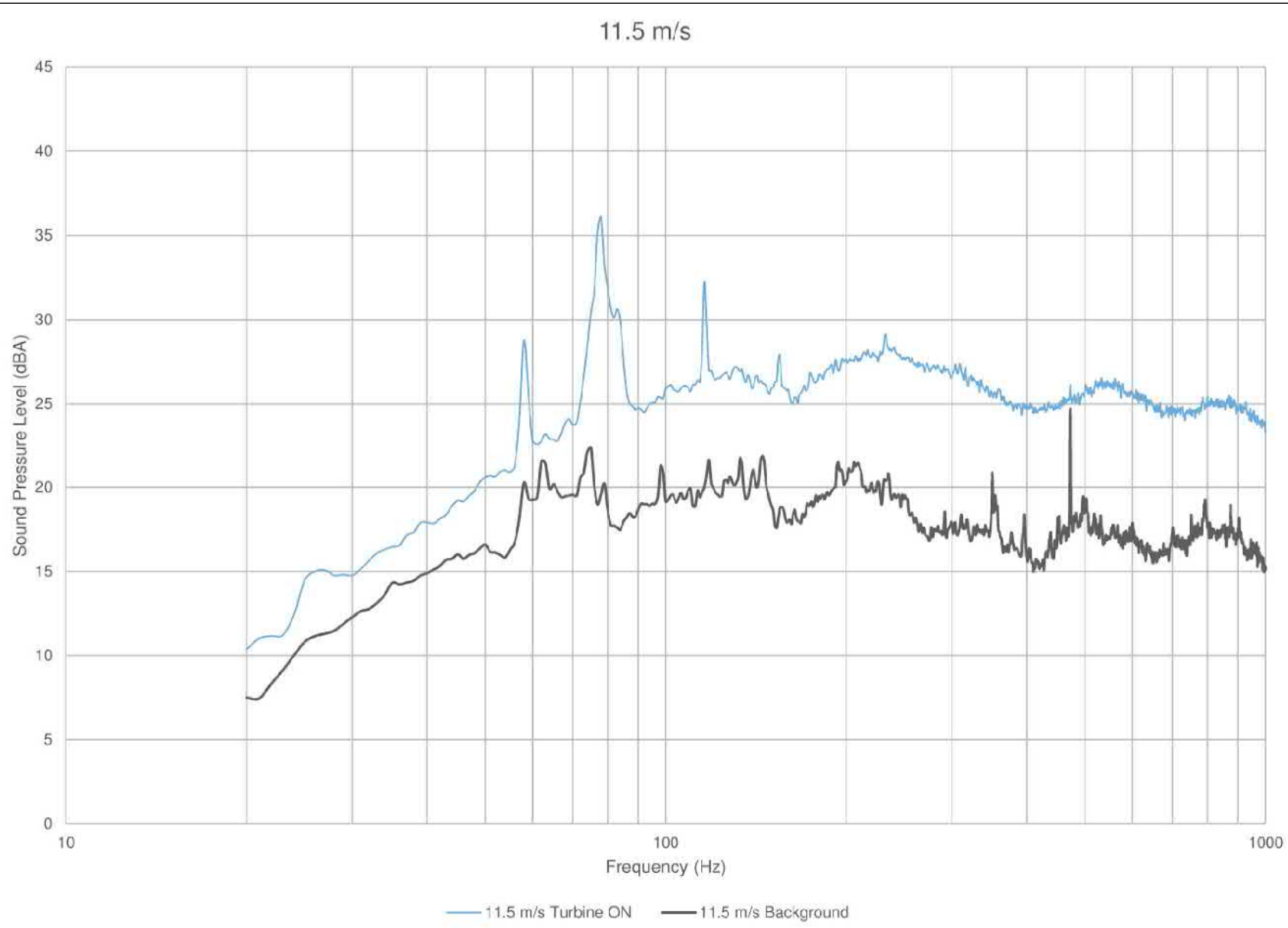
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of narrow band spectra - Turbine ON vs. Background at 10 m/s **Figure D.05**



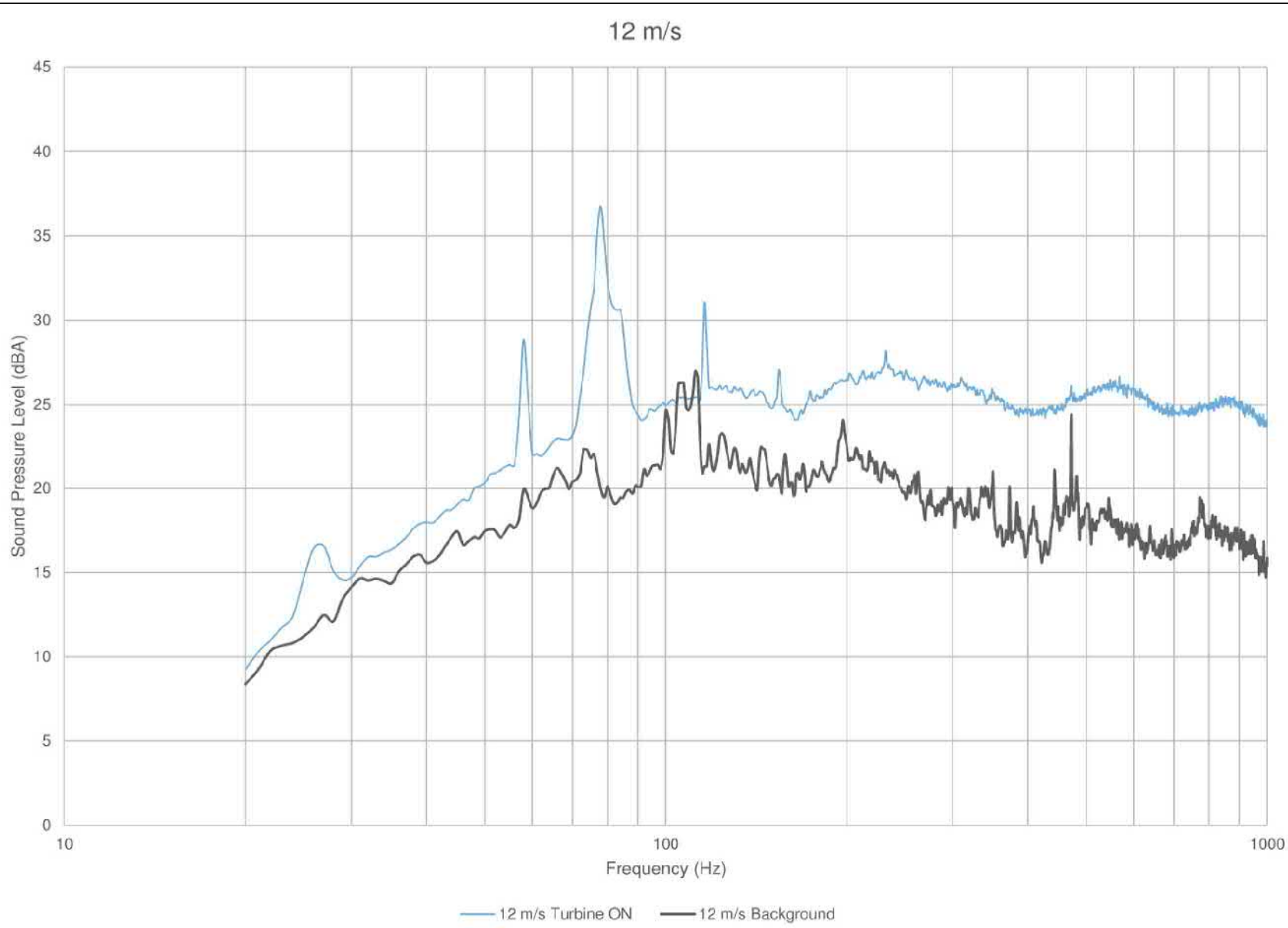
aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 10.5 m/s
		Figure D.06



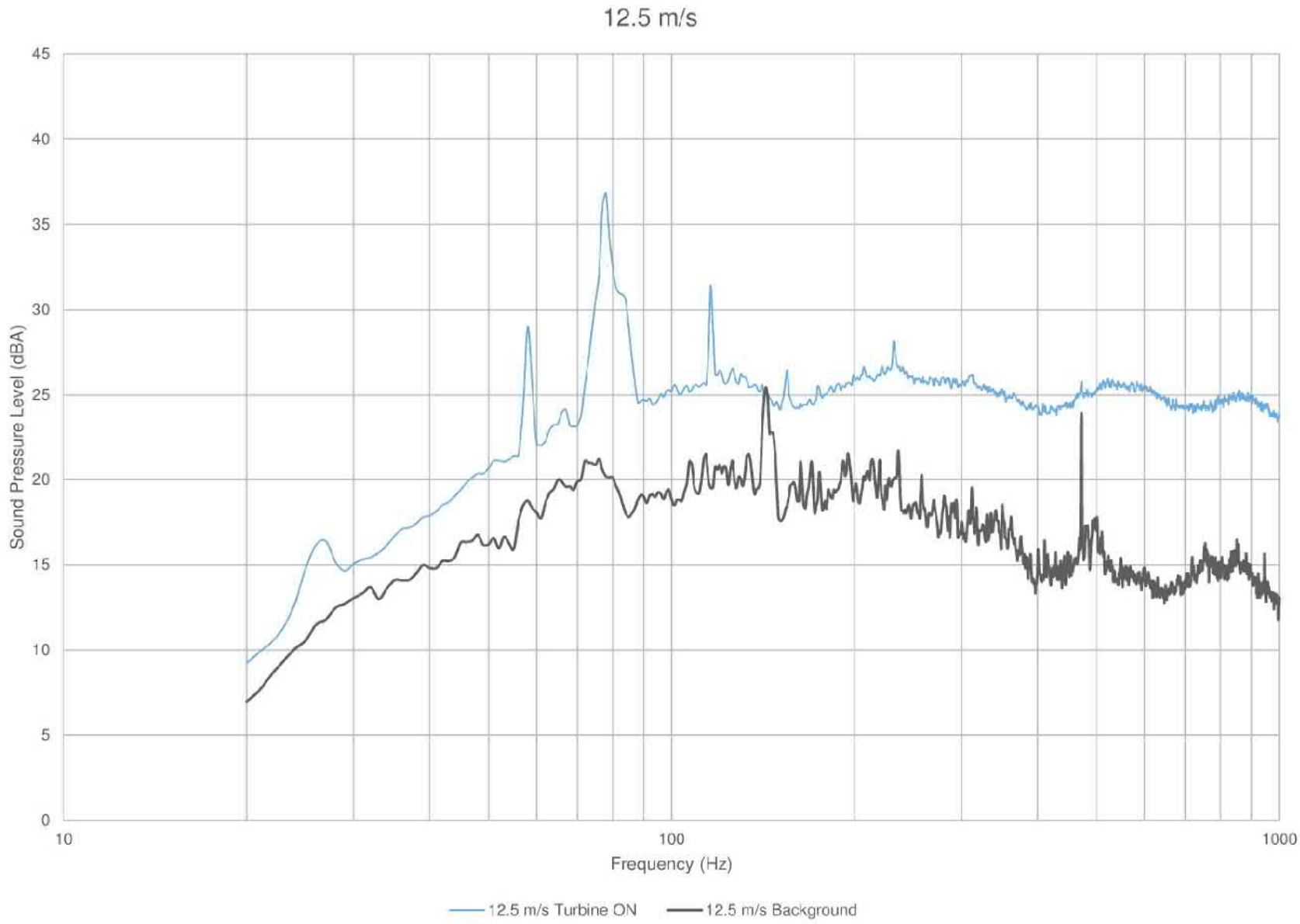
aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52 **Figure Title** Plot of narrow band spectra - Turbine ON vs. Background at 11 m/s **Figure D.07**



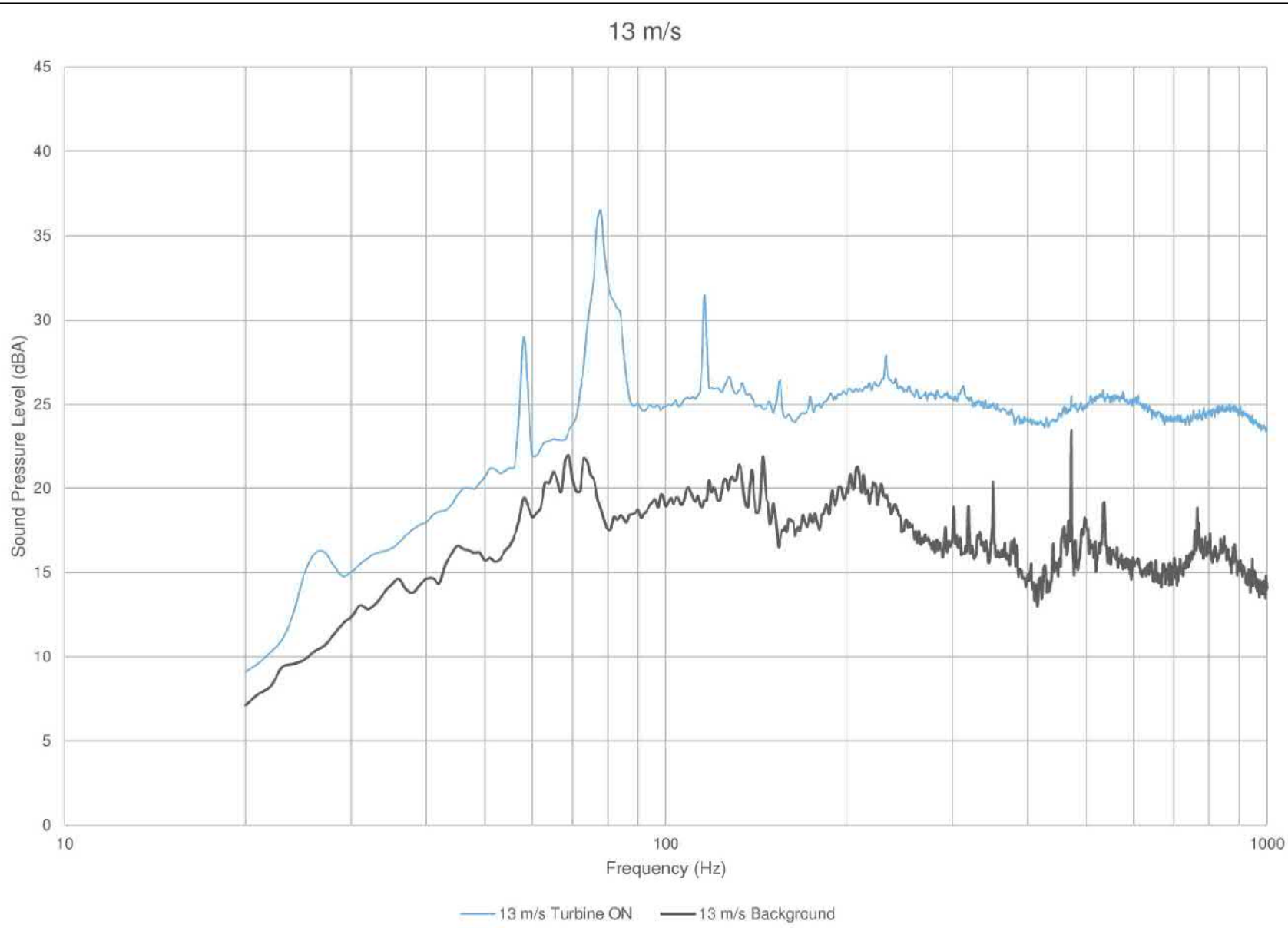
aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 11.5 m/s
		Figure D.08



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 12 m/s	**Figure D.09**



aercoustics	17095.01.T52.RP1	**Project Name**
	Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 12.5 m/s
		Figure D.10



aercoustics	17095.01.T52.RP1 Scale: NTS Drawn by: AED Reviewed by: MAD Date: Nov 2018 Revision: 1	**Project Name** Belle River Wind Power Project - IEC 61400-11 Edition 3.0 - Turbine T52	
		Figure Title Plot of narrow band spectra - Turbine ON vs. Background at 13 m/s	**Figure D.11**

Table D.01 Tonality Assessment Table - 8 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
946	58		40.1	33.0	-7.2	-2.0	-5.2
888	69		38.2	35.3	-2.9	-2.0	-0.9
1068	69		39.8	34.3	-5.5	-2.0	-3.5
840	70		39.5	36.1	-3.4	-2.0	-1.4
827	70		39.9	35.2	-4.7	-2.0	-2.7
838	70		40.2	35.8	-4.4	-2.0	-2.4
1111	70		38.5	37.8	-0.7	-2.0	1.3
762	70		38.8	39.3	0.5	-2.0	2.5
847	70		40.2	37.1	-3.1	-2.0	-1.0
806	70		39.6	36.1	-3.5	-2.0	-1.5
761	70		39.6	39.8	0.2	-2.0	2.2
865	70		40.1	35.8	-4.3	-2.0	-2.3
866	70		38.2	37.8	-0.4	-2.0	1.6
805	70		38.8	36.7	-2.1	-2.0	-0.1
858	70		39.5	36.6	-2.9	-2.0	-0.9
886	71		39.8	37.6	-2.2	-2.0	-0.2
1073	71		40.0	37.5	-2.4	-2.0	-0.4
1329	71		41.0	37.7	-3.3	-2.0	-1.3
809	71		39.9	37.8	-2.1	-2.0	-0.1
810	71		38.8	36.5	-2.3	-2.0	-0.3
907	71		39.6	37.1	-2.5	-2.0	-0.5
760	71		42.3	35.4	-6.9	-2.0	-4.9
1072	71		40.0	35.7	-4.3	-2.0	-2.3
775	71		39.6	37.2	-2.4	-2.0	-0.4
807	71		39.0	36.4	-2.6	-2.0	-0.6
856	71		39.9	36.0	-3.9	-2.0	-1.9
1065	71		39.9	37.2	-2.7	-2.0	-0.7
774	71		41.6	36.3	-5.2	-2.0	-3.2
1327	72		40.9	37.9	-3.0	-2.0	-1.0
815	72		40.7	36.0	-4.6	-2.0	-2.6
938	72		40.7	37.0	-3.7	-2.0	-1.7
935	72		39.1	35.3	-3.8	-2.0	-1.8
718	72		41.1	34.1	-7.0	-2.0	-5.0
1117	72		39.4	36.3	-3.1	-2.0	-1.1
719	72		41.0	37.4	-3.5	-2.0	-1.5
804	72		39.4	37.1	-2.3	-2.0	-0.3
1085	72		39.8	33.7	-6.1	-2.0	-4.1
1099	72		39.6	33.2	-6.4	-2.0	-4.4
1116	72		39.9	34.4	-5.4	-2.0	-3.4
1126	72		40.3	38.1	-2.1	-2.0	-0.1
732	72		38.8	37.5	-1.3	-2.0	0.7
1109	72		38.9	38.4	-0.5	-2.0	1.5
1114	72		40.1	36.0	-4.1	-2.0	-2.1
942	72		39.0	37.3	-1.7	-2.0	0.3

Table D.01 Tonality Assessment Table - 8 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
839	72		40.3	37.4	-2.8	-2.0	-0.8
802	72		38.9	35.9	-3.0	-2.0	-1.0
1070	72		40.8	36.6	-4.1	-2.0	-2.1
811	72		38.9	36.7	-2.2	-2.0	-0.2
936	72		39.0	36.9	-2.1	-2.0	-0.1
943	72		38.9	36.4	-2.6	-2.0	-0.6
808	72		40.5	38.5	-2.0	-2.0	0.0
1113	72		38.8	37.2	-1.6	-2.0	0.4
997	73		41.6	33.6	-8.0	-2.0	-6.0
1071	73		41.6	36.7	-4.9	-2.0	-2.9
1112	73		39.7	36.8	-2.8	-2.0	-0.8
937	73		39.2	35.0	-4.2	-2.0	-2.2
1086	73		39.8	36.2	-3.6	-2.0	-1.6
1328	73		41.0	37.5	-3.5	-2.0	-1.5
892	73		40.3	36.5	-3.8	-2.0	-1.8
932	73		39.4	36.3	-3.0	-2.0	-1.0
820	74		40.5	33.9	-6.6	-2.0	-4.6
803	74		39.3	34.4	-4.9	-2.0	-2.9
1067	74		41.0	36.6	-4.4	-2.0	-2.4
845	74		41.5	37.0	-4.5	-2.0	-2.5
812	74		40.5	35.1	-5.4	-2.0	-3.4
982	74		41.3	36.4	-5.0	-2.0	-3.0
1110	74		39.8	37.7	-2.1	-2.0	-0.1
944	74		39.8	34.8	-5.0	-2.0	-3.0
927	74		38.7	37.1	-1.6	-2.0	0.4
720	74		41.3	35.2	-6.2	-2.0	-4.2
893	74		41.1	33.2	-7.8	-2.0	-5.8
763	74		40.1	37.0	-3.1	-2.0	-1.1
857	74		39.6	37.7	-2.0	-2.0	0.0
1120	74		39.9	36.2	-3.7	-2.0	-1.7
1074	74		40.5	33.8	-6.7	-2.0	-4.7
859	75		41.4	35.2	-6.2	-2.0	-4.2
1076	75		40.7	33.9	-6.9	-2.0	-4.9
947	75		41.2	36.1	-5.0	-2.0	-3.0
887	75		40.1	34.9	-5.2	-2.0	-3.2
1104	75		40.4	34.0	-6.4	-2.0	-4.4
1107	75		41.0	37.0	-4.1	-2.0	-2.1
1108	75		40.8	34.5	-6.2	-2.0	-4.2
1066	75		41.0	34.1	-6.9	-2.0	-4.9
1121	75		40.2	35.2	-5.0	-2.0	-3.0
1122	75		40.4	37.2	-3.3	-2.0	-1.3
1106	75		40.5	33.6	-6.9	-2.0	-4.9
1094	75		41.1	33.5	-7.6	-2.0	-5.6
1128	76		40.8	31.9	-8.9	-2.0	-6.9
1119	76		40.5	31.7	-8.7	-2.0	-6.7
813	76		40.9	28.9	-12.0	-2.0	-10.0
1105	76		40.3	34.7	-5.5	-2.0	-3.5
1115	76		40.9	32.4	-8.5	-2.0	-6.5
833	76		43.0	31.8	-11.2	-2.0	-9.2
818	76		41.3	35.1	-6.2	-2.0	-4.2
1129	76		40.5	34.3	-6.2	-2.0	-4.2
1091	77		40.9	32.3	-8.6	-2.0	-6.6

Table D.01 Tonality Assessment Table - 8 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
	73				-3.8	-2.0	-1.8

Table D.02 Tonality Assessment Table - 10 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1465	75	25.5	43.7	43.5	-0.2	-2.0	1.8
1009	77	22.8	41.0	37.9	-3.1	-2.0	-1.1
1187	77	24.8	43.1	38.2	-4.9	-2.0	-2.9
1272	77	22.8	41.1	38.8	-2.3	-2.0	-0.3
1508	77	23.9	42.1	41.1	-1.1	-2.0	0.9
1509	77	24.7	42.9	39.5	-3.4	-2.0	-1.4
1475	77	25.8	44.1	38.5	-5.6	-2.0	-3.6
1450	77	24.0	42.3	38.7	-3.6	-2.0	-1.6
1163	77	23.7	42.0	37.4	-4.6	-2.0	-2.6
1378	77	24.2	42.4	38.5	-3.9	-2.0	-1.9
750	77	23.5	41.8	36.4	-5.4	-2.0	-3.4
1455	77	25.5	43.8	36.5	-7.2	-2.0	-5.2
1200	77	24.1	42.4	37.1	-5.2	-2.0	-3.2
1622	77	23.5	41.8	41.0	-0.7	-2.0	1.3
1362	77	24.7	43.0	35.7	-7.3	-2.0	-5.3
1275	77	23.8	42.1	34.2	-7.9	-2.0	-5.9
1193	77	24.7	43.0	34.0	-8.9	-2.0	-6.9
968	77	23.9	42.2	37.1	-5.1	-2.0	-3.1
1358	77	25.8	44.1	37.7	-6.4	-2.0	-4.4
754	77	24.9	43.2	36.4	-6.8	-2.0	-4.8
1173	78	23.7	41.9	38.1	-3.8	-2.0	-1.8
1286	78	24.7	43.0	39.1	-3.9	-2.0	-1.9
1190	78	24.2	42.5	38.3	-4.2	-2.0	-2.2
1435	78	26.1	44	39	-5.4	-2.0	-3.4
1014	78	24.1	42.3	34.6	-7.7	-2.0	-5.7
970	78	24.2	42.5	34.4	-8.0	-2.0	-6.0
1514	78	23.2	41.4	41.5	0.0	-2.0	2.0
1351	78	24.7	42.9	37.1	-5.8	-2.0	-3.8
1299	78	25.7	43.9	38.4	-5.5	-2.0	-3.5
1273	78	23.7	41.9	37.6	-4.3	-2.0	-2.3
1287	78	25.1	43.3	35.5	-7.8	-2.0	-5.8
1206	78	24.6	42.8	32.6	-10.2	-2.0	-8.2
1352	78	24.1	42.3	37.0	-5.3	-2.0	-3.3
1343	78	25.0	43.3	35.2	-8.1	-2.0	-6.1
1165	78	24.3	42.5	35.9	-6.6	-2.0	-4.6
1413	78	24.5	42.8	39.0	-3.7	-2.0	-1.7
1366	78	25.6	43.8	40.2	-3.6	-2.0	-1.6
1012	78	24.0	42.2	35.3	-6.9	-2.0	-4.9
1143	78	24.6	42.8	32.4	-10.4	-2.0	-8.4
1374	78	23.9	42.1	39.9	-2.2	-2.0	-0.2
1415	78	24.5	42.8	39.9	-2.9	-2.0	-0.9
1289	78	24.5	42.7	39.5	-3.3	-2.0	-1.2
1208	78	24.8	43.1	34.7	-8.4	-2.0	-6.4
1008	78	22.8	41.1	36.4	-4.7	-2.0	-2.7
1164	78	24.2	42.5	36.2	-6.3	-2.0	-4.3
1139	78	24.1	42.4	34.8	-7.6	-2.0	-5.6
1207	78	25.6	43.9	32.2	-11.7	-2.0	-9.7
1216	78	24.0	42.3	36.5	-5.8	-2.0	-3.8
1179	78	24.3	42.6	38.1	-4.5	-2.0	-2.4
959	78	24.1	42.4	36.7	-5.6	-2.0	-3.6
1348	78	26.2	44.4	36.5	-7.9	-2.0	-5.9
1010	78	25.0	43.2	34.2	-9.1	-2.0	-7.1
1288	78	25.4	43.7	37.3	-6.4	-2.0	-4.4
1342	78	24.7	43.0	38.3	-4.7	-2.0	-2.7
1218	78	24.5	42.7	31.8	-10.9	-2.0	-8.9
1197	78	24.1	42.3	34.7	-7.7	-2.0	-5.7
1373	78	25.7	43.9	32.9	-11.0	-2.0	-9.0
1454	78	24.8	43.0	40.2	-2.8	-2.0	-0.8
1280	78	24.2	42.5	39.2	-3.2	-2.0	-1.2
1452	78	23.7	42.0	41.0	-1.0	-2.0	1.0

Table D.02 Tonality Assessment Table - 10 m/s

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1144	78	24.0	42.3	37.0	-5.3	-2.0	-3.3
1604	78	23.4	41.7	41.8	0.2	-2.0	2.2
1270	78	24.0	42.3	36.1	-6.2	-2.0	-4.2
1513	78	24.5	42.8	40.8	-2.0	-2.0	0.0
1210	78	24.3	42.6	36.6	-5.9	-2.0	-3.9
1182	78	24.6	42.9	34.7	-8.2	-2.0	-6.2
1511	78	23.6	41.9	40.7	-1.2	-2.0	0.8
1451	78	24.8	43.1	39.0	-4.1	-2.0	-2.1
1268	78	23.4	41.6	36.0	-5.7	-2.0	-3.7
1195	78	23.7	42.0	35.9	-6.1	-2.0	-4.1
1658	78	23.5	41.8	41.4	-0.4	-2.0	1.6
1045	79	24.3	42.6	37.8	-4.8	-2.0	-2.8
1458	79	25.4	43.6	40.2	-3.4	-2.0	-1.4
Average	78				-4.5	-2.0	-2.5

Table D.03 Tonality Assessment Table - 10.5 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1659	77	23.1	41.3	42.0	0.7	-2.0	2.7
1377	77	25.2	43.5	39.1	-4.4	-2.0	-2.4
1271	78	23.7	41.9	39.1	-2.8	-2.0	-0.8
1409	78	23.8	42.1	40.8	-1.3	-2.0	0.7
1290	78	23.7	41.9	38.7	-3.2	-2.0	-1.2
960	78	24.5	42.7	36.0	-6.7	-2.0	-4.7
1424	78	24.9	43.2	39.4	-3.8	-2.0	-1.8
1184	78	23.9	42.1	37.3	-4.9	-2.0	-2.9
1410	78	23.8	42.1	41.2	-0.9	-2.0	1.1
1158	78	24.0	42.2	37.3	-4.9	-2.0	-2.9
1394	78	25.2	43.4	40.3	-3.1	-2.0	-1.1
1152	78	24.1	42.3	37.8	-4.5	-2.0	-2.5
1399	78	25.1	43.3	40.8	-2.5	-2.0	-0.5
1020	79	22.0	40.3	40.5	0.3	-2.0	2.3
1140	79	25.0	43.3	33.0	-10.3	-2.0	-8.3
Average	78				-2.8	-2.0	-0.8

Table D.04 Tonality Assessment Table - 11 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1487	77	24.3	42.6	41.4	-1.2	-2.0	0.8
2092	77	24.2	42.5	42.8	0.3	-2.0	2.3
1025	77	19.7	38.0	41.3	3.3	-2.0	5.3
1356	77	25.3	43.5	39.1	-4.4	-2.0	-2.4
1155	77	24.2	42.5	40.3	-2.2	-2.0	-0.2
1400	78	25.1	43.4	40.4	-3.0	-2.0	-1.0
1627	78	24.0	42.2	41.2	-1.0	-2.0	1.0
1383	78	24.4	42.6	40.4	-2.2	-2.0	-0.2
1396	78	25.8	44.0	40.2	-3.8	-2.0	-1.8
1412	78	24.3	42.6	37.4	-5.2	-2.0	-3.2
1515	78	23.3	41.6	42.1	0.5	-2.0	2.5
1298	78	25.2	43.5	36.3	-7.2	-2.0	-5.2
1384	78	24.7	42.9	40.1	-2.8	-2.0	-0.8
1186	78	24.4	42.7	37.6	-5.1	-2.0	-3.1
1391	78	24.6	42.8	39.8	-3.0	-2.0	-1.0
2059	78	23.2	41.4	43.2	1.8	-2.0	3.8
1160	78	23.5	41.8	38.1	-3.7	-2.0	-1.7
1017	78	24.7	43.0	36.1	-6.8	-2.0	-4.8
1392	78	24.8	43.1	39.8	-3.3	-2.0	-1.3
1297	78	24.1	42.4	39.8	-2.5	-2.0	-0.5
1382	78	24.5	42.8	40.2	-2.5	-2.0	-0.5
1405	78	24.1	42.4	41.1	-1.3	-2.0	0.7
1151	78	24.3	42.6	36.0	-6.6	-2.0	-4.6
1030	78	22.0	40.3	40.0	-0.2	-2.0	1.8
1643	78	23.6	41.9	42.7	0.8	-2.0	2.8
1418	79	25.3	43.6	41.9	-1.7	-2.0	0.3
1153	79	24.8	43.1	40.4	-2.6	-2.0	-0.6
1148	79	25.3	43.6	34.7	-8.8	-2.0	-6.8
1026	80	23.1	41.4	40.3	-1.0	-2.0	1.0
Average	78				-1.8	-2.0	0.2

Table D.05 Tonality Assessment Table - 11.5 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1459	77	25.0	43.3	39.8	-3.5	-2.0	-1.5
1389	77	24.3	42.5	40.7	-1.9	-2.0	0.1
1625	77	24.6	42.9	41.0	-1.9	-2.0	0.1
1628	77	24.4	42.7	40.1	-2.6	-2.0	-0.6
1388	77	23.8	42.0	40.7	-1.3	-2.0	0.7
1469	77	24.8	43.1	42.3	-0.8	-2.0	1.2
1634	77	22.9	41.2	42.8	1.7	-2.0	3.7
967	77	24.9	43.2	37.9	-5.3	-2.0	-3.3
1635	77	22.6	40.9	41.6	0.8	-2.0	2.8
1368	77	24.7	42.9	40.1	-2.9	-2.0	-0.8
1192	77	24.6	42.9	34.9	-8.0	-2.0	-6.0
1162	77	24.1	42.4	37.9	-4.5	-2.0	-2.5
966	78	25.1	43.3	35.1	-8.2	-2.0	-6.2
1027	78	23.1	41.4	38.2	-3.2	-2.0	-1.2
1493	78	23.6	41.9	42.6	0.7	-2.0	2.7
1664	78	23.4	41.6	42.7	1.0	-2.0	3.0
2087	78	24.0	42.3	41.7	-0.6	-2.0	1.4
964	78	24.7	42.9	36.3	-6.6	-2.0	-4.6
1393	78	25.5	43.8	40.7	-3.1	-2.0	-1.1
1015	78	24.7	42.9	38.8	-4.1	-2.0	-2.1
1490	78	26.1	44.4	41.7	-2.7	-2.0	-0.7
2042	78	23.5	41.7	42.2	0.5	-2.0	2.5
1470	78	24.5	42.8	42.2	-0.5	-2.0	1.5
1512	78	24.0	42.2	41.2	-1.0	-2.0	1.0
1653	78	23.7	42.0	43.4	1.4	-2.0	3.4
1385	79	24.1	42.4	40.9	-1.4	-2.0	0.6
1402	79	24.3	42.5	42.8	0.3	-2.0	2.3
1411	80	25.1	43.4	39.6	-3.8	-2.0	-1.8
Average	78				-1.5	-2.0	0.5

Table D.06 Tonality Assessment Table - 12 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
2094	76	24.1	42.3	44.1	1.8	-2.0	3.8
1478	77	25.9	44.2	38.8	-5.4	-2.0	-3.4
1633	77	24.3	42.6	42.1	-0.5	-2.0	1.5
1550	77	23.3	41.6	40.5	-1.1	-2.0	0.9
1486	77	23.4	41.7	42.5	0.8	-2.0	2.8
1404	77	24.0	42.2	39.5	-2.8	-2.0	-0.8
1024	77	20.3	38.6	40.2	1.6	-2.0	3.6
1648	77	23.0	41.2	42.4	1.1	-2.0	3.1
1492	78	23.4	41.6	43.1	1.5	-2.0	3.5
1477	78	25.2	43.5	39.9	-3.6	-2.0	-1.6
1547	78	23.0	41.3	40.6	-0.7	-2.0	1.3
1018	78	24.8	43.1	37.6	-5.5	-2.0	-3.5
1553	78	22.4	40.6	41.2	0.6	-2.0	2.6
1480	78	24.7	42.9	39.3	-3.6	-2.0	-1.6
1145	78	24.0	42.2	39.2	-3.0	-2.0	-1.0
1023	78	21.6	39.9	40.6	0.7	-2.0	2.7
1557	78	22.9	41.2	42.5	1.3	-2.0	3.3
1606	78	22.0	40.2	42.2	2.0	-2.0	4.0
1652	78	23.3	41.6	42.8	1.2	-2.0	3.2
1502	78	23.1	41.4	41.9	0.5	-2.0	2.5
1638	78	23.4	41.7	42.6	0.9	-2.0	3.0
1605	78	23.3	41.6	41.8	0.3	-2.0	2.3
1587	78	22.0	40.2	42.1	1.9	-2.0	3.9
1146	78	24.0	42.2	35.3	-6.9	-2.0	-4.9
1520	78	22.6	40.9	42.5	1.6	-2.0	3.6
1639	78	23.0	41.2	42.5	1.3	-2.0	3.3
2095	78	24.6	42.9	43.1	0.2	-2.0	2.2
1660	78	23.3	41.6	41.7	0.1	-2.0	2.1
1637	78	23.1	41.3	42.4	1.1	-2.0	3.1
1387	79	25.1	43.4	40.8	-2.6	-2.0	-0.6
1468	79	25.6	43.9	39.1	-4.8	-2.0	-2.8
1386	79	25.0	43.3	41.6	-1.7	-2.0	0.3
2088	79	23.9	42.2	42.7	0.5	-2.0	2.5
1467	79	25.1	43.4	41.2	-2.2	-2.0	-0.1
1461	79	25.4	43.7	42.3	-1.4	-2.0	0.6
1788	80	23.0	41.2	41.1	-0.1	-2.0	1.9
Average	78				-0.2	-2.0	1.9

Table D.07 Tonality Assessment Table - 12.5 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1518	77	23.0	41.3	42.4	1.1	-2.0	3.2
1988	77	22.5	40.7	42.9	2.2	-2.0	4.2
1672	77	23.7	42.0	41.3	-0.7	-2.0	1.3
2069	77	23.5	41.8	41.4	-0.3	-2.0	1.7
2076	77	23.2	41.5	43.3	1.8	-2.0	3.8
1485	77	24.1	42.3	42.5	0.2	-2.0	2.2
1517	77	22.6	40.9	41.4	0.6	-2.0	2.6
1499	77	23.1	41.3	42.0	0.7	-2.0	2.7
1623	77	24.1	42.3	39.7	-2.6	-2.0	-0.6
2053	77	24.0	42.2	41.7	-0.5	-2.0	1.5
1645	78	23.6	41.8	42.6	0.7	-2.0	2.7
1591	78	22.5	40.8	41.6	0.9	-2.0	2.9
1732	78	22.8	41.0	40.7	-0.3	-2.0	1.7
1407	78	24.6	42.9	39.9	-3.0	-2.0	-1.0
1474	78	29.6	47.9	38.1	-9.8	-2.0	-7.8
1479	78	24.6	42.9	41.4	-1.5	-2.0	0.5
1663	78	22.9	41.2	43.0	1.8	-2.0	3.8
1597	78	23.5	41.8	41.6	-0.2	-2.0	1.8
1678	78	22.8	41.1	41.2	0.1	-2.0	2.1
1767	78	23.6	41.9	42.6	0.7	-2.0	2.7
1422	78	24.6	42.9	38.7	-4.2	-2.0	-2.2
1646	78	23.2	41.4	42.6	1.2	-2.0	3.2
2082	78	24.0	42.3	42.7	0.4	-2.0	2.4
2098	78	23.9	42.1	42.6	0.5	-2.0	2.5
1651	78	23.1	41.3	42.4	1.1	-2.0	3.1
1736	78	23.2	41.5	40.9	-0.6	-2.0	1.4
1649	78	23.2	41.5	42.9	1.4	-2.0	3.4
1526	78	22.4	40.6	42.5	1.8	-2.0	3.8
1019	78	23.3	41.6	40.5	-1.1	-2.0	0.9
1497	78	22.3	40.5	42.0	1.4	-2.0	3.4
1519	78	22.8	41.1	41.9	0.9	-2.0	2.9
1610	78	23.4	41.6	42.2	0.5	-2.0	2.5
1563	78	22.4	40.7	41.9	1.2	-2.0	3.2
965	78	24.9	43.2	37.8	-5.4	-2.0	-3.4
1420	78	24.4	42.7	39.1	-3.5	-2.0	-1.5
1548	78	22.8	41.0	41.7	0.7	-2.0	2.7
2078	78	24.8	43.1	42.3	-0.8	-2.0	1.2
1630	78	23.6	41.8	42.5	0.7	-2.0	2.7
1640	78	23.2	41.4	42.3	0.8	-2.0	2.9
1629	78	24.6	42.8	41.1	-1.8	-2.0	0.2
1022	79	21.4	39.6	41.2	1.6	-2.0	3.6
1894	79	24.7	42.9	42.4	-0.5	-2.0	1.5
1521	79	23.9	42.2	39.8	-2.4	-2.0	-0.4
1466	80	25.9	44.2	39.4	-4.8	-2.0	-2.8
1462	80	25.9	44.1	41.7	-2.4	-2.0	-0.4
Average	78				0.0	-2.0	2.0

Table D.08 Tonality Assessment Table - 13 m/s

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1463	74	25.0	43.2	41.0	-2.2	-2.0	-0.2
1472	77	24.4	42.7	41.2	-1.5	-2.0	0.5
2050	77	25.3	43.6	41.8	-1.8	-2.0	0.2
1642	77	23.5	41.8	43.0	1.3	-2.0	3.3
2097	77	23.5	41.8	43.7	1.9	-2.0	3.9
1506	77	24.1	42.4	41.2	-1.1	-2.0	0.9
1603	77	23.0	41.3	42.6	1.2	-2.0	3.3
1525	77	22.1	40.4	41.6	1.2	-2.0	3.2
2085	77	24.2	42.5	42.4	-0.1	-2.0	1.9
1528	77	23.1	41.3	41.8	0.5	-2.0	2.5
2079	77	23.5	41.8	42.6	0.8	-2.0	2.8
2089	77	23.8	42.0	43.1	1.1	-2.0	3.1
1624	77	23.7	42.0	41.8	-0.2	-2.0	1.8
1665	77	22.7	41.0	42.3	1.3	-2.0	3.3
1656	77	23.1	41.4	43.0	1.7	-2.0	3.7
1617	77	22.0	40.2	41.3	1.0	-2.0	3.0
1844	78	24.1	42.3	39.9	-2.5	-2.0	-0.5
1691	78	23.4	41.6	40.4	-1.2	-2.0	0.8
2083	78	23.8	42.0	42.6	0.6	-2.0	2.6
1430	78	24.6	42.8	38.9	-3.9	-2.0	-1.9
1668	78	22.8	41.1	43.8	2.7	-2.0	4.7
1445	78	24.5	42.7	42.6	-0.1	-2.0	1.9
1401	78	25.2	43.5	40.9	-2.6	-2.0	-0.6
1823	78	25.2	43.4	41.0	-2.5	-2.0	-0.5
1725	78	22.9	41.2	41.4	0.2	-2.0	2.2
1555	78	24.1	42.4	40.2	-2.2	-2.0	-0.2
1476	78	25.6	43.8	39.4	-4.5	-2.0	-2.5
1592	78	22.3	40.6	41.0	0.4	-2.0	2.5
1593	78	24.0	42.3	40.6	-1.7	-2.0	0.3
1530	78	22.8	41.0	42.7	1.6	-2.0	3.6
1700	78	23.2	41.5	41.0	-0.5	-2.0	1.5
1367	78	25.7	44.0	37.7	-6.3	-2.0	-4.2
1403	78	24.6	42.9	41.2	-1.7	-2.0	0.3
1613	78	23.0	41.2	41.6	0.3	-2.0	2.4
1621	78	22.7	41.0	40.4	-0.6	-2.0	1.4
1614	78	23.0	41.3	41.8	0.5	-2.0	2.5
2027	78	23.5	41.8	42.6	0.8	-2.0	2.8
1516	78	22.9	41.1	42.7	1.6	-2.0	3.6
1771	78	23.4	41.7	41.9	0.2	-2.0	2.2
1494	78	23.1	41.4	42.9	1.5	-2.0	3.5
1609	78	23.7	42.0	42.4	0.4	-2.0	2.4
1641	78	23.4	41.6	42.7	1.1	-2.0	3.1
1589	78	21.2	39.5	41.7	2.3	-2.0	4.3
1607	78	22.3	40.6	43.3	2.8	-2.0	4.8
1471	79	24.6	42.9	41.7	-1.2	-2.0	0.8
1746	79	23.3	41.6	41.8	0.2	-2.0	2.2
1437	79	24.8	43.0	40.4	-2.6	-2.0	-0.6
1395	79	25.0	43.3	39.2	-4.0	-2.0	-2.0
1929	79	23.6	41.9	43.3	1.4	-2.0	3.4
1760	79	24.6	42.8	41.8	-1.0	-2.0	1.0
1436	80	25.5	43.8	37.5	-6.2	-2.0	-4.2
Average	78				0.0	-2.0	2.0

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix E
Measurement Data

Table E.01 Measurement data - Turbine ON

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
1			982	181.5	182.1	-1.6	11.4	7.6	4.3	25.0	99.1	38
2			874	181.5	182.1	-1.5	11.1	6.8	3.8	25.0	99.1	38
3			888	181.5	182.1	-1.5	11.1	7.7	4.7	25.0	99.1	38
4			811	181.5	182.1	-1.5	10.8	7.0	7.5	25.1	99.1	39
5			787	181.5	182.1	-1.5	10.6	5.5	6.8	25.1	99.1	39
6			765	181.5	182.1	-1.5	10.5	6.2	5.7	25.1	99.1	39
7			758	181.5	182.1	-2.1	10.5	5.2	5.5	25.1	99.1	39
8			827	181.5	182.2	-2.1	10.9	6.0	5.1	25.1	99.1	39
9			848	181.5	182.2	-2.1	10.9	4.1	6.0	25.1	99.1	39
10			834	181.5	182.2	-2.1	11.0	7.8	6.8	25.1	99.1	38
11			1052	181.5	184.3	-2.1	11.8	8.6	5.3	25.1	99.1	38
12			1106	181.5	184.4	-2.1	11.9	7.9	6.2	25.1	99.1	38
13			1004	181.5	184.4	-1.6	11.5	6.8	5.0	25.1	99.1	38
14			1145	181.5	187.1	-1.5	12.2	7.3	5.3	25.1	99.1	38
15			1395	181.5	187.1	-1.5	13.0	7.6	5.0	25.1	99.1	38
16			1273	181.5	186.7	-1.5	12.7	6.9	5.0	25.1	99.1	39
17			1220	181.5	183.9	-1.5	12.4	7.5	3.3	25.1	99.1	39
18			1063	181.5	180.8	-1.5	11.8	6.1	4.1	25.1	99.1	39
19			804	181.5	180.8	-2.0	10.7	6.0	4.1	25.1	99.1	39
20			699	181.5	178.5	-2.1	10.2	6.2	4.5	25.1	99.1	39
21			683	181.5	178.5	-2.1	10.2	6.6	4.4	25.1	99.1	39
22			670	181.5	178.5	-2.1	10.1	5.8	4.1	25.1	99.1	39
23			730	181.5	177.0	-2.1	10.5	5.7	2.7	25.1	99.1	39
24			931	181.5	176.0	-2.1	11.3	7.0	4.5	25.1	99.1	39
25			979	181.5	174.7	-1.7	11.6	7.0	4.1	25.1	99.1	39
26			974	181.5	173.4	-1.5	11.5	6.4	5.0	25.1	99.1	39
27			904	181.5	173.5	-1.5	11.2	7.4	3.8	25.1	99.1	39
28			764	181.5	173.4	-1.5	10.5	7.1	5.6	25.1	99.1	39
29			703	181.5	173.4	-1.5	10.3	4.8	6.1	25.1	99.1	39
30			633	181.5	173.4	-1.5	9.9	3.9	4.3	25.1	99.1	39
31			651	181.5	173.4	-1.9	10.0	5.7	5.1	25.1	99.1	39
32			863	181.5	173.4	-2.1	11.0	8.0	4.7	25.1	99.1	39
33			910	181.5	173.4	-2.1	11.2	6.4	4.9	25.1	99.1	39
34			1140	181.5	173.4	-2.1	12.1	8.7	5.0	25.1	99.1	38
35			1552	181.5	173.4	-2.1	13.5	7.7	5.3	25.1	99.1	38
36			1785	181.5	173.4	-2.1	14.2	7.9	6.6	25.1	99.1	38
37			2036	181.5	176.0	-1.7	14.5	10.6	6.1	25.1	99.1	38
38			2626	181.5	176.5	-0.1	14.6	10.1	5.9	25.1	99.1	38
39			2349	181.5	176.5	-1.5	14.3	9.4	5.3	25.1	99.1	38
40			1833	181.5	180.1	-1.5	14.2	7.0	5.3	25.1	99.1	40
41			1609	181.5	182.7	-1.5	13.8	7.3	5.4	25.2	99.1	40
42			1695	181.5	183.7	-1.5	13.8	8.9	4.2	25.2	99.1	40
43			1609	181.5	184.4	-1.6	13.8	9.0	1.8	25.2	99.1	40
44			1886	181.5	186.1	-1.8	14.3	7.5	3.8	25.2	99.1	40
45			1793	181.5	186.1	-1.8	14.2	7.6	5.0	25.2	99.1	40
46			1546	181.5	188.9	-1.8	13.4	9.3	4.3	25.1	99.1	39
47			1158	181.5	188.9	-1.8	12.2	5.4	3.8	25.1	99.1	39
48			1134	181.5	188.8	-1.8	12.1	7.7	6.5	25.1	99.1	39
49			1223	181.5	188.9	-1.9	12.5	7.5	4.3	25.1	99.1	39
50			1300	181.5	188.9	-2.1	12.7	5.2	6.4	25.1	99.1	39
51			1279	181.5	188.8	-2.1	12.7	5.5	5.5	25.1	99.1	39
52			1212	181.5	188.8	-2.1	12.4	7.7	4.8	25.1	99.1	38
53			1307	181.5	188.8	-2.1	12.8	8.2	5.2	25.1	99.1	38
54			1809	181.5	188.8	-1.9	14.2	8.2	4.4	25.1	99.1	38
55			1884	181.5	188.9	-1.9	14.4	9.7	3.3	25.1	99.1	38
56			1622	181.5	188.9	-1.8	13.7	7.8	3.0	25.1	99.1	38
57			1333	181.5	188.9	-1.8	12.8	7.8	5.7	25.1	99.1	38
58			1223	181.5	191.8	-1.8	12.5	6.9	4.7	25.2	99.1	38
59			1097	181.5	191.8	-1.8	11.9	7.0	3.5	25.2	99.1	38
60			947	181.5	191.8	-1.8	11.3	5.6	4.4	25.2	99.1	38
61			903	181.5	191.8	-1.7	11.2	5.5	6.2	25.2	99.1	38
62			884	181.5	191.8	-1.5	11.1	7.4	4.1	25.2	99.1	38
63			783	181.5	191.8	-1.5	10.6	7.1	4.1	25.2	99.1	38
64			744	181.5	191.8	-1.5	10.5	6.0	4.0	25.3	99.1	39
65			742	181.5	191.8	-1.5	10.5	6.9	4.7	25.3	99.1	39
66			628	181.5	191.8	-1.5	10.0	4.8	4.4	25.3	99.1	39
67			519	181.5	190.2	-1.7	9.2	3.8	5.4	25.3	99.1	39
68			436	181.5	187.9	-2.1	8.8	5.5	5.8	25.3	99.1	39
69			529	181.5	183.7	-2.1	9.3	6.3	4.7	25.3	99.1	39
70			637	181.5	179.5	-2.1	10.0	5.8	4.2	25.3	99.1	39
71			593	181.5	178.6	-2.1	9.7	5.3	5.2	25.3	99.1	39
72			523	181.5	175.4	-2.1	9.2	5.6	3.8	25.3	99.1	39
73			496	181.5	175.4	-2.0	9.1	4.6	4.1	25.3	99.1	39
74			440	181.5	173.1	-1.5	8.8	5.9	6.2	25.3	99.1	39
75			509	181.5	173.1	-1.5	9.2	6.2	5.0	25.3	99.1	39
76			795	181.5	173.1	-1.5	10.7	8.5	6.1	25.3	99.1	39
77			820	181.5	173.1	-1.5	10.8	5.9	6.5	25.3	99.1	39
78			660	181.5	173.1	-1.5	10.0	5.9	4.5	25.3	99.1	39
79			515	181.5	173.1	-1.6	9.2	6.5	4.5	25.3	99.1	39
80			426	181.5	173.0	-2.1	8.6	6.1	4.2	25.3	99.1	39
81			362	181.5	173.0	-2.1	8.2	4.9	4.6	25.3	99.1	39
82			386	181.5	173.0	-2.1	8.5	4.0	4.7	25.2	99.1	40
83			450	181.5	170.8	-2.1	8.9	5.9	3.4	25.2	99.1	40
84			552	181.5	169.7	-2.1	9.5	5.9	4.7	25.2	99.1	40
85			735	181.5	167.1	-2.1	10.4	6.1	4.1	25.2	99.1	40
86			907	181.5	167.1	-1.5	11.2	7.8	6.8	25.2	99.1	40
87			921	181.5	167.1	-1.5	11.2	6.5	6.7	25.2	99.1	40
88			816	181.5	167.1	-1.5	10.8	8.5	6.8	25.2	99.1	39

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
89			779	181.5	169.8	-1.5	10.6	7.0	6.7	25.2	99.1	39
90			738	181.5	169.8	-1.5	10.5	8.3	6.9	25.2	99.1	39
91			640	181.5	169.8	-1.6	9.9	7.4	6.1	25.2	99.1	39
92			596	181.5	169.8	-2.1	9.7	6.9	4.3	25.2	99.1	39
93			638	181.5	169.8	-2.1	10.0	6.7	5.2	25.2	99.1	39
94			710	181.5	169.8	-2.1	10.3	5.6	4.6	25.1	99.1	39
95			733	181.5	169.8	-2.1	10.4	6.9	4.7	25.1	99.1	39
96			689	181.5	169.8	-2.1	10.2	5.8	4.7	25.1	99.1	39
97			575	181.5	169.9	-2.1	9.5	5.2	5.2	25.1	99.1	39
98			476	181.5	169.8	-1.5	9.0	5.2	4.1	25.1	99.1	39
99			382	181.5	169.9	-1.5	8.4	4.5	4.0	25.1	99.1	39
100			350	181.5	172.8	-1.5	8.2	6.5	3.5	25.1	99.1	39
101			338	181.5	172.9	-1.5	8.1	5.3	3.4	25.1	99.1	39
102			329	181.5	172.9	-1.5	8.0	5.5	4.3	25.1	99.1	39
103			356	181.5	172.9	-1.5	8.2	4.7	4.5	25.1	99.1	39
104			453	181.5	172.8	-2.1	8.8	5.9	4.0	25.1	99.1	39
105			545	181.5	172.8	-2.1	9.4	7.4	3.7	25.1	99.1	39
106			709	181.5	172.8	-2.1	10.3	5.1	4.6	25.1	99.1	40
107			844	181.5	172.8	-2.1	11.0	8.2	4.9	25.1	99.1	40
108			950	181.5	172.8	-2.1	11.4	8.3	5.3	25.1	99.1	40
109			1165	181.5	172.9	-2.1	12.3	8.0	4.8	25.1	99.1	40
110			1479	181.5	173.7	-1.5	13.3	7.7	4.1	25.1	99.1	40
111			1348	181.5	177.2	-1.5	12.9	6.3	3.1	25.1	99.1	40
112			1079	181.5	177.2	-1.5	11.8	7.0	2.8	25.2	99.1	40
113			807	181.5	177.1	-1.5	10.8	3.8	4.5	25.2	99.1	40
114			757	181.5	177.1	-1.5	10.5	4.5	3.7	25.2	99.1	40
115			606	181.5	175.7	-1.5	9.9	5.7	2.7	25.2	99.1	40
116			595	181.5	173.8	-2.1	9.7	5.5	3.5	25.2	99.1	40
117			619	181.5	173.7	-2.1	9.9	6.7	2.9	25.2	99.1	40
118			687	181.5	173.7	-2.1	10.2	8.3	3.1	25.3	99.1	39
119			806	181.5	173.7	-2.1	10.8	9.1	4.6	25.3	99.1	39
120			899	181.5	173.7	-2.1	11.1	8.4	5.2	25.3	99.1	39
121			915	181.5	173.7	-1.5	11.2	6.5	6.8	25.3	99.1	39
122			829	181.5	173.7	-1.5	10.8	5.8	6.7	25.3	99.1	39
123			686	181.5	173.7	-1.5	10.2	5.6	4.9	25.3	99.1	39
124			588	181.5	173.7	-1.5	9.6	5.1	3.3	25.4	99.1	39
125			478	181.5	173.7	-1.5	8.9	5.2	4.2	25.4	99.1	39
126			416	181.5	171.2	-1.5	8.6	4.5	4.0	25.4	99.1	39
127			494	181.5	169.6	-2.1	9.1	6.4	2.8	25.4	99.1	39
128			628	181.5	167.7	-2.1	9.9	7.7	2.7	25.4	99.1	39
129			727	181.5	167.7	-2.1	10.4	5.5	3.4	25.4	99.1	39
130			830	181.5	167.8	-2.1	10.9	7.5	2.6	25.4	99.1	38
131			993	181.5	167.8	-2.1	11.5	7.2	2.9	25.4	99.1	38
132			956	181.5	167.8	-2.1	11.4	7.1	3.7	25.4	99.1	38
133			828	181.5	167.8	-1.5	10.9	4.8	6.0	25.4	99.1	38
134			805	181.5	167.8	-1.5	10.8	7.9	4.6	25.4	99.1	38
135			932	181.5	170.1	-1.5	11.3	8.1	4.0	25.4	99.1	38
136			926	181.5	170.2	-1.5	11.2	4.7	3.1	25.5	99.1	38
137			829	181.5	170.2	-1.5	10.9	5.4	5.0	25.5	99.1	38
138			849	181.5	170.2	-1.5	11.0	5.8	5.5	25.5	99.1	38
139			929	181.5	170.2	-2.1	11.3	8.5	4.8	25.5	99.1	38
140			997	181.5	170.4	-2.1	11.6	9.0	3.6	25.5	99.1	38
141			1080	181.5	172.8	-2.1	11.9	7.4	5.5	25.5	99.1	38
142			1033	181.5	172.9	-2.1	11.6	6.3	4.4	25.5	99.1	38
143			966	181.5	172.9	-2.1	11.4	5.9	5.0	25.5	99.1	38
144			839	181.5	172.9	-2.1	10.9	5.0	3.8	25.5	99.1	38
145			654	181.5	174.8	-1.5	10.1	3.8	3.8	25.5	99.1	38
146			601	181.5	175.8	-1.5	9.7	5.6	2.5	25.5	99.1	38
147			611	181.5	175.8	-1.5	9.9	7.9	2.7	25.5	99.1	39
148			641	181.5	175.8	-1.5	10.0	5.6	4.3	25.5	99.1	39
149			647	181.5	175.6	-1.5	10.1	6.1	2.9	25.5	99.1	39
150			727	181.5	173.1	-1.5	10.4	6.5	3.6	25.5	99.1	39
151			807	181.5	172.8	-2.1	10.9	6.6	5.2	25.5	99.1	39
152			957	181.5	170.0	-2.1	11.4	6.3	5.7	25.5	99.1	39
153			1049	181.5	170.1	-2.1	11.8	8.6	5.6	25.6	99.1	39
154			1038	181.5	170.1	-2.1	11.7	7.8	6.2	25.7	99.1	38
155			863	181.5	170.1	-2.1	11.0	6.4	5.5	25.7	99.1	38
156			726	181.5	170.1	-2.1	10.3	5.9	5.4	25.7	99.1	38
157			657	181.5	170.0	-1.5	10.0	5.9	6.9	25.7	99.1	38
158			648	181.5	170.0	-1.5	10.0	5.3	5.6	25.7	99.1	38
159			610	181.5	170.0	-1.5	9.8	5.6	3.7	25.6	99.1	38
160			679	181.5	170.1	-1.5	10.2	8.2	6.0	25.6	99.1	39
161			829	181.5	170.1	-1.5	10.9	8.0	7.8	25.6	99.1	39
162			795	181.5	170.0	-1.5	10.7	8.0	6.8	25.6	99.1	39
163			637	181.5	170.0	-2.1	10.0	7.3	7.0	25.6	99.1	39
164			640	181.5	170.1	-2.1	10.1	5.3	7.3	25.6	99.1	39
165			847	181.5	173.4	-2.1	11.0	8.6	6.4	25.5	99.1	38
166			963	181.5	173.4	-2.1	11.4	6.7	6.3	25.5	99.1	38
167			1054	181.5	173.4	-2.1	11.8	7.7	6.6	25.5	99.1	38
168			1152	181.5	173.4	-2.1	12.2	8.8	7.2	25.5	99.1	38
169			1311	181.5	173.4	-1.5	12.8	8.5	6.6	25.5	99.1	38
170			1257	181.5	173.4	-1.5	12.6	7.6	5.7	25.5	99.1	38
171			1196	181.5	173.4	-1.5	12.3	7.4	6.8	25.4	99.1	38
172			1115	181.5	173.4	-1.5	12.0	7.4	4.3	25.3	99.1	38
173			1126	181.5	173.5	-1.5	12.0	6.5	6.1	25.3	99.1	38
174			975	181.5	173.5	-1.5	11.4	5.6	4.0	25.3	99.1	38
175			892	181.5	173.5	-2.1	11.1	5.8	4.8	25.3	99.1	38
176			827	181.5	173.5	-2.1	10.9	4.8	6.8	25.3	99.1	38

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
177			702	181.5	173.5	-2.1	10.3	4.6	4.8	25.3	99.1	38
178			606	181.5	176.5	-2.1	9.7	5.5	3.5	25.3	99.1	38
179			542	181.5	176.5	-2.1	9.4	5.7	4.5	25.3	99.1	38
180			596	181.5	176.5	-2.1	9.7	4.7	3.1	25.3	99.1	38
181			722	181.5	176.5	-1.5	10.4	6.5	3.7	25.3	99.1	38
182			904	181.5	176.5	-1.5	11.2	7.1	3.7	25.3	99.1	38
183			935	181.5	173.2	-1.5	11.3	6.5	4.9	25.3	99.1	38
184			971	181.5	173.2	-1.5	11.4	7.7	5.3	25.4	99.1	38
185			1013	181.5	170.6	-1.5	11.6	6.5	5.5	25.4	99.1	38
186			1093	181.5	170.4	-1.5	11.9	7.0	3.9	25.4	99.1	38
187			1091	181.5	170.4	-2.1	12.0	7.3	5.4	25.4	99.1	38
188			999	181.5	167.6	-2.1	11.5	5.4	5.1	25.4	99.1	38
189			814	181.5	167.6	-2.1	10.8	6.3	5.1	25.4	99.1	38
190			817	181.5	165.6	-2.1	10.8	7.7	7.2	25.5	99.1	38
191			959	181.5	165.1	-2.1	11.4	7.0	5.3	25.5	99.1	38
192			1153	181.5	165.2	-2.1	12.2	7.7	6.1	25.5	99.1	38
193			1185	181.5	165.2	-1.5	12.3	6.5	5.5	25.5	99.1	38
194			1046	181.5	165.2	-1.5	11.7	8.1	5.6	25.5	99.1	38
195			965	181.5	165.2	-1.5	11.5	6.7	6.5	25.5	99.1	37
196			949	181.5	165.2	-1.5	11.3	6.9	5.6	25.5	99.1	37
197			826	181.5	165.2	-1.5	10.8	6.2	6.1	25.5	99.1	37
198			804	181.5	165.2	-1.5	10.7	7.4	6.3	25.5	99.1	37
199			881	181.5	165.1	-2.1	11.1	7.3	8.0	25.5	99.1	37
200			1068	181.5	165.2	-2.1	11.8	8.2	7.8	25.5	99.1	37
201			1005	181.5	165.2	-2.1	11.5	5.0	6.5	25.5	99.1	37
202			763	181.5	167.5	-2.1	10.6	7.6	6.6	25.5	99.1	37
203			639	181.5	168.1	-2.1	10.0	6.1	5.6	25.5	99.1	37
204			652	181.5	171.1	-2.1	10.0	6.5	6.0	25.5	99.1	37
205			644	181.5	171.1	-1.5	9.9	7.2	6.0	25.5	99.1	37
206			684	181.5	171.1	-1.5	10.2	7.2	4.7	25.5	99.1	37
207			844	181.5	171.1	-1.5	11.0	6.5	5.2	25.4	99.1	38
208			1254	181.5	171.1	-1.5	12.6	7.2	3.9	25.4	99.1	38
209			1374	181.5	171.2	-1.5	13.0	7.8	5.9	25.4	99.1	38
210			1127	181.5	171.1	-1.5	12.1	6.1	4.3	25.4	99.1	38
211			836	181.5	168.4	-2.1	10.9	4.4	4.2	25.4	99.1	38
212			766	181.5	168.4	-2.1	10.6	6.1	3.5	25.4	99.1	38
213			875	181.5	168.3	-2.1	11.1	4.7	3.7	25.3	99.1	38
214			1044	181.5	166.9	-2.1	11.8	7.2	4.3	25.3	99.1	38
215			1121	181.5	166.0	-2.1	12.0	6.9	6.0	25.3	99.1	38
216			1167	181.5	166.0	-2.1	12.2	8.0	4.4	25.3	99.1	38
217			980	181.5	166.0	-1.5	11.4	7.7	6.6	25.3	99.1	38
218			885	181.5	166.0	-1.5	11.1	4.9	6.0	25.3	99.1	38
219			1156	181.5	166.0	-1.5	12.3	8.1	6.1	25.4	99.1	38
220			1482	181.5	163.1	-1.5	13.4	8.3	5.1	25.4	99.1	38
221			1412	181.5	163.1	-1.5	13.1	7.0	5.4	25.4	99.1	38
222			1402	181.5	163.1	-1.5	13.1	6.3	5.3	25.4	99.1	38
223			1152	181.5	163.1	-2.1	12.1	6.2	3.3	25.4	99.1	38
224			1111	181.5	163.0	-2.1	12.0	7.2	2.4	25.4	99.1	38
225			1619	181.5	163.0	-1.7	13.7	9.6	3.4	25.4	99.1	38
226			1877	181.5	163.1	-2.1	14.4	8.6	4.6	25.5	99.1	38
227			2016	181.5	163.1	-2.1	14.4	7.4	6.1	25.5	99.1	38
228			1733	181.5	163.1	-2.1	14.0	6.6	5.3	25.5	99.1	38
229			1361	181.5	163.1	-1.5	12.9	6.1	5.2	25.5	99.1	38
230			1162	181.5	163.1	-1.5	12.2	8.2	4.4	25.5	99.1	38
231			1114	181.5	163.1	-1.5	12.0	8.1	5.0	25.5	99.1	38
232			1096	181.5	159.8	-1.5	12.0	7.9	4.2	25.5	99.1	37
233			969	181.5	159.8	-1.5	11.4	5.3	4.6	25.5	99.1	37
234			670	181.5	159.8	-1.5	10.1	4.0	4.1	25.5	99.1	37
235			512	181.5	159.8	-2.1	9.3	5.6	4.7	25.5	99.1	37
236			554	181.5	156.2	-2.1	9.5	5.6	4.7	25.5	99.1	37
237			691	181.5	154.4	-2.1	10.3	7.0	6.2	25.5	99.1	38
238			741	181.5	153.7	-2.1	10.5	5.4	5.0	25.5	99.1	38
239			731	181.5	153.7	-2.1	10.4	8.1	6.3	25.5	99.1	38
240			887	181.5	153.8	-2.1	11.2	9.6	7.8	25.5	99.1	38
241			1267	181.5	154.2	-1.5	12.7	9.6	5.5	25.5	99.1	38
242			1522	181.5	156.7	-1.5	13.5	7.5	5.1	25.5	99.1	38
243			1509	181.5	156.7	-1.5	13.4	8.2	7.2	25.5	99.1	38
244			1446	181.5	156.7	-1.5	13.2	9.3	6.1	25.5	99.1	38
245			1293	181.5	156.9	-1.5	12.7	5.3	4.8	25.5	99.1	38
246			1208	181.5	159.4	-1.5	12.4	6.0	7.4	25.5	99.1	38
247			1070	181.5	159.4	-2.1	11.8	5.0	6.6	25.5	99.1	38
248			943	181.5	162.2	-2.1	11.3	5.4	6.3	25.5	99.1	38
249			872	181.5	162.2	-2.1	11.0	5.6	6.4	25.5	99.1	38
250			1072	181.5	162.2	-2.1	11.9	7.9	5.3	25.5	99.1	37
251			1197	181.5	162.2	-2.1	12.4	8.2	3.1	25.5	99.1	37
252			1282	181.5	162.2	-2.1	12.7	7.7	3.6	25.5	99.1	37
253			1407	181.5	159.6	-1.5	13.1	8.2	4.0	25.5	99.1	37
254			1468	181.5	159.6	-1.5	13.3	8.9	4.5	25.5	99.1	37
255			1053	181.5	173.7	-1.8	11.8	9.6	5.8	25.3	99.0	38
256			1046	181.5	173.7	-1.8	11.7	6.1	4.0	25.3	99.0	38
257			1025	181.5	173.7	-1.8	11.7	7.5	5.9	25.3	99.0	38
258			1043	181.5	173.7	-2.1	11.7	6.0	6.1	25.3	99.0	38
259			1027	181.5	176.2	-2.1	11.7	7.3	5.7	25.3	99.0	38
260			971	181.5	176.2	-2.1	11.4	8.6	3.6	25.3	99.0	38
261			783	181.5	176.2	-2.1	10.6	5.2	4.4	25.3	99.0	38
262			608	181.5	176.2	-2.1	9.7	5.9	5.6	25.3	99.0	38
263			484	181.5	176.2	-2.1	9.0	4.4	4.4	25.3	99.0	38
264			449	181.5	176.2	-1.5	8.8	6.2	6.7	25.3	99.0	38

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
265			493	181.5	176.2	-1.5	9.1	6.5	5.2	25.3	99.0	38
266			664	181.5	176.2	-1.5	10.1	8.2	4.5	25.4	99.0	38
267			995	181.5	176.2	-1.5	11.6	9.7	4.9	25.4	99.0	38
268			1006	181.5	176.2	-1.5	11.6	6.5	3.1	25.4	99.0	38
269			830	181.5	176.2	-1.5	10.9	8.4	4.5	25.4	99.0	38
270			732	181.5	178.9	-2.1	10.4	7.0	5.8	25.4	99.0	38
271			648	181.5	178.9	-2.1	10.0	7.8	5.5	25.4	99.0	38
272			624	181.5	178.9	-2.1	9.9	7.1	4.9	25.4	99.0	38
273			603	181.5	178.9	-2.1	9.7	5.5	3.3	25.4	99.0	38
274			554	181.5	178.9	-2.1	9.4	6.9	4.8	25.4	99.0	38
275			487	181.5	179.3	-2.1	9.1	4.6	3.9	25.4	99.0	38
276			438	181.5	181.6	-1.5	8.7	4.4	3.9	25.4	99.0	38
277			419	181.5	181.6	-1.5	8.7	5.8	4.5	25.4	99.0	38
278			456	181.5	181.6	-1.5	8.9	4.6	5.4	25.4	99.0	38
279			486	181.5	181.6	-1.5	9.0	6.0	4.1	25.4	99.0	38
280			489	181.5	181.6	-1.5	9.0	7.2	4.2	25.4	99.0	38
281			462	181.5	181.6	-1.5	8.9	6.0	4.2	25.4	99.0	38
282			412	181.5	181.6	-2.1	8.6	5.8	3.8	25.4	99.0	38
283			394	181.5	181.6	-2.1	8.4	6.6	5.3	25.4	99.0	38
284			406	181.5	181.6	-2.1	8.5	2.6	6.0	25.4	99.0	38
285			502	181.5	181.6	-2.1	9.1	4.7	6.1	25.4	99.0	38
286			567	181.5	181.6	-2.1	9.6	6.5	6.2	25.4	99.0	38
287			569	181.5	181.6	-2.1	9.6	6.9	5.8	25.4	99.0	38
288			686	181.5	181.6	-1.5	10.2	7.9	4.4	25.4	99.0	38
289			814	181.5	181.6	-1.5	10.8	7.6	4.3	25.4	99.0	38
290			751	181.5	181.6	-1.5	10.5	7.6	4.0	25.3	99.0	39
291			704	181.5	181.6	-1.5	10.2	6.0	4.8	25.3	99.0	39
292			582	181.5	181.6	-1.5	9.6	6.3	4.7	25.3	99.0	39
293			480	181.5	181.6	-1.5	9.0	5.1	6.1	25.3	99.0	39
294			425	181.5	181.6	-2.1	8.6	7.0	5.2	25.3	99.0	39
295			430	181.5	181.6	-2.1	8.7	5.5	4.6	25.3	99.0	39
296			442	181.5	181.6	-2.1	8.8	5.5	6.3	25.3	99.0	38
297			454	181.5	181.6	-2.1	8.8	5.1	5.2	25.3	99.0	38
298			434	181.5	181.6	-2.1	8.7	5.0	5.4	25.3	99.0	38
299			410	181.5	181.6	-2.1	8.5	6.2	5.0	25.3	99.0	38
300			411	181.5	181.6	-1.5	8.6	6.8	5.2	25.3	99.0	38
301			444	181.5	181.6	-1.5	8.8	5.1	3.1	25.3	99.0	38
302			460	181.5	181.6	-1.5	8.8	7.4	3.8	25.2	99.0	39
303			421	181.5	181.6	-1.5	8.6	5.1	4.1	25.2	99.0	39
304			490	181.5	181.7	-1.5	9.1	5.6	2.9	25.2	99.0	39
305			637	181.5	181.7	-1.5	10.0	8.5	4.9	25.2	99.0	39
306			814	181.5	181.7	-2.1	10.8	8.8	6.1	25.2	99.0	39
307			818	181.5	181.7	-2.1	10.8	7.1	5.6	25.2	99.0	39
308			767	181.5	184.7	-2.1	10.5	7.5	5.9	25.2	99.0	39
309			731	181.5	184.8	-2.1	10.4	5.8	6.3	25.2	99.0	39
310			693	181.5	184.7	-2.1	10.2	5.4	4.6	25.2	99.0	39
311			574	181.5	184.8	-2.1	9.5	4.8	4.3	25.2	99.0	39
312			469	181.5	184.7	-1.5	8.9	4.4	3.8	25.2	99.0	39
313			443	181.5	181.9	-1.5	8.9	4.9	4.8	25.2	99.0	39
314			550	181.5	181.7	-1.5	9.4	6.4	3.7	25.2	99.0	39
315			620	181.5	181.7	-1.5	9.9	6.7	3.0	25.2	99.0	39
316			647	181.5	178.7	-1.5	10.0	6.4	2.9	25.2	99.0	39
317			633	181.5	178.7	-1.5	9.9	6.0	5.0	25.2	99.0	39
318			595	181.5	178.7	-2.1	9.7	6.2	5.7	25.2	99.0	39
319			584	181.5	178.7	-2.1	9.6	5.1	4.2	25.2	99.0	39
320			572	181.5	178.7	-2.1	9.5	5.4	6.4	25.3	98.9	39
321			530	181.5	178.6	-2.1	9.3	5.4	5.0	25.3	98.9	39
322			573	181.5	178.6	-2.1	9.6	4.9	4.2	25.3	98.9	39
323			651	181.5	178.6	-2.1	10.0	6.6	5.4	25.3	98.9	39
324			668	181.5	178.6	-1.5	10.1	6.8	3.6	25.3	98.9	39
325			582	181.5	175.7	-1.5	9.6	4.9	2.6	25.3	98.9	39
326			539	181.5	175.7	-1.5	9.3	5.0	6.5	25.4	98.9	39
327			519	181.5	175.7	-1.5	9.2	5.3	5.3	25.4	98.9	39
328			562	181.5	175.7	-1.5	9.4	5.8	5.1	25.4	98.9	39
329			557	181.5	175.7	-1.5	9.4	6.0	5.1	25.4	98.9	39
330			567	181.5	175.7	-2.0	9.5	6.5	5.6	25.4	98.9	39
331			591	181.5	175.6	-2.1	9.7	5.7	4.0	25.4	98.9	39
332			644	181.5	175.6	-2.1	10.0	7.3	5.2	25.4	99.0	39
333			665	181.5	175.7	-2.1	10.1	5.7	5.7	25.4	99.0	39
334			744	181.5	175.7	-2.1	10.5	7.4	4.5	25.4	99.0	39
335			871	181.5	175.7	-2.1	11.1	8.4	4.1	25.4	99.0	39
336			964	181.5	173.1	-2.1	11.4	7.0	4.1	25.4	99.0	39
337			930	181.5	173.1	-1.5	11.3	7.6	4.6	25.4	99.0	39
338			836	181.5	173.1	-1.5	10.9	6.8	5.8	25.4	99.0	39
339			770	181.5	173.1	-1.5	10.6	5.6	4.9	25.4	99.0	39
340			763	181.5	173.1	-1.5	10.6	6.3	5.3	25.4	99.0	39
341			742	181.5	173.1	-1.5	10.5	5.2	5.4	25.4	99.0	39
342			726	181.5	173.1	-2.0	10.4	6.5	6.8	25.4	99.0	39
343			731	181.5	173.1	-2.1	10.4	7.9	7.1	25.4	99.0	39
344			747	181.5	173.1	-2.1	10.5	7.4	6.9	25.3	98.9	39
345			751	181.5	176.0	-2.1	10.5	5.6	6.3	25.3	98.9	39
346			820	181.5	176.1	-2.1	10.8	7.2	5.7	25.3	98.9	39
347			957	181.5	176.1	-2.1	11.4	5.4	4.2	25.3	98.9	39
348			956	181.5	176.1	-1.6	11.4	8.2	5.9	25.3	98.9	39
349			897	181.5	176.1	-1.5	11.2	6.8	6.5	25.3	98.9	39
350			976	181.5	176.1	-1.5	11.5	7.0	7.1	25.3	98.9	38
351			1088	181.5	176.1	-1.5	11.9	6.6	6.2	25.3	98.9	38
352			972	181.5	176.1	-1.5	11.4	6.3	5.8	25.3	98.9	38

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
353			878	181.5	176.1	-1.5	11.1	6.6	5.7	25.3	98.9	38
354			830	181.5	176.1	-1.9	10.9	7.7	4.4	25.3	98.9	38
355			737	181.5	176.1	-2.1	10.4	5.9	5.3	25.3	98.9	38
356			672	181.5	178.7	-2.1	10.1	6.7	4.5	25.2	98.9	39
357			663	181.5	178.8	-2.1	10.1	7.5	3.1	25.2	98.9	39
358			717	181.5	178.8	-2.1	10.3	5.8	5.7	25.2	98.9	39
359			743	181.5	178.8	-2.1	10.5	5.7	4.4	25.2	98.9	39
360			750	181.5	178.8	-1.6	10.5	5.8	4.1	25.2	98.9	39
361			610	181.5	178.8	-1.5	9.7	6.5	4.9	25.2	98.9	39
362			494	181.5	178.9	-1.5	9.0	5.6	4.4	25.3	98.9	39
363			439	181.5	178.9	-1.5	8.7	6.3	3.3	25.3	98.9	39
364			389	181.5	178.9	-1.5	8.4	6.1	2.9	25.3	98.9	39
365			368	181.5	178.9	-1.5	8.3	4.9	6.4	25.3	98.9	39
366			390	181.5	178.9	-1.9	8.5	5.0	4.6	25.3	98.9	39
367			414	181.5	178.8	-2.1	8.6	5.4	4.3	25.3	98.9	39
368			426	181.5	178.9	-2.1	8.6	4.9	7.4	25.3	98.9	39
369			389	181.5	178.9	-2.1	8.4	4.6	4.9	25.3	98.9	39
370			397	181.5	178.8	-2.1	8.5	6.0	3.4	25.3	98.9	39
371			539	181.5	178.8	-2.1	9.4	7.4	5.8	25.3	98.9	39
372			630	181.5	178.8	-1.7	9.9	5.7	3.9	25.3	98.9	39
373			622	181.5	175.3	-1.5	9.9	5.7	6.5	25.3	98.9	39
374			618	181.5	175.3	-1.5	9.8	5.6	6.4	25.3	98.9	38
375			637	181.5	175.3	-1.5	10.0	6.4	4.9	25.3	98.9	38
376			813	181.5	175.3	-1.5	10.8	8.3	7.4	25.3	98.9	38
377			891	181.5	175.3	-1.5	11.1	8.3	4.0	25.3	98.9	38
378			784	181.5	175.3	-1.9	10.6	8.2	6.9	25.3	98.9	38
379			690	181.5	175.3	-2.1	10.2	7.1	6.7	25.3	98.9	38
380			763	181.5	175.3	-2.1	10.5	6.6	5.4	25.2	98.9	38
381			731	181.5	175.3	-2.1	10.4	5.8	5.6	25.2	98.9	38
382			677	181.5	175.3	-2.1	10.1	5.4	6.0	25.2	98.9	38
383			676	181.5	175.3	-2.1	10.2	6.1	4.6	25.2	98.9	38
384			732	181.5	175.3	-1.8	10.4	5.8	3.4	25.2	98.9	38
385			763	181.5	175.3	-1.5	10.6	6.5	6.2	25.2	98.9	38
386			754	181.5	175.3	-1.5	10.5	6.3	5.0	25.1	99.0	39
387			697	181.5	175.3	-1.5	10.3	6.4	5.6	25.1	99.0	39
388			629	181.5	175.3	-1.5	9.8	6.2	5.4	25.1	99.0	39
389			582	181.5	175.2	-1.5	9.6	6.1	4.4	25.1	99.0	39
390			638	181.5	175.2	-1.7	9.9	7.9	4.0	25.1	99.0	39
391			673	181.5	175.2	-2.1	10.2	7.0	2.5	25.1	99.0	39
392			658	181.5	175.2	-2.1	10.1	7.2	6.3	25.1	98.9	39
393			552	181.5	178.3	-2.1	9.4	3.9	4.9	25.1	98.9	39
394			456	181.5	178.3	-2.1	8.8	6.8	4.9	25.1	98.9	39
395			368	181.5	178.3	-2.1	8.3	3.0	6.2	25.1	98.9	39
396			365	181.5	178.3	-2.1	8.3	6.1	5.6	25.1	98.9	39
397			410	181.5	178.3	-1.5	8.6	7.2	4.4	25.1	98.9	39
398			517	181.5	178.3	-1.5	9.2	7.0	4.9	25.2	98.9	39
399			654	181.5	178.3	-1.5	10.0	5.8	6.0	25.2	98.9	39
400			720	181.5	178.3	-1.5	10.4	4.7	6.1	25.2	98.9	39
401			739	181.5	178.3	-1.5	10.4	7.8	5.4	25.2	98.9	39
402			716	181.5	178.3	-1.7	10.3	6.2	6.1	25.2	98.9	39
403			590	181.5	178.3	-2.1	9.6	4.8	4.4	25.2	98.9	39
404			552	181.5	178.3	-2.1	9.4	6.0	3.5	25.2	98.9	38
405			669	181.5	178.3	-2.1	10.1	8.2	6.7	25.2	98.9	38
406			777	181.5	178.3	-2.1	10.6	5.6	6.1	25.2	98.9	38
407			790	181.5	181.1	-2.1	10.7	5.1	5.5	25.2	98.9	38
408			770	181.5	181.1	-1.9	10.6	5.7	5.4	25.2	98.9	38
409			728	181.5	181.1	-1.5	10.5	6.1	5.6	25.2	98.9	38
410			820	181.5	181.2	-1.5	10.8	5.7	4.4	25.2	98.9	38
411			794	181.5	181.5	-1.5	10.8	5.8	6.1	25.2	98.9	38
412			901	181.5	184.2	-1.5	11.2	6.2	5.6	25.2	98.9	38
413			899	181.5	184.2	-1.5	11.1	5.9	5.2	25.2	98.9	38
414			835	181.5	184.2	-1.6	10.9	5.8	4.9	25.2	98.9	38
415			681	181.5	184.2	-2.1	10.4	6.0	4.4	25.2	98.9	38
416			701	181.5	181.5	-2.1	10.3	5.6	2.8	25.1	98.9	39
417			674	181.5	181.4	-2.1	10.2	5.4	3.5	25.1	98.9	39
418			722	181.5	181.4	-2.1	10.4	5.5	2.9	25.1	98.9	39
419			970	181.5	180.6	-2.1	11.5	7.4	3.7	25.1	98.9	39
420			1185	181.5	179.1	-2.0	12.3	9.7	4.4	25.1	98.9	39
421			1264	181.5	179.1	-1.5	12.6	7.1	3.8	25.1	98.9	39
422			1469	181.5	179.1	-1.5	13.3	8.2	5.6	25.1	98.9	39
423			1492	181.5	179.2	-1.5	13.3	7.7	5.6	25.1	98.9	39
424			1376	181.5	179.2	-1.5	13.0	7.5	6.3	25.1	98.9	39
425			1200	181.5	179.2	-1.5	12.3	6.0	6.3	25.1	98.9	39
426			858	181.5	179.2	-1.6	11.0	6.3	5.2	25.1	98.9	39
427			724	181.5	179.1	-2.1	10.4	6.3	4.6	25.1	98.9	39
428			938	181.5	179.2	-2.1	11.4	6.1	4.1	25.2	98.9	39
429			1209	181.5	179.2	-2.1	12.4	7.9	2.2	25.2	98.9	39
430			1178	181.5	179.2	-2.1	12.2	5.6	4.3	25.2	98.9	39
431			1097	181.5	179.1	-2.1	11.9	9.0	4.1	25.2	98.9	39
432			1217	181.5	179.2	-2.0	12.5	8.3	4.7	25.2	98.9	39
433			1379	181.5	179.2	-1.5	13.0	6.5	6.1	25.2	98.9	39
434			1315	181.5	179.2	-1.5	12.8	8.5	5.0	25.2	98.9	38
435			1158	181.5	179.2	-1.5	12.1	5.2	5.5	25.2	98.9	38
436			1054	181.5	181.8	-1.5	11.8	8.2	4.6	25.2	98.9	38
437			1020	181.5	182.0	-1.5	11.6	7.2	4.7	25.2	98.9	38
438			889	181.5	182.0	-1.5	11.1	5.8	5.5	25.2	98.9	38
439			739	181.5	181.9	-2.1	10.4	6.7	5.1	25.2	98.9	38
440			638	181.5	182.0	-2.1	10.0	6.8	5.5	25.3	98.9	37

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
441			638	181.5	179.3	-2.1	9.9	7.1	5.5	25.3	98.9	37
442			625	181.5	179.3	-2.1	9.9	5.2	4.6	25.3	98.9	37
443			652	181.5	179.3	-2.1	10.1	7.5	4.6	25.3	98.9	37
444			697	181.5	177.0	-2.1	10.2	7.8	3.5	25.3	98.9	37
445			710	181.5	177.0	-1.5	10.3	7.1	3.7	25.3	98.9	37
446			821	181.5	177.0	-1.5	10.8	5.9	3.9	25.2	98.9	38
447			929	181.5	177.0	-1.5	11.3	6.6	5.6	25.2	98.9	38
448			1032	181.5	177.1	-1.5	11.7	5.8	4.8	25.2	98.9	38
449			1113	181.5	177.0	-1.5	12.0	8.0	5.1	25.2	98.9	38
450			1394	181.5	177.1	-1.5	13.0	7.4	4.9	25.2	98.9	38
451			1448	181.5	177.1	-2.1	13.2	8.6	4.2	25.2	98.9	38
452			1440	181.5	177.1	-2.1	13.2	8.2	4.6	25.1	98.9	38
453			1472	181.5	177.1	-2.1	13.3	8.0	4.5	25.1	98.9	38
454			1597	181.5	177.1	-2.1	13.7	8.6	4.3	25.1	98.9	38
455			1551	181.5	177.1	-2.1	13.5	7.4	5.3	25.1	98.9	38
456			1517	181.5	177.1	-1.5	13.4	9.7	5.8	25.1	98.9	38
457			1375	181.5	177.1	-1.5	12.9	7.5	4.4	25.1	98.9	38
458			1192	181.5	180.1	-1.5	12.3	7.3	4.3	25.1	98.9	38
459			1073	181.5	180.2	-1.5	11.8	6.4	3.5	25.1	98.9	38
460			934	181.5	180.1	-1.5	11.3	7.4	3.5	25.1	98.9	38
461			928	181.5	178.5	-1.5	11.4	6.5	4.6	25.1	98.9	38
462			979	181.5	176.7	-2.1	11.5	6.7	5.6	25.1	98.9	38
463			869	181.5	176.7	-2.1	11.0	7.2	7.2	25.2	98.9	38
464			813	181.5	176.7	-2.1	10.8	7.2	6.5	25.2	98.9	38
465			841	181.5	176.7	-2.1	10.9	7.7	4.8	25.2	98.9	38
466			786	181.5	176.7	-2.1	10.6	6.3	5.7	25.2	98.9	38
467			710	181.5	176.7	-2.1	10.4	6.8	5.8	25.2	98.9	38
468			785	181.5	176.7	-1.5	10.6	8.0	3.7	25.2	98.9	38
469			895	181.5	176.7	-1.5	11.2	7.5	5.3	25.1	98.9	38
470			1114	181.5	176.8	-1.5	12.0	8.4	4.4	25.1	98.9	38
471			1025	181.5	176.8	-1.5	11.6	5.8	4.9	25.1	98.9	38
472			979	181.5	176.8	-1.5	11.5	7.1	5.6	25.1	98.9	38
473			972	181.5	176.8	-1.5	11.4	7.4	6.6	25.1	98.9	38
474			889	181.5	176.8	-2.1	11.1	7.3	6.0	25.1	98.9	38
475			795	181.5	176.8	-2.1	10.7	5.7	4.9	25.1	98.9	38
476			704	181.5	176.8	-2.1	10.3	6.0	5.7	25.1	98.9	38
477			689	181.5	176.8	-2.1	10.2	5.7	3.9	25.1	98.9	38
478			717	181.5	175.9	-2.1	10.4	7.3	4.3	25.1	98.9	38
479			775	181.5	173.8	-2.1	10.6	6.4	4.6	25.1	98.9	38
480			742	181.5	173.8	-1.5	10.5	5.8	6.6	25.1	98.9	38
481			743	181.5	173.8	-1.5	10.5	6.7	4.9	25.0	98.9	38
482			798	181.5	173.8	-1.5	10.7	6.5	5.7	25.0	98.9	38
483			863	181.5	173.9	-1.5	11.0	6.2	3.6	25.0	98.9	38
484			949	181.5	173.9	-1.5	11.4	5.4	6.4	25.0	98.9	38
485			951	181.5	173.9	-1.5	11.3	8.3	5.5	25.0	98.9	38
486			820	181.5	173.8	-2.1	10.8	6.2	6.2	25.0	98.9	38
487			768	181.5	173.8	-2.1	10.6	6.7	6.8	25.0	98.9	38
488			758	181.5	173.8	-2.1	10.5	6.4	6.0	25.0	98.9	38
489			779	181.5	173.8	-2.1	10.6	6.1	4.4	25.0	98.9	38
490			764	181.5	173.0	-2.1	10.6	5.5	3.8	25.0	98.9	38
491			801	181.5	171.1	-2.1	10.8	8.0	4.8	25.0	98.9	38
492			911	181.5	171.1	-1.5	11.2	6.9	6.4	25.0	98.9	38
493			910	181.5	171.1	-1.5	11.2	6.2	5.1	24.9	98.9	39
494			826	181.5	171.1	-1.5	10.8	6.8	4.8	24.9	98.9	39
495			734	181.5	171.1	-1.5	10.4	5.7	3.8	24.9	98.9	39
496			812	181.5	171.1	-1.5	10.8	6.6	4.6	24.9	98.9	39
497			927	181.5	171.1	-2.1	11.2	8.2	4.2	24.9	98.9	39
498			923	181.5	171.1	-2.1	11.2	5.5	4.9	24.8	98.9	39
499			931	181.5	171.1	-2.1	11.3	6.5	3.4	24.8	98.9	39
500			1013	181.5	171.1	-2.1	11.6	6.8	4.5	24.8	98.9	39
501			1036	181.5	171.1	-2.1	11.7	6.3	4.9	24.8	98.9	39
502			886	181.5	171.1	-2.1	11.1	6.4	5.0	24.8	98.9	39
503			780	181.5	171.1	-1.5	10.6	6.0	5.1	24.8	98.9	39
504			766	181.5	171.0	-1.5	10.6	5.9	7.1	24.7	98.9	39
505			818	181.5	171.1	-1.5	10.8	7.3	5.5	24.7	98.9	39
506			946	181.5	171.1	-1.5	11.3	8.9	4.9	24.7	98.9	39
507			1037	181.5	171.1	-1.5	11.7	7.1	6.4	24.7	98.9	39
508			1087	181.5	171.1	-1.5	11.9	7.8	6.9	24.7	98.9	39
509			1034	181.5	171.1	-2.1	11.7	6.5	4.9	24.7	98.9	39
510			1019	181.5	171.1	-2.1	11.6	5.5	4.7	24.7	98.9	40
511			1078	181.5	171.1	-2.1	11.9	6.9	4.2	24.7	98.9	40
512			1277	181.5	171.1	-2.1	12.7	8.1	3.8	24.7	98.9	40
513			1253	181.5	171.0	-2.1	12.6	8.0	3.6	24.7	98.9	40
514			1201	181.5	171.0	-2.1	12.4	7.6	3.6	24.7	98.9	40
515			1125	181.5	171.0	-1.5	12.1	6.4	4.1	24.7	98.9	40
516			1021	181.5	171.1	-1.5	11.6	7.6	4.8	24.5	98.9	40
517			905	181.5	171.1	-1.5	11.2	6.7	5.9	24.5	98.9	40
518			740	181.5	169.7	-1.5	10.5	6.6	5.6	24.5	98.9	40
519			709	181.5	168.5	-1.5	10.3	7.3	4.4	24.5	98.9	40
520			781	181.5	168.5	-1.5	10.6	7.5	5.1	24.5	98.9	40
521			825	181.5	168.5	-2.1	10.9	6.0	3.0	24.5	98.9	40
522			852	181.5	168.5	-2.1	10.9	6.1	3.7	24.5	98.9	40
523			844	181.5	168.5	-2.1	11.0	5.9	6.5	24.5	98.9	40
524			905	181.5	168.5	-2.1	11.2	6.8	3.9	24.5	98.9	40
525			978	181.5	168.5	-2.1	11.5	7.6	4.2	24.5	98.9	40
526			1089	181.5	168.4	-2.1	11.9	8.1	5.7	24.5	98.9	40
527			1144	181.5	168.4	-1.5	12.1	8.1	4.5	24.5	98.9	40
528			1025	181.5	168.5	-1.5	11.6	6.9	6.8	24.5	98.9	40

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
529			945	181.5	168.5	-1.5	11.3	5.9	5.9	24.5	98.9	40
530			916	181.5	168.5	-1.5	11.2	5.8	3.6	24.5	98.9	40
531			973	181.5	168.4	-1.5	11.4	6.4	6.2	24.5	98.9	40
532			1101	181.5	168.4	-1.5	12.0	8.2	5.1	24.5	98.9	40
533			1239	181.5	168.5	-2.1	12.5	7.3	3.8	24.5	98.9	40
534			1193	181.5	168.5	-2.1	12.3	6.0	5.1	24.5	98.9	40
535			1337	181.5	168.5	-2.1	12.9	8.4	6.5	24.5	98.9	40
536			1506	181.5	168.5	-2.1	13.4	7.8	7.0	24.5	98.9	40
537			1486	181.5	168.5	-2.1	13.3	7.0	4.7	24.5	98.9	40
538			1404	181.5	168.5	-2.1	13.0	7.1	6.8	24.5	98.9	40
539			1231	181.5	166.7	-1.5	12.6	6.9	5.4	24.5	98.9	40
540			1347	181.5	165.7	-1.5	12.9	8.8	6.3	24.5	98.9	40
541			1394	181.5	165.8	-1.5	13.0	9.4	4.2	24.5	98.9	40
542			1359	181.5	165.8	-1.5	12.9	6.5	4.1	24.5	98.9	40
543			1293	181.5	165.8	-1.5	12.7	6.4	5.6	24.5	98.9	40
544			1226	181.5	165.8	-1.5	12.4	6.4	4.5	24.5	98.9	40
545			1100	181.5	165.8	-2.1	11.9	6.3	4.0	24.5	98.9	40
546			1043	181.5	165.7	-2.1	11.7	7.7	5.8	24.5	98.9	40
547			1189	181.5	165.7	-2.1	12.3	6.9	5.4	24.5	98.9	40
548			1285	181.5	165.7	-2.1	12.7	7.0	4.1	24.5	98.9	40
549			1289	181.5	165.7	-2.1	12.7	8.7	5.1	24.5	98.9	40
550			1247	181.5	165.8	-2.1	12.6	8.3	7.0	24.5	98.9	40
551			1223	181.5	165.8	-1.5	12.4	9.2	5.4	24.5	98.9	40
552			1118	181.5	165.8	-1.5	12.0	7.3	4.9	24.5	98.9	40
553			1105	181.5	165.8	-1.5	11.9	7.1	8.2	24.5	98.9	40
554			1028	181.5	165.8	-1.5	11.6	8.1	5.7	24.5	98.9	40
555			1117	181.5	165.8	-1.5	12.0	8.4	6.0	24.5	98.9	40
556			1251	181.5	165.8	-1.5	12.6	9.0	3.7	24.5	98.9	40
557			1390	181.5	165.8	-2.1	13.0	8.2	3.8	24.5	98.9	40
558			1055	181.5	168.6	-1.5	11.7	7.2	5.2	24.4	98.9	41
559			1140	181.5	168.6	-1.5	12.1	6.1	4.6	24.4	98.9	41
560			1191	181.5	168.6	-1.5	12.3	6.7	5.8	24.4	98.9	41
561			1117	181.5	168.6	-1.5	12.0	7.7	4.5	24.4	98.9	41
562			1083	181.5	168.6	-1.5	11.9	7.9	4.3	24.4	98.9	41
563			1020	181.5	168.6	-2.1	11.6	6.0	5.0	24.4	98.9	41
564			1029	181.5	168.6	-2.1	11.7	7.0	5.5	24.4	98.9	40
565			1135	181.5	168.6	-2.1	12.1	7.3	6.2	24.4	98.9	40
566			1087	181.5	168.6	-2.1	11.9	6.5	5.4	24.4	98.9	40
567			1139	181.5	168.6	-2.1	12.1	7.1	5.2	24.4	98.9	40
568			1288	181.5	168.6	-2.1	12.7	7.8	4.1	24.4	98.9	40
569			1164	181.5	168.6	-1.5	12.1	5.5	5.0	24.4	98.9	40
570			957	181.5	168.7	-1.5	11.4	7.3	5.5	24.3	98.9	41
571			883	181.5	168.6	-1.5	11.1	6.3	5.8	24.3	98.9	41
572			960	181.5	168.6	-1.5	11.4	6.9	4.7	24.3	98.9	41
573			947	181.5	168.6	-1.5	11.3	6.7	4.0	24.3	98.9	41
574			940	181.5	168.7	-1.5	11.3	7.0	4.2	24.3	98.9	41
575			889	181.5	168.6	-2.1	11.1	4.9	5.1	24.3	98.9	41
576			914	181.5	168.6	-2.1	11.2	9.1	3.3	24.3	98.9	41
577			994	181.5	168.6	-2.1	11.5	6.8	5.3	24.3	98.9	41
578			970	181.5	168.6	-2.1	11.5	5.9	4.6	24.3	98.9	41
579			986	181.5	168.6	-2.1	11.5	7.5	4.4	24.3	98.9	41
580			870	181.5	168.6	-2.1	11.0	6.8	4.1	24.3	98.9	41
581			802	181.5	168.7	-1.5	10.7	7.4	3.6	24.3	98.9	41
582			757	181.5	170.9	-1.5	10.5	6.0	4.7	24.2	98.9	41
583			796	181.5	170.9	-1.5	10.7	5.3	3.4	24.2	98.9	41
584			814	181.5	171.0	-1.5	10.8	6.1	3.9	24.2	98.9	41
585			772	181.5	171.0	-1.5	10.6	5.7	3.0	24.2	98.9	41
586			798	181.5	170.9	-1.5	10.8	6.2	4.8	24.2	98.9	41
587			974	181.5	170.9	-2.1	11.4	9.2	4.4	24.2	98.9	41
588			1072	181.5	171.0	-2.1	11.8	6.4	3.9	24.2	98.9	41
589			991	181.5	171.0	-2.1	11.5	7.6	4.0	24.2	98.9	41
590			895	181.5	171.0	-2.1	11.1	6.3	4.5	24.2	98.9	41
591			870	181.5	171.0	-2.1	11.0	6.2	4.2	24.2	98.9	41
592			921	181.5	171.0	-2.1	11.2	6.0	5.4	24.2	98.9	41
593			886	181.5	171.0	-1.5	11.1	5.7	5.3	24.2	98.9	41
594			875	181.5	171.0	-1.5	11.1	7.4	5.0	24.2	98.9	41
595			1045	181.5	171.0	-1.5	11.7	7.7	4.8	24.2	98.9	41
596			1030	181.5	171.0	-1.5	11.6	5.9	3.3	24.2	98.9	41
597			944	181.5	170.9	-1.5	11.3	6.8	4.9	24.2	98.9	41
598			1016	181.5	170.9	-1.5	11.6	6.7	6.7	24.2	98.9	41
599			1030	181.5	171.0	-2.1	11.6	8.2	5.1	24.2	98.9	41
600			1014	181.5	171.0	-2.1	11.6	8.7	4.0	24.2	98.9	41
601			977	181.5	171.0	-2.1	11.5	6.6	3.2	24.2	98.9	41
602			930	181.5	170.9	-2.1	11.3	7.2	3.7	24.2	98.9	41
603			924	181.5	170.9	-2.1	11.2	6.8	4.4	24.2	98.9	41
604			953	181.5	170.9	-2.1	11.3	7.2	4.8	24.2	98.9	41
605			956	181.5	170.8	-1.5	11.4	6.6	5.6	24.2	98.9	41
606			981	181.5	168.4	-1.5	11.4	8.1	5.5	24.2	98.9	41
607			918	181.5	168.4	-1.5	11.2	5.2	5.9	24.2	98.9	41
608			856	181.5	168.4	-1.5	11.0	6.7	5.9	24.2	98.9	41
609			808	181.5	168.4	-1.5	10.8	6.1	5.1	24.1	98.9	41
610			830	181.5	168.3	-1.5	10.8	6.3	5.0	24.2	98.9	41
611			831	181.5	168.3	-2.1	10.9	7.3	3.8	24.2	98.9	41
612			970	181.5	168.3	-2.1	11.4	9.5	4.6	24.2	98.9	41
613			986	181.5	168.3	-2.1	11.5	6.0	3.4	24.2	98.9	41
614			962	181.5	168.4	-2.1	11.4	6.4	4.1	24.2	98.9	41
615			925	181.5	168.4	-2.1	11.2	6.8	3.0	24.2	98.9	41
616			801	181.5	168.3	-2.1	10.7	4.9	3.2	24.2	98.9	41

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
617			776	181.5	168.3	-1.5	10.7	8.7	4.1	24.2	98.9	41
618			989	181.5	168.4	-1.5	11.5	8.0	5.2	24.1	98.9	41
619			980	181.5	168.4	-1.5	11.4	7.6	4.9	24.1	98.9	41
620			877	181.5	168.4	-1.5	11.1	6.8	4.4	24.1	98.9	41
621			942	181.5	168.4	-1.5	11.3	7.1	4.3	24.1	98.9	41
622			966	181.5	168.4	-1.5	11.4	6.5	4.9	24.1	98.9	41
623			942	181.5	168.4	-2.1	11.3	6.8	4.7	24.1	98.9	41
624			1002	181.5	168.4	-2.1	11.6	7.3	4.5	24.1	98.9	42
625			1168	181.5	168.4	-2.1	12.3	8.9	5.8	24.1	98.9	42
626			1081	181.5	168.4	-2.1	11.8	8.3	5.5	24.1	98.9	42
627			943	181.5	168.4	-2.1	11.3	6.9	3.4	24.1	98.9	42
628			897	181.5	168.4	-2.1	11.1	8.5	5.3	24.1	98.9	42
629			939	181.5	168.4	-1.5	11.3	7.3	4.8	24.1	98.9	42
630			1018	181.5	168.4	-1.5	11.6	8.3	5.2	24.0	98.9	42
631			1037	181.5	168.3	-1.5	11.6	7.3	5.4	24.0	98.9	42
632			968	181.5	168.3	-1.5	11.4	5.8	3.5	24.0	98.9	42
633			941	181.5	168.3	-1.5	11.3	7.3	3.2	24.0	98.9	42
634			832	181.5	168.8	-1.5	10.9	5.9	5.5	24.0	98.9	42
635			820	181.5	171.0	-2.1	10.8	6.6	2.6	24.0	98.9	42
636			777	181.5	171.0	-2.1	10.6	5.3	4.2	24.0	98.9	43
637			721	181.5	171.0	-2.1	10.4	7.0	4.6	24.0	98.9	43
638			757	181.5	171.0	-2.1	10.5	6.0	3.0	24.0	98.9	43
639			818	181.5	171.1	-2.1	10.8	6.5	5.2	24.0	98.9	43
640			807	181.5	171.0	-1.5	10.8	5.6	4.8	24.0	98.9	43
641			715	181.5	171.0	-1.5	10.3	6.0	3.0	23.9	98.9	43
642			705	181.5	171.0	-1.5	10.3	5.8	3.3	23.9	98.9	43
643			749	181.5	173.3	-1.5	10.5	6.7	3.5	23.9	98.9	43
644			762	181.5	173.3	-1.5	10.5	7.0	4.5	23.9	98.9	43
645			802	181.5	173.3	-1.5	10.7	7.2	3.3	23.9	98.9	43
646			876	181.5	173.3	-2.1	11.0	7.0	3.3	23.9	98.9	43
647			750	181.5	173.3	-2.1	10.4	5.2	5.0	23.9	98.9	43
648			625	181.5	173.3	-2.1	9.9	5.3	3.8	23.9	98.9	43
649			618	181.5	173.3	-2.1	9.8	7.6	3.3	23.9	98.9	43
650			690	181.5	173.3	-2.1	10.2	6.4	4.3	23.9	98.9	43
651			733	181.5	173.3	-2.1	10.4	5.7	2.5	23.9	98.9	43
652			773	181.5	173.3	-1.5	10.6	5.8	3.8	23.9	98.9	43
653			707	181.5	173.4	-1.5	10.3	5.2	4.1	23.9	98.9	43
654			678	181.5	170.9	-1.5	10.1	5.8	2.2	23.8	98.9	43
655			711	181.5	170.9	-1.5	10.3	6.4	5.1	23.8	98.9	43
656			754	181.5	170.1	-1.5	10.6	5.9	4.5	23.8	98.9	43
657			751	181.5	168.3	-1.5	10.5	7.6	4.3	23.8	98.9	43
658			752	181.5	168.3	-2.1	10.5	5.9	3.6	23.8	98.9	43
659			809	181.5	168.2	-2.1	10.8	6.1	3.0	23.8	98.9	43
660			840	181.5	168.3	-2.1	10.9	7.0	2.8	23.8	98.9	43
661			887	181.5	168.3	-2.1	11.1	5.2	3.5	23.8	98.9	43
662			842	181.5	168.3	-2.1	10.9	6.3	2.7	23.8	98.9	43
663			786	181.5	168.2	-2.1	10.7	6.9	2.8	23.8	98.9	43
664			822	181.5	168.2	-1.5	10.9	5.2	3.3	23.8	98.9	43
665			844	181.5	168.2	-1.5	10.9	8.0	3.5	23.8	98.9	43
666			888	181.5	168.2	-1.5	11.1	7.0	2.4	23.8	98.9	43
667			821	181.5	168.3	-1.5	10.8	6.3	3.9	23.8	98.9	43
668			801	181.5	168.3	-1.5	10.7	6.5	3.9	23.8	98.9	43
669			746	181.5	168.3	-1.5	10.5	5.4	3.2	23.8	98.9	43
670			793	181.5	168.3	-2.1	10.7	6.1	4.1	23.8	98.9	43
671			826	181.5	168.3	-2.1	10.9	6.1	3.5	23.8	98.9	43
672			796	181.5	168.3	-2.1	10.7	7.4	4.6	23.8	98.9	43
673			824	181.5	168.3	-2.1	10.8	5.8	3.7	23.8	98.9	43
674			809	181.5	168.2	-2.1	10.7	7.2	3.3	23.8	98.9	43
675			782	181.5	168.2	-2.1	10.6	6.5	2.8	23.8	98.9	43
676			821	181.5	168.2	-1.5	10.8	7.5	3.2	23.8	98.9	43
677			756	181.5	168.2	-1.5	10.5	5.1	3.9	23.7	98.9	43
678			628	181.5	168.2	-1.5	9.9	5.2	4.0	23.7	98.9	44
679			598	181.5	168.2	-1.5	9.7	6.1	2.9	23.7	98.9	44
680			677	181.5	168.2	-1.5	10.2	6.4	3.0	23.7	98.9	44
681			692	181.5	168.2	-1.5	10.2	7.0	3.9	23.7	98.9	44
682			652	181.5	168.2	-2.1	10.0	6.1	3.8	23.7	98.9	44
683			665	181.5	168.2	-2.1	10.1	5.9	3.8	23.7	98.9	43
684			678	181.5	168.2	-2.1	10.2	7.0	2.9	23.7	98.9	43
685			819	181.5	168.2	-2.1	10.8	8.4	2.5	23.7	98.9	43
686			884	181.5	168.3	-2.1	11.1	5.2	4.2	23.7	98.9	43
687			819	181.5	168.3	-2.1	10.8	6.9	4.0	23.7	98.9	43
688			749	181.5	168.3	-1.5	10.4	6.7	3.1	23.7	98.9	43
689			704	181.5	168.3	-1.5	10.3	5.7	3.5	23.7	98.9	44
690			837	181.5	168.2	-1.5	10.9	5.3	2.7	23.7	98.9	44
691			985	181.5	168.2	-1.5	11.5	6.9	3.5	23.7	98.9	44
692			1003	181.5	168.3	-1.5	11.5	7.2	2.8	23.7	98.9	44
693			889	181.5	168.2	-1.5	11.1	6.9	3.6	23.7	98.9	44
694			856	181.5	168.2	-2.1	11.0	6.3	3.0	23.7	98.9	44
695			933	181.5	168.2	-2.1	11.3	7.2	3.1	23.7	98.9	44
696			879	181.5	166.7	-2.1	11.1	6.6	3.2	23.7	98.9	44
697			897	181.5	165.9	-2.1	11.1	6.7	4.5	23.7	98.9	44
698			942	181.5	165.9	-2.1	11.3	6.8	4.8	23.7	98.9	44
699			989	181.5	165.9	-2.1	11.5	6.9	4.6	23.7	98.9	44
700			858	181.5	165.9	-1.5	11.0	6.8	3.8	23.7	98.8	44
701			781	181.5	168.5	-2.1	10.6	5.7	3.4	23.6	98.8	45
702			723	181.5	168.5	-1.5	10.4	7.6	3.2	23.6	98.8	45
703			789	181.5	168.5	-1.5	10.7	8.5	3.4	23.6	98.8	45
704			920	181.5	168.5	-1.5	11.2	5.7	4.8	23.6	98.8	45

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
705			1062	181.5	168.6	-1.5	11.8	5.2	4.0	23.6	98.9	45
706			1129	181.5	168.6	-1.5	12.1	6.7	2.4	23.6	98.8	45
707			1173	181.5	168.6	-1.5	12.2	7.2	3.4	23.6	98.8	45
708			1096	181.5	168.6	-2.1	11.9	6.6	3.0	23.6	98.8	45
709			974	181.5	168.6	-2.1	11.4	5.9	3.2	23.6	98.8	45
710			944	181.5	168.5	-2.1	11.3	5.3	3.0	23.6	98.8	45
711			848	181.5	168.5	-2.1	11.0	6.2	3.9	23.6	98.8	45
712			743	181.5	168.5	-2.1	10.4	6.0	5.2	23.6	98.8	45
713			736	181.5	168.5	-2.1	10.4	5.7	4.6	23.6	98.8	45
714			721	181.5	168.5	-1.5	10.3	6.0	4.3	23.6	98.8	45
715			659	181.5	168.8	-1.5	10.2	4.9	6.8	23.6	98.8	45
716			741	181.5	171.0	-1.5	10.4	5.0	6.1	23.6	98.8	45
717			982	181.5	171.1	-1.5	11.5	8.4	5.7	23.6	98.8	45
718	7.8	52.5	1375	181.5	173.8	-1.5	13.1	8.3	3.3	23.6	98.8	45
719	8.1	54.6	1541	181.5	173.8	-1.5	13.5	7.5	3.0	23.6	98.8	45
720	8.0	54.4	1475	181.5	173.8	-2.1	13.3	9.8	2.4	23.6	98.8	45
721	8.5	54.9	1758	181.5	173.7	-2.1	14.1	8.5	4.3	23.7	98.8	45
722	8.4	56.0	1731	181.5	176.6	-2.1	14.0	8.2	4.8	23.7	98.8	45
723	8.5	55.6	1816	181.5	176.6	-2.1	14.2	7.2	3.3	23.7	98.8	45
724	8.8	56.2	1966	181.5	176.6	-2.1	14.4	8.3	4.9	23.7	98.8	45
725	8.8	55.9	1958	181.5	176.7	-1.0	14.5	10.0	4.7	23.7	98.8	45
726	9.7	55.7	2534	181.5	179.1	0.6	14.4	10.8	5.7	23.7	98.8	45
727	9.8	55.8	2538	181.5	179.2	0.0	14.3	10.1	4.7	23.8	98.8	44
728	9.4	56.2	2307	181.5	182.4	-1.7	14.4	8.4	5.8	23.8	98.8	44
729	9.3	55.8	2294	181.5	182.4	-1.8	14.3	10.3	3.9	23.8	98.9	44
730	8.8	56.0	1996	181.5	184.1	-1.8	14.3	9.4	5.0	23.8	98.8	44
731	8.5	55.8	1784	181.5	185.0	-1.8	14.1	10.1	4.5	23.8	98.8	44
732	8.0	54.5	1494	181.5	185.0	-1.8	13.4	8.3	5.3	23.8	98.8	44
733	7.7	53.5	1320	181.5	184.9	-1.8	12.8	6.9	4.1	23.8	98.8	42
734	7.6	52.8	1309	181.5	184.9	-1.8	12.8	9.4	5.6	23.8	98.8	42
735	8.3	54.5	1694	181.5	186.0	-1.3	14.0	10.7	5.8	23.8	98.8	42
736	8.8	55.8	1979	181.5	187.4	-1.5	14.4	7.3	4.6	23.8	98.8	42
737	8.6	56.0	1833	181.5	187.3	-1.8	14.2	8.0	3.1	23.8	98.8	42
738	8.9	55.9	2045	181.5	187.4	-1.8	14.4	7.9	6.4	23.8	98.8	42
739	8.9	56.6	2043	181.5	190.2	-1.8	14.4	9.5	6.3	24.0	98.8	43
740	8.8	56.1	1945	181.5	190.2	-1.8	14.3	7.1	4.9	24.0	98.8	43
741			2463	181.5	193.4	-0.9	14.5	8.8	6.5	24.0	98.8	43
742	9.1	56.4	2160	181.5	193.4	-1.8	14.2	9.6	6.1	24.0	98.8	43
743	9.0	56.0	2099	181.5	193.4	-1.8	14.3	8.4	4.6	24.0	98.8	43
744	9.0	56.2	2080	181.5	193.4	-1.8	14.4	11.1	5.0	24.1	98.8	43
745	9.2	56.3	2209	181.5	193.4	-1.8	14.4	11.5	8.1	24.1	98.8	43
746	9.4	56.3	2341	181.5	195.7	-1.8	14.4	8.8	5.9	24.1	98.8	43
747	8.5	55.8	1762	181.5	195.6	-1.8	14.1	8.4	6.2	24.1	98.8	43
748	9.1	56.1	2169	181.5	195.7	-0.9	14.5	10.8	8.2	24.1	98.8	43
749	9.7	55.8	2513	181.5	195.6	-1.1	14.5	11.3	6.8	24.1	98.8	43
750	9.8	56.1	2597	181.5	195.7	-1.0	14.5	10.7	5.7	24.2	98.8	42
751			2786	181.5	195.7	-0.2	14.4	9.0	5.5	24.2	98.8	42
752			2816	181.5	195.7	-0.8	14.4	9.0	6.0	24.2	98.8	42
753			2830	181.5	195.7	-0.3	14.4	9.8	7.1	24.2	98.8	42
754	10.1	55.8	2726	181.5	195.7	-1.0	14.3	9.5	5.7	24.2	98.8	42
755	9.6	55.7	2459	181.5	195.7	-1.5	14.2	8.8	5.0	24.2	98.8	42
756	9.1	55.9	2164	181.5	195.7	-1.8	14.2	7.8	4.6	24.3	98.8	39
757	8.6	55.7	1828	181.5	195.7	-1.8	14.3	10.4	5.6	24.3	98.8	39
758	8.6	55.9	1872	181.5	195.7	-1.8	14.4	8.6	2.9	24.3	98.8	39
759	8.5	55.6	1770	181.5	195.7	-1.8	14.0	7.6	4.6	24.3	98.8	39
760	8.1	54.6	1577	181.5	195.7	-1.8	13.6	10.0	5.2	24.3	98.8	39
761	8.1	54.4	1555	181.5	195.7	-1.8	13.5	7.7	5.6	24.3	98.8	39
762	7.8	53.6	1405	181.5	195.7	-1.8	13.0	6.6	4.3	24.5	98.8	40
763	8.0	53.5	1477	181.5	195.6	-1.8	13.3	8.8	7.6	24.5	98.8	40
764	8.3	54.3	1697	181.5	195.7	-1.8	13.9	8.6	5.9	24.5	98.8	40
765	8.4	54.8	1711	181.5	195.7	-1.8	14.0	7.5	7.1	24.5	98.8	40
766			1740	181.5	195.7	-1.8	14.0	10.0	7.3	24.5	98.8	40
767			1645	181.5	195.7	-1.5	13.7	9.8	7.9	24.5	98.8	40
768	8.6	56.2	1833	181.5	195.7	-1.5	14.3	8.7	6.1	24.6	98.8	39
769	8.9	56.6	2011	181.5	195.6	-1.5	14.4	8.1	5.9	24.6	98.8	39
770	8.9	55.7	2014	181.5	195.6	-1.5	14.4	8.9	3.5	24.6	98.8	39
771	8.7	55.8	1894	181.5	195.6	-1.5	14.4	7.8	5.3	24.6	98.8	39
772	8.5	55.7	1783	181.5	193.2	-1.5	14.1	8.9	5.5	24.6	98.8	39
773	8.5	55.5	1774	181.5	193.1	-2.1	14.1	9.1	3.8	24.6	98.8	39
774	8.1	54.7	1532	181.5	193.1	-2.1	13.4	9.0	4.3	24.6	98.8	40
775	7.8	53.6	1401	181.5	193.1	-2.1	13.1	7.7	4.4	24.6	98.8	40
776	8.3	54.0	1651	181.5	193.1	-2.1	13.8	7.9	3.9	24.6	98.8	40
777	8.3	55.0	1680	181.5	193.1	-2.1	13.8	9.5	5.3	24.6	98.8	40
778	8.6	55.3	1875	181.5	193.2	-1.9	14.4	10.3	8.3	24.6	98.8	40
779	8.7	55.8	1929	181.5	193.2	-1.8	14.3	10.2	7.3	24.6	98.8	40
780	8.3	55.0	1696	181.5	193.2	-1.8	13.9	6.0	6.3	24.7	98.8	38
781			1417	181.5	193.2	-1.8	13.1	7.3	5.9	24.7	98.8	38
782	7.6	53.0	1298	181.5	193.2	-1.8	12.7	9.0	4.7	24.7	98.8	38
783	7.6	52.9	1308	181.5	193.2	-1.8	12.7	7.9	6.9	24.7	98.8	38
784	7.6	52.4	1271	181.5	193.2	-1.5	12.6	7.6	6.3	24.7	98.8	38
785	7.6	52.5	1274	181.5	193.2	-1.5	12.6	7.8	6.2	24.8	98.8	38
786	7.5	52.2	1242	181.5	193.2	-1.5	12.5	6.6	7.1	24.8	98.8	38
787	7.3	51.7	1133	181.5	193.2	-1.5	12.0	8.3	5.7	24.8	98.8	38
788	7.0	50.5	1004	181.5	193.2	-1.5	11.5	7.8	3.6	24.8	98.8	38
789	6.9	50.1	947	181.5	193.2	-1.5	11.4	7.9	6.0	24.8	98.8	38
790	7.0	50.4	1000	181.5	193.2	-2.1	11.5	6.5	4.9	24.8	98.8	38
791	7.1	50.6	1023	181.5	193.2	-2.1	11.6	6.6	7.3	24.8	98.8	38
792	7.0	50.5	983	181.5	193.1	-2.1	11.5	7.4	6.5	24.8	98.8	38

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
793	6.7	50.6	882	181.5	190.3	-2.1	11.1	7.1	4.5	24.8	98.8	38
794	6.4	48.9	783	181.5	190.2	-2.1	10.6	5.2	5.1	24.8	98.8	38
795	6.2	48.1	703	181.5	190.2	-2.1	10.2	6.8	3.9	24.8	98.8	38
796	6.2	47.6	677	181.5	190.2	-1.5	10.2	6.1	4.0	24.7	98.8	38
797	6.3	47.7	733	181.5	190.2	-1.5	10.5	7.6	7.6	24.7	98.8	39
798	6.5	48.3	802	181.5	190.2	-1.5	10.7	6.7	7.3	24.7	98.8	39
799	6.6	48.7	845	181.5	190.2	-1.5	10.9	6.7	8.2	24.7	98.8	39
800	6.8	49.4	917	181.5	190.2	-1.5	11.2	6.3	6.5	24.7	98.8	39
801	7.1	50.1	1042	181.5	190.2	-1.5	11.7	6.0	4.1	24.7	98.8	39
802	7.8	52.4	1390	181.5	190.2	-2.1	13.0	8.9	4.6	24.7	98.8	39
803	8.1	54.4	1544	181.5	190.2	-2.1	13.5	8.6	6.1	24.9	98.8	38
804	8.0	53.9	1494	181.5	190.2	-2.1	13.3	6.4	7.4	24.9	98.8	38
805	7.8	53.9	1384	181.5	190.2	-2.1	13.0	6.7	4.5	24.9	98.8	38
806	7.8	53.4	1403	181.5	190.1	-2.1	13.0	7.2	3.6	24.9	98.8	38
807	7.8	53.5	1401	181.5	190.2	-2.1	13.0	9.4	5.1	24.9	98.8	38
808	8.0	53.6	1477	181.5	190.2	-1.5	13.3	7.9	4.2	24.9	98.8	38
809	7.9	54.0	1433	181.5	190.3	-1.5	13.1	7.0	6.0	24.9	98.8	38
810	7.9	54.0	1439	181.5	187.8	-1.5	13.2	6.6	7.6	24.9	98.8	38
811	7.9	53.2	1458	181.5	187.6	-1.5	13.2	7.1	6.4	24.9	98.8	38
812	8.2	53.8	1608	181.5	187.6	-1.5	13.7	8.3	7.7	24.9	98.8	38
813	8.2	54.5	1631	181.5	187.5	-1.5	13.7	9.6	7.7	24.9	98.8	38
814	8.1	54.1	1539	181.5	187.5	-2.1	13.5	7.4	6.3	24.9	98.8	38
815	8.1	54.1	1528	181.5	187.5	-2.1	13.4	7.7	5.9	24.9	98.8	37
816	7.7	53.8	1340	181.5	187.5	-2.1	12.8	6.5	5.4	24.9	98.8	37
817	7.6	53.3	1272	181.5	189.8	-2.1	12.7	7.1	5.9	24.9	98.8	37
818	8.0	53.6	1505	181.5	190.6	-2.1	13.4	8.7	6.5	24.9	98.8	37
819	8.6	55.4	1820	181.5	190.6	-2.1	14.2	9.0	4.4	24.9	98.8	37
820	8.2	55.1	1609	181.5	190.6	-1.5	13.6	7.5	4.2	24.9	98.8	37
821			1475	181.5	190.6	-1.5	13.3	7.8	5.5	24.9	98.8	38
822	8.4	54.7	1699	181.5	190.6	-1.5	13.9	8.8	4.8	24.9	98.8	38
823	8.3	54.6	1670	181.5	190.6	-1.5	13.8	8.9	6.6	24.9	98.8	38
824	8.4	54.9	1738	181.5	190.6	-1.5	14.0	9.8	7.1	24.9	98.8	38
825	8.5	54.9	1782	181.5	190.6	-2.1	14.1	7.4	4.9	24.9	98.8	38
826	8.4	55.1	1715	181.5	190.6	-2.1	13.9	8.4	7.8	24.9	98.8	37
827	8.1	54.5	1532	181.5	190.6	-2.1	13.4	8.6	7.7	24.9	98.8	37
828	7.6	53.5	1288	181.5	190.7	-2.1	12.6	6.2	7.2	24.9	98.8	37
829	7.5	52.4	1242	181.5	190.6	-2.1	12.5	8.0	6.4	24.9	98.8	37
830	7.5	52.8	1215	181.5	190.6	-2.1	12.4	9.6	5.2	24.9	98.8	37
831	7.4	52.2	1197	181.5	190.6	-1.5	12.3	8.9	5.6	24.9	98.8	37
832	7.5	51.9	1220	181.5	190.6	-1.5	12.4	7.5	7.2	24.8	98.8	38
833	8.0	53.6	1487	181.5	193.2	-1.5	13.3	8.4	7.3	24.8	98.8	38
834	8.5	55.4	1776	181.5	193.3	-1.5	14.1	8.0	7.3	24.8	98.8	38
835	8.4	55.5	1735	181.5	193.2	-1.5	14.0	9.6	6.3	24.8	98.8	38
836	8.6	56.0	1875	181.5	193.2	-1.5	14.3	9.3	5.6	24.8	98.8	38
837	8.6	55.6	1818	181.5	193.2	-1.8	14.2	8.4	3.4	24.8	98.8	38
838	8.1	54.8	1551	181.5	193.3	-1.8	13.5	6.6	6.6	24.8	98.8	38
839	8.0	54.0	1494	181.5	193.3	-1.8	13.3	6.9	6.6	24.8	98.8	38
840	7.9	53.9	1423	181.5	193.8	-1.8	13.1	8.5	7.4	24.8	98.8	38
841	7.5	52.8	1241	181.5	196.1	-1.8	12.5	7.6	6.3	24.8	98.8	38
842	7.3	51.9	1133	181.5	196.2	-1.8	12.0	7.5	5.2	24.8	98.8	38
843	7.5	52.0	1243	181.5	196.2	-2.1	12.6	8.3	6.6	24.8	98.8	38
844	8.3	54.1	1656	181.5	196.2	-2.1	13.8	10.0	6.6	24.8	98.8	37
845	8.2	55.0	1624	181.5	196.2	-2.1	13.7	8.0	5.2	24.8	98.8	37
846	8.3	54.9	1656	181.5	196.2	-2.1	13.8	7.5	5.5	24.8	98.8	37
847	8.0	54.7	1511	181.5	196.2	-2.1	13.4	10.2	5.6	24.8	98.8	37
848	7.7	53.7	1344	181.5	196.2	-2.1	12.8	7.8	7.2	24.8	98.8	37
849	7.6	52.7	1279	181.5	196.2	-1.5	12.7	7.5	5.9	24.8	98.8	37
850	7.6	52.8	1308	181.5	196.2	-1.5	12.7	7.7	6.3	24.7	98.8	37
851	7.4	52.4	1212	181.5	196.2	-1.5	12.4	7.9	7.3	24.7	98.8	37
852	7.3	51.9	1129	181.5	196.2	-1.5	12.0	8.1	7.3	24.7	98.8	37
853	7.1	50.7	1055	181.5	196.2	-1.5	11.8	8.2	5.1	24.7	98.8	37
854	7.6	51.7	1280	181.5	196.2	-1.5	12.7	7.8	4.0	24.7	98.8	37
855	8.3	54.1	1680	181.5	196.2	-2.1	13.9	9.8	5.0	24.7	98.8	37
856	8.2	54.8	1615	181.5	196.2	-2.1	13.7	8.4	6.4	24.7	98.8	38
857	8.0	54.0	1497	181.5	196.2	-2.1	13.3	7.9	5.4	24.7	98.8	38
858	8.0	53.6	1467	181.5	196.2	-2.1	13.2	6.0	5.7	24.7	98.8	38
859	8.1	54.3	1562	181.5	196.2	-2.1	13.5	8.7	6.5	24.7	98.8	38
860	9.1	55.3	2164	181.5	196.2	-0.2	14.5	12.1	6.1	24.7	98.8	38
861			1992	181.5	196.1	-1.8	14.3	8.0	6.1	24.7	98.8	38
862	8.7	56.0	1907	181.5	196.1	-1.8	14.3	8.7	4.8	24.7	98.8	38
863	9.0	55.6	2070	181.5	196.1	-1.8	14.4	8.6	5.2	24.7	98.8	38
864	8.5	55.5	1811	181.5	196.1	-1.8	14.2	7.7	4.7	24.7	98.8	38
865	8.2	55.0	1630	181.5	196.1	-1.8	13.7	8.3	6.5	24.7	98.8	38
866	8.0	54.0	1463	181.5	196.1	-1.5	13.2	8.7	4.1	24.7	98.8	38
867	7.6	52.9	1306	181.5	196.1	-1.5	12.7	6.1	7.1	24.6	98.8	38
868	7.2	51.8	1084	181.5	196.1	-1.5	11.8	5.7	6.3	24.6	98.8	38
869	6.8	49.9	926	181.5	196.1	-1.5	11.3	4.6	4.5	24.6	98.8	38
870	6.5	49.0	787	181.5	195.2	-1.5	10.7	5.5	5.8	24.6	98.8	38
871	6.4	49.1	782	181.5	193.5	-1.5	10.6	8.4	5.1	24.6	98.8	38
872	6.5	48.4	801	181.5	193.5	-2.1	10.7	8.0	6.4	24.6	98.8	38
873	6.4	48.2	764	181.5	193.5	-2.1	10.5	6.6	3.7	24.6	98.8	38
874	6.4	48.4	772	181.5	193.5	-2.1	10.6	8.0	2.8	24.6	98.8	38
875	6.6	49.0	846	181.5	193.5	-2.1	10.9	5.9	6.0	24.6	98.8	38
876	6.6	49.2	858	181.5	193.5	-2.1	11.0	6.3	6.6	24.6	98.8	38
877	6.7	49.4	875	181.5	193.5	-2.1	11.1	7.2	6.5	24.6	98.8	38
878	6.6	49.8	829	181.5	190.7	-1.5	10.9	6.4	6.9	24.6	98.8	38
879	6.7	49.1	863	181.5	190.7	-1.5	11.0	7.5	5.0	24.6	98.8	38
880	7.0	50.0	1007	181.5	190.7	-1.5	11.6	8.3	6.1	24.6	98.8	38

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
881	7.4	51.4	1188	181.5	190.7	-1.5	12.3	7.4	6.6	24.6	98.8	38
882	7.7	52.6	1343	181.5	190.7	-1.5	12.9	8.3	5.4	24.6	98.8	38
883	7.7	52.7	1328	181.5	190.7	-1.5	12.8	8.5	5.1	24.6	98.8	38
884	7.4	52.0	1212	181.5	190.7	-2.1	12.4	8.5	4.7	24.6	98.8	38
885	7.6	52.2	1271	181.5	190.7	-2.1	12.7	8.2	6.1	24.6	98.8	38
886	7.9	53.6	1443	181.5	190.7	-2.1	13.2	8.0	4.3	24.6	98.8	38
887	8.1	54.3	1546	181.5	189.2	-2.1	13.5	9.2	5.4	24.6	98.8	38
888	7.9	53.9	1429	181.5	188.4	-2.1	13.1	5.7	5.6	24.6	98.8	38
889	7.5	52.8	1234	181.5	188.5	-2.1	12.5	5.7	4.2	24.6	98.8	38
890	7.3	51.5	1148	181.5	188.5	-1.5	12.1	6.4	4.1	24.6	98.8	38
891	7.5	51.7	1233	181.5	188.5	-1.5	12.5	8.4	3.3	24.6	98.8	39
892	7.8	52.9	1412	181.5	188.4	-1.5	13.1	8.8	5.1	24.6	98.8	39
893	8.1	54.2	1524	181.5	188.4	-1.5	13.5	8.0	5.3	24.6	98.8	39
894	8.5	54.6	1788	181.5	188.4	-1.5	14.1	8.8	4.7	24.6	98.8	39
895	8.2	54.6	1597	181.5	188.4	-1.5	13.6	7.0	5.5	24.6	98.8	39
896	7.5	53.3	1243	181.5	188.4	-2.1	12.5	4.9	5.5	24.6	98.8	39
897	7.3	51.9	1130	181.5	188.4	-2.1	12.0	6.2	4.0	24.6	98.8	39
898	7.2	51.4	1100	181.5	188.5	-2.1	11.9	7.0	6.0	24.6	98.8	39
899	7.3	51.6	1129	181.5	188.4	-2.1	12.0	7.7	7.1	24.6	98.8	39
900	7.4	51.9	1170	181.5	188.4	-2.1	12.2	8.1	4.6	24.6	98.8	39
901			1123	181.5	188.4	-1.7	12.1	8.4	5.4	24.6	98.8	39
902	7.3	51.9	1163	181.5	188.4	-1.5	12.2	6.4	5.4	24.6	98.8	38
903	7.4	52.1	1185	181.5	188.4	-1.5	12.2	7.1	6.5	24.6	98.8	38
904			1107	181.5	188.4	-1.5	11.9	5.8	5.4	24.6	98.8	38
905	7.1	51.1	1047	181.5	188.4	-1.5	11.7	7.1	6.4	24.6	98.8	38
906	7.4	51.4	1187	181.5	188.4	-1.5	12.3	8.2	5.2	24.6	98.8	38
907	7.9	52.9	1415	181.5	188.4	-1.9	13.1	7.4	6.8	24.6	98.8	38
908	8.3	54.1	1674	181.5	188.4	-2.1	13.9	7.9	6.0	24.6	98.8	38
909	8.9	55.8	2009	181.5	188.4	-2.1	14.5	10.6	7.2	24.6	98.8	38
910	9.4	56.0	2316	181.5	188.4	-2.1	14.5	9.1	5.1	24.6	98.8	38
911	8.7	55.9	1920	181.5	188.4	-2.1	14.3	9.2	6.6	24.6	98.8	38
912	8.4	55.7	1754	181.5	188.4	-2.1	14.0	6.0	7.6	24.6	98.8	38
913	8.7	55.7	1912	181.5	188.4	-1.7	14.4	10.2	4.8	24.6	98.8	38
914	9.0	56.0	2097	181.5	188.4	-1.5	14.5	8.5	5.2	24.5	98.8	38
915	8.9	56.0	2053	181.5	188.4	-1.5	14.3	9.4	5.3	24.5	98.8	38
916	9.0	55.9	2094	181.5	188.4	-1.5	14.4	9.0	4.2	24.5	98.8	38
917	8.8	55.6	1981	181.5	188.4	-1.5	14.3	9.3	6.9	24.5	98.8	38
918	8.7	55.4	1911	181.5	188.4	-1.5	14.3	8.8	8.2	24.5	98.8	38
919	8.7	55.6	1906	181.5	188.4	-1.6	14.4	8.7	5.3	24.5	98.8	38
920			2105	181.5	188.4	-2.1	14.5	7.3	7.0	24.5	98.8	38
921			1970	181.5	188.4	-2.1	14.3	9.6	6.3	24.5	98.8	38
922			1896	181.5	188.4	-2.1	14.3	8.3	5.3	24.5	98.8	38
923			1819	181.5	188.4	-2.1	14.2	8.6	5.4	24.5	98.8	38
924			1801	181.5	188.4	-2.1	14.2	7.7	5.3	24.5	98.8	38
925			1762	181.5	188.4	-1.8	14.1	7.3	3.4	24.5	98.8	38
926			1491	181.5	188.4	-1.5	13.3	8.3	3.5	24.5	98.8	39
927	8.0	53.5	1466	181.5	188.4	-1.5	13.3	9.1	5.2	24.5	98.8	39
928	8.3	54.4	1643	181.5	188.4	-1.5	13.7	6.8	7.9	24.5	98.8	39
929	8.5	55.2	1811	181.5	188.4	-1.5	14.2	8.4	5.8	24.5	98.8	39
930	8.6	55.5	1861	181.5	188.4	-1.5	14.3	7.8	6.8	24.5	98.8	39
931	8.3	55.1	1669	181.5	188.4	-1.7	13.8	7.3	6.9	24.5	98.8	39
932	8.2	54.7	1616	181.5	188.4	-2.1	13.6	8.6	5.4	24.5	98.8	39
933	8.3	54.7	1665	181.5	188.4	-2.1	13.8	8.2	6.3	24.5	98.8	39
934	8.3	54.8	1651	181.5	188.4	-2.1	13.7	9.2	4.8	24.5	98.8	39
935	8.1	54.3	1526	181.5	188.4	-2.1	13.4	6.0	5.7	24.5	98.8	39
936	8.0	54.1	1482	181.5	188.4	-2.1	13.3	7.7	6.9	24.5	98.8	39
937	8.0	53.9	1514	181.5	188.4	-1.9	13.4	7.0	5.8	24.5	98.8	39
938	8.0	54.0	1505	181.5	188.4	-1.5	13.4	7.1	6.6	24.4	98.8	40
939	7.7	53.7	1353	181.5	188.4	-1.5	12.8	8.8	5.4	24.4	98.8	40
940	7.4	52.1	1178	181.5	188.4	-1.5	12.2	7.7	5.7	24.4	98.8	40
941			1214	181.5	188.4	-1.5	12.4	8.3	3.1	24.4	98.8	40
942	7.8	52.7	1380	181.5	188.4	-1.5	13.0	6.3	4.3	24.4	98.8	40
943	7.9	53.6	1462	181.5	188.4	-2.1	13.3	6.6	5.5	24.4	98.8	39
944	8.1	53.8	1528	181.5	188.5	-2.1	13.4	7.8	5.5	24.4	98.8	39
945	8.1	54.2	1529	181.5	188.4	-2.1	13.5	7.6	7.7	24.4	98.8	39
946	8.1	54.5	1565	181.5	188.5	-2.1	13.5	7.0	7.4	24.4	98.8	39
947	8.2	54.5	1626	181.5	188.4	-2.1	13.7	6.8	7.7	24.4	98.8	39
948	8.5	55.3	1780	181.5	188.4	-2.1	14.1	8.2	7.1	24.4	98.8	39
949	8.9	55.8	2010	181.5	186.2	-1.4	14.4	8.7	6.2	24.4	98.8	39
950	9.2	56.0	2188	181.5	185.7	-1.5	14.4	9.6	4.5	24.4	98.8	39
951	8.5	56.0	1781	181.5	185.6	-1.5	14.1	8.5	5.6	24.4	98.8	39
952	8.7	55.8	1904	181.5	185.6	-1.5	14.4	9.8	7.1	24.4	98.8	39
953	9.3	56.3	2280	181.5	185.6	-1.5	14.5	9.4	6.4	24.4	98.8	39
954	9.5	56.3	2371	181.5	185.6	-1.5	14.4	8.7	7.2	24.4	98.8	39
955	9.6	56.0	2436	181.5	185.7	-1.9	14.4	9.7	5.3	24.3	98.8	39
956	9.4	56.1	2309	181.5	185.7	-2.1	14.3	10.6	3.8	24.3	98.8	39
957	8.8	56.2	1960	181.5	185.7	-2.1	14.2	9.9	5.4	24.3	98.8	39
958	9.4	56.1	2317	181.5	185.7	-0.9	14.5	7.3	6.6	24.3	98.8	39
959	9.8	56.1	2588	181.5	185.7	-0.2	14.5	10.3	7.6	24.3	98.8	39
960	10.5	56.2	2823	181.5	185.7	0.5	14.5	10.6	7.5	24.3	98.8	39
961			2914	181.5	185.7	0.1	14.4	9.9	6.6	24.3	98.8	39
962			2999	181.5	185.7	0.4	14.4	10.0	4.4	24.3	98.8	39
963	10.9	56.3	3173	181.5	185.7	1.3	14.5	11.0	4.0	24.3	98.8	39
964	11.7	56.2	3064	181.5	185.6	0.5	14.4	11.8	3.6	24.3	98.8	39
965	12.4	56.3	3129	181.5	185.6	0.8	14.4	12.6	4.1	24.3	98.8	39
966	11.7	56.1	3148	181.5	185.6	0.7	14.3	11.9	5.4	24.3	98.8	39
967	11.6	55.9	2892	181.5	185.7	0.0	14.2	11.7	7.2	24.3	98.8	39
968	9.8	55.9	2547	181.5	185.7	-1.4	14.2	10.8	6.7	24.3	98.8	38

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
969	9.6	55.9	2444	181.5	185.7	-1.7	14.4	9.5	5.8	24.3	98.8	38
970	10.1	56.4	2710	181.5	185.6	-0.9	14.5	10.8	7.1	24.3	98.8	38
971	10.0	56.4	2706	181.5	185.6	-1.1	14.4	11.3	5.6	24.3	98.8	38
972	9.9	56.2	2646	181.5	185.6	-1.2	14.4	10.6	6.0	24.3	98.8	38
973	9.8	55.8	2584	181.5	185.7	-1.3	14.4	10.0	8.4	24.3	98.8	39
974	9.5	56.1	2416	181.5	185.6	-1.8	14.3	8.2	6.2	24.3	98.8	39
975	9.1	55.9	2144	181.5	185.6	-1.8	14.3	10.8	6.4	24.3	98.8	39
976	8.7	55.8	1880	181.5	185.6	-1.8	14.3	9.2	5.2	24.3	98.8	39
977	8.4	55.4	1748	181.5	185.7	-1.8	14.0	9.2	4.8	24.3	98.8	39
978	9.0	55.7	2085	181.5	187.5	-1.0	14.5	9.1	4.7	24.3	98.8	39
979	8.9	55.8	2059	181.5	187.8	-1.8	14.4	9.4	7.8	24.3	98.8	39
980	9.4	56.1	2331	181.5	187.8	-1.8	14.4	9.3	6.8	24.3	98.8	39
981			1733	181.5	187.8	-1.8	14.0	8.7	4.7	24.3	98.8	39
982	8.2	54.9	1609	181.5	187.8	-1.8	13.7	9.1	5.8	24.3	98.8	39
983	8.5	55.1	1793	181.5	187.7	-1.8	14.1	9.2	6.6	24.3	98.8	39
984	8.4	55.7	1742	181.5	187.7	-1.6	14.0	8.7	7.7	24.3	98.8	39
985	8.4	55.2	1723	181.5	187.7	-1.5	14.0	8.1	6.8	24.3	98.8	40
986	8.6	55.6	1849	181.5	187.7	-1.5	14.3	8.8	9.3	24.3	98.8	40
987	9.0	56.6	2071	181.5	187.7	-1.5	14.4	10.1	7.5	24.3	98.8	40
988	8.8	56.1	1994	181.5	187.8	-1.5	14.3	9.8	7.5	24.3	98.8	40
989	8.6	55.9	1825	181.5	187.7	-1.5	14.2	9.0	7.6	24.3	98.8	40
990	8.3	55.4	1667	181.5	187.8	-2.0	13.8	8.9	8.4	24.3	98.8	40
991	8.2	55.6	1624	181.5	187.7	-2.1	13.7	7.1	7.8	24.2	98.8	40
992	8.3	55.2	1644	181.5	187.7	-2.1	13.8	8.4	7.4	24.2	98.8	40
993	8.6	56.0	1837	181.5	187.8	-2.1	14.2	8.6	7.8	24.2	98.8	40
994	8.5	56.2	1817	181.5	187.8	-2.1	14.2	8.7	6.9	24.2	98.8	40
995	8.4	55.7	1725	181.5	187.8	-2.1	13.9	9.7	4.7	24.2	98.8	40
996	8.1	55.0	1520	181.5	187.7	-1.6	13.4	9.5	5.0	24.2	98.8	40
997	8.2	54.7	1635	181.5	187.8	-1.5	13.7	8.3	5.1	24.2	98.8	40
998	8.4	55.1	1745	181.5	187.7	-1.5	14.0	7.7	5.3	24.2	98.8	40
999	8.9	55.8	2045	181.5	187.7	-1.4	14.5	9.0	6.6	24.2	98.8	40
1000	8.7	55.8	1887	181.5	187.8	-1.5	14.3	9.5	6.1	24.2	98.8	40
1001	8.7	55.8	1916	181.5	187.7	-1.5	14.4	9.3	7.1	24.2	98.8	40
1002	9.2	56.0	2220	181.5	187.7	-1.6	14.5	9.8	7.2	24.2	98.8	40
1003	9.7	56.4	2508	181.5	187.7	-1.9	14.5	10.6	7.6	24.2	98.7	40
1004	9.6	56.4	2449	181.5	187.7	-1.9	14.4	10.2	6.9	24.2	98.7	40
1005	8.7	55.9	1929	181.5	187.7	-2.1	14.2	8.2	5.7	24.2	98.7	40
1006	8.9	56.0	2026	181.5	187.7	-1.6	14.5	10.0	6.0	24.2	98.7	40
1007	9.6	55.9	2465	181.5	187.8	0.3	14.5	9.7	5.1	24.2	98.7	40
1008	10.0	55.9	2695	181.5	187.8	0.6	14.5	10.3	7.2	24.2	98.7	40
1009	10.1	55.7	2738	181.5	187.8	0.5	14.4	10.4	7.1	24.1	98.7	40
1010	9.9	55.8	2598	181.5	187.8	-1.3	14.4	11.1	4.9	24.1	98.7	40
1011			2813	181.5	187.8	-0.3	14.5	10.3	5.6	24.1	98.7	40
1012	10.2	56.0	2765	181.5	187.8	0.0	14.4	10.7	6.7	24.1	98.7	40
1013			2903	181.5	187.8	0.1	14.4	10.2	4.9	24.1	98.7	40
1014	10.0	55.9	2697	181.5	187.8	-1.0	14.3	10.1	4.6	24.1	98.7	40
1015	11.3	55.9	2858	181.5	187.7	0.2	14.4	11.4	5.8	24.1	98.7	40
1016	10.2	56.2	2775	181.5	185.3	-0.9	14.3	9.6	5.7	24.1	98.7	40
1017	10.9	56.3	2811	181.5	185.4	-0.2	14.4	11.0	4.9	24.1	98.7	40
1018	12.1	56.0	3073	181.5	185.4	0.5	14.5	12.2	6.3	24.1	98.7	40
1019	12.5	56.1	3182	181.5	185.4	1.0	14.5	12.6	7.0	24.1	98.7	40
1020	10.5	55.8	3170	181.5	185.4	1.6	14.5	10.6	8.6	24.1	98.7	40
1021			3193	181.5	185.4	4.3	14.7	12.5	6.2	24.1	98.7	40
1022	12.3	55.6	3151	181.5	185.4	3.5	14.4	12.4	5.8	24.1	98.7	40
1023	12.2	55.7	3196	181.5	185.4	4.8	14.6	12.3	8.1	24.1	98.7	40
1024	12.1	55.4	2954	181.5	185.4	3.7	14.3	12.2	7.3	24.1	98.7	40
1025	11.1	55.4	2856	181.5	185.4	3.6	14.3	11.2	6.4	24.1	98.7	40
1026	11.1	55.6	2881	181.5	185.4	3.3	14.4	11.2	7.6	24.1	98.7	40
1027	11.5	55.9	2824	181.5	187.8	3.1	14.3	11.7	7.4	24.1	98.7	40
1028	11.3	55.3	2873	181.5	187.8	2.7	14.4	11.4	5.6	24.1	98.7	40
1029	13.7	55.3	2948	181.5	187.8	2.6	14.4	13.8	7.7	24.1	98.7	40
1030	11.2	55.3	2983	181.5	187.8	2.7	14.5	11.3	5.2	24.1	98.7	40
1031	11.0	55.8	2985	181.5	187.8	2.6	14.4	11.1	6.6	24.1	98.7	40
1032	11.7	55.7	3023	181.5	187.8	2.7	14.4	11.8	5.3	24.0	98.7	40
1033	11.4	55.3	3077	181.5	187.8	2.8	14.4	11.5	5.5	24.0	98.7	40
1034	10.4	55.6	3023	181.5	187.8	2.7	14.3	10.5	6.3	24.0	98.7	40
1035	10.3	55.7	2818	181.5	187.7	1.4	14.3	10.4	5.4	24.0	98.7	40
1036			2893	181.5	185.1	1.9	14.4	9.6	4.9	24.0	98.7	40
1037	9.9	55.4	2625	181.5	185.1	-0.6	14.4	10.3	5.7	24.0	98.7	40
1038	10.0	56.0	2666	181.5	185.0	-1.2	14.4	9.1	5.8	24.0	98.7	40
1039	9.8	56.0	2590	181.5	185.0	-1.3	14.4	10.3	6.0	24.0	98.7	40
1040	9.6	55.8	2457	181.5	185.1	-1.5	14.3	10.9	4.9	24.0	98.7	40
1041	9.4	56.0	2318	181.5	185.1	-1.8	14.3	9.7	5.5	24.0	98.7	40
1042	9.4	56.1	2322	181.5	185.1	-1.8	14.4	9.4	4.7	24.0	98.7	40
1043	9.2	55.9	2234	181.5	185.0	-1.8	14.4	9.0	5.2	24.0	98.7	40
1044	9.6	56.3	2436	181.5	183.8	-1.5	14.5	9.6	5.6	24.0	98.7	41
1045	10.2	56.7	2755	181.5	182.3	-0.9	14.5	9.3	6.4	24.0	98.7	41
1046	10.0	56.3	2688	181.5	182.3	-1.1	14.4	8.8	3.6	24.0	98.7	41
1047	9.5	55.9	2368	181.5	182.3	-1.7	14.2	9.6	5.1	24.0	98.7	41
1048	9.2	56.0	2194	181.5	182.4	-1.8	14.3	9.3	5.9	24.0	98.7	41
1049	9.0	55.8	2078	181.5	182.4	-1.8	14.3	9.0	4.6	24.0	98.7	41
1050	8.8	56.1	1963	181.5	182.4	-1.8	14.3	9.4	5.3	24.0	98.7	41
1051	8.8	56.1	1979	181.5	182.4	-1.8	14.4	10.8	4.5	24.0	98.7	41
1052	9.2	56.6	2209	181.5	179.9	-1.8	14.4	10.3	4.0	24.0	98.7	41
1053	8.6	55.9	1838	181.5	179.9	-1.8	14.2	9.1	5.4	24.0	98.7	41
1054	8.7	56.0	1904	181.5	179.9	-1.8	14.4	9.3	3.1	24.0	98.7	41
1055	8.7	56.3	1908	181.5	179.9	-1.8	14.3	10.1	4.4	24.0	98.7	41
1056	8.5	55.6	1804	181.5	179.9	-1.5	14.1	9.8	6.5	24.0	98.7	41

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1057	8.3	55.1	1670	181.5	179.9	-1.5	13.8	7.5	4.3	24.0	98.7	41
1058	8.2	54.8	1615	181.5	179.9	-1.5	13.7	9.2	3.6	24.0	98.7	41
1059	8.4	54.5	1698	181.5	179.8	-1.5	13.9	8.2	4.7	24.0	98.7	41
1060	9.1	55.8	2135	181.5	179.8	-0.7	14.5	8.8	4.6	24.0	98.7	41
1061			1408	181.5	179.9	-1.8	13.0	7.3	3.3	24.0	98.7	41
1062	7.6	53.3	1265	181.5	179.9	-1.8	12.6	8.0	4.1	24.0	98.7	41
1063	7.5	52.9	1242	181.5	179.9	-1.8	12.5	6.8	4.3	24.0	98.7	41
1064	7.5	52.6	1259	181.5	180.0	-1.8	12.6	6.8	4.6	24.0	98.7	41
1065	7.8	53.1	1385	181.5	179.9	-1.8	13.0	8.6	3.4	24.0	98.7	41
1066	8.0	54.3	1506	181.5	179.9	-1.8	13.4	8.7	3.5	24.0	98.7	41
1067	8.1	54.7	1565	181.5	179.9	-2.1	13.5	7.5	3.3	24.0	98.7	41
1068	7.8	54.6	1385	181.5	180.0	-2.1	13.0	6.5	4.4	24.0	98.7	41
1069	7.5	53.1	1249	181.5	179.9	-2.1	12.6	7.5	4.5	24.0	98.7	41
1070	7.9	53.8	1458	181.5	180.0	-2.1	13.3	8.2	4.6	24.0	98.7	41
1071	8.1	54.8	1563	181.5	179.9	-2.1	13.5	7.4	4.1	24.0	98.7	41
1072	7.8	54.4	1403	181.5	180.0	-2.1	13.0	9.1	5.3	24.0	98.7	41
1073	7.9	53.9	1457	181.5	180.0	-1.5	13.2	8.9	4.0	24.0	98.7	41
1074	8.2	54.7	1615	181.5	180.0	-1.5	13.7	8.4	3.4	24.1	98.7	41
1075	8.3	54.9	1651	181.5	180.0	-1.5	13.8	10.8	4.0	24.1	98.7	41
1076	8.2	54.9	1589	181.5	180.0	-1.5	13.6	8.5	6.0	24.1	98.7	41
1077	8.1	54.3	1529	181.5	180.0	-1.5	13.5	7.9	4.6	24.1	98.7	41
1078	8.2	54.4	1634	181.5	180.0	-1.5	13.7	8.4	5.4	24.1	98.7	41
1079	8.5	55.4	1798	181.5	179.9	-2.1	14.1	6.8	4.3	24.1	98.7	41
1080	8.5	55.8	1764	181.5	179.9	-2.1	14.1	10.1	5.7	24.1	98.7	41
1081	8.3	55.4	1641	181.5	180.0	-2.1	13.7	9.3	4.3	24.1	98.7	41
1082	8.3	55.0	1648	181.5	180.0	-2.1	13.8	9.8	3.5	24.1	98.7	41
1083	8.3	55.2	1682	181.5	180.0	-2.1	13.8	8.2	4.7	24.1	98.7	41
1084	8.3	55.3	1663	181.5	179.9	-2.1	13.8	10.4	3.6	24.1	98.7	41
1085	8.2	54.9	1584	181.5	179.9	-1.5	13.6	7.2	4.7	24.1	98.7	41
1086	8.1	54.7	1573	181.5	179.9	-1.5	13.6	9.0	5.3	24.1	98.7	41
1087	8.3	54.7	1656	181.5	179.9	-1.5	13.8	9.0	4.5	24.1	98.7	41
1088	8.7	55.5	1912	181.5	180.0	-1.5	14.4	9.8	3.0	24.1	98.7	41
1089	8.7	56.1	1921	181.5	180.0	-1.5	14.4	9.6	4.6	24.1	98.7	41
1090	8.3	55.6	1663	181.5	180.0	-1.5	13.8	8.1	5.1	24.1	98.7	41
1091	8.2	54.7	1625	181.5	180.0	-2.1	13.7	8.0	3.5	24.1	98.7	41
1092	8.3	55.1	1667	181.5	180.0	-2.1	13.8	6.9	4.2	24.1	98.7	41
1093	8.3	55.6	1657	181.5	181.5	-2.1	13.8	9.4	4.8	24.1	98.7	41
1094	8.2	55.0	1606	181.5	182.4	-2.1	13.7	8.2	3.9	24.1	98.7	41
1095	8.6	55.6	1870	181.5	182.4	-2.1	14.3	8.9	3.9	24.1	98.7	41
1096	8.7	56.3	1925	181.5	182.4	-2.1	14.4	10.9	5.1	24.1	98.7	41
1097	8.6	55.8	1867	181.5	182.4	-1.5	14.3	9.4	4.8	24.1	98.7	41
1098	8.4	55.5	1728	181.5	182.3	-1.5	13.9	7.9	4.5	24.1	98.7	41
1099	8.2	54.7	1609	181.5	182.3	-1.5	13.7	9.9	5.0	24.1	98.7	41
1100	8.2	54.6	1634	181.5	182.3	-1.5	13.8	7.5	5.0	24.1	98.7	41
1101			1881	181.5	182.4	-1.5	14.3	8.9	4.5	24.1	98.7	41
1102	8.4	56.1	1756	181.5	182.4	-2.1	14.1	9.1	4.5	24.1	98.7	41
1103	8.3	55.2	1659	181.5	182.4	-2.1	13.8	8.8	3.3	24.1	98.7	40
1104	8.1	54.8	1543	181.5	182.3	-2.1	13.5	9.6	3.6	24.1	98.7	40
1105	8.1	54.4	1551	181.5	182.3	-2.1	13.5	8.8	2.4	24.1	98.7	40
1106	8.1	54.8	1553	181.5	182.3	-2.1	13.6	8.1	6.5	24.1	98.7	40
1107	8.1	54.7	1540	181.5	182.3	-2.1	13.4	9.2	4.8	24.1	98.7	40
1108	8.1	54.5	1536	181.5	182.3	-1.5	13.5	9.0	7.2	24.1	98.7	40
1109	8.0	54.5	1516	181.5	182.3	-1.5	13.4	7.4	4.5	24.1	98.7	40
1110	7.9	54.0	1457	181.5	182.3	-1.5	13.2	7.8	4.1	24.1	98.7	40
1111	7.8	53.9	1408	181.5	182.3	-1.5	13.1	6.9	5.0	24.1	98.7	40
1112	7.8	53.8	1388	181.5	182.3	-1.5	13.0	6.3	4.9	24.1	98.7	40
1113	7.9	53.8	1432	181.5	182.4	-1.5	13.1	8.4	4.5	24.1	98.7	40
1114	8.0	54.1	1492	181.5	182.4	-2.1	13.4	7.3	3.9	24.1	98.7	40
1115	8.1	54.4	1571	181.5	182.4	-2.1	13.6	9.0	4.7	24.1	98.7	41
1116	8.2	55.0	1632	181.5	182.4	-2.1	13.7	7.3	6.1	24.1	98.7	41
1117	8.1	54.8	1535	181.5	182.3	-2.1	13.5	9.0	4.8	24.1	98.7	41
1118	8.1	54.6	1569	181.5	182.3	-2.1	13.6	6.8	4.2	24.1	98.7	41
1119	8.2	55.2	1627	181.5	182.4	-2.1	13.7	8.8	4.9	24.1	98.7	41
1120	8.1	55.0	1570	181.5	182.4	-1.5	13.6	8.6	5.1	24.1	98.7	41
1121	8.0	54.5	1501	181.5	182.4	-1.5	13.4	8.6	5.6	24.0	98.7	41
1122	8.0	54.2	1500	181.5	182.3	-1.5	13.4	7.6	5.3	24.0	98.7	41
1123	8.1	54.3	1529	181.5	182.4	-1.5	13.5	7.1	4.2	24.0	98.7	41
1124	8.3	54.9	1697	181.5	182.4	-1.5	13.9	7.4	3.2	24.0	98.7	41
1125	8.3	55.3	1662	181.5	182.4	-1.5	13.8	8.7	5.4	24.0	98.7	41
1126	8.1	54.8	1533	181.5	182.4	-2.1	13.4	6.1	4.7	24.0	98.7	41
1127	8.0	54.3	1510	181.5	182.4	-2.1	13.4	7.9	5.6	24.0	98.7	41
1128	8.2	54.7	1617	181.5	182.4	-2.1	13.7	7.6	5.6	24.0	98.7	41
1129	8.2	55.0	1594	181.5	182.4	-2.1	13.7	6.8	5.0	24.0	98.7	41
1130	8.2	54.8	1584	181.5	182.3	-2.1	13.6	7.3	5.1	24.0	98.7	41
1131	8.4	55.3	1743	181.5	182.4	-2.1	14.0	8.3	4.8	24.0	98.7	41
1132	8.6	55.9	1875	181.5	182.4	-1.5	14.4	7.9	5.0	24.0	98.7	41
1133	8.8	56.4	1952	181.5	182.4	-1.5	14.4	9.0	5.3	23.9	98.7	41
1134	8.7	55.8	1926	181.5	182.4	-1.5	14.4	8.4	3.3	23.9	98.7	41
1135	8.8	56.1	1948	181.5	182.4	-1.5	14.4	8.1	6.0	23.9	98.7	41
1136	8.8	56.1	1963	181.5	182.4	-1.5	14.4	8.7	5.4	23.9	98.7	41
1137	9.5	56.2	2361	181.5	182.4	-1.5	14.5	6.6	5.0	23.9	98.7	41
1138	9.7	56.6	2491	181.5	184.5	-1.7	14.5	8.6	5.0	23.9	98.7	41
1139	9.9	56.5	2641	181.5	184.5	-1.2	14.4	9.9	4.1	23.9	98.7	42
1140	10.6	56.6	2900	181.5	184.5	-0.1	14.5	10.7	6.5	23.9	98.7	42
1141			2600	181.5	184.5	-1.6	14.3	10.9	4.4	23.9	98.7	42
1142	10.2	56.4	2751	181.5	184.5	-1.2	14.4	10.3	5.1	23.9	98.7	42
1143	10.2	56.4	2767	181.5	184.5	-0.9	14.4	10.9	4.5	23.9	98.7	42
1144	9.9	56.5	2652	181.5	184.5	-1.1	14.3	9.9	3.9	23.8	98.7	42

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1145	12.2	56.5	2860	181.5	184.4	0.0	14.4	12.3	4.5	23.8	98.7	42
1146	11.9	56.4	3054	181.5	184.4	1.0	14.4	12.0	5.3	23.8	98.7	42
1147			3030	181.5	184.5	0.8	14.4	9.2	6.2	23.8	98.7	42
1148	10.8	56.0	3188	181.5	184.5	1.3	14.5	10.9	4.8	23.8	98.7	42
1149			2947	181.5	187.0	0.6	14.3	9.0	5.0	23.8	98.7	42
1150			2851	181.5	187.0	0.2	14.3	10.3	5.2	23.7	98.7	42
1151	10.9	56.2	2834	181.5	187.0	-0.5	14.4	11.0	5.3	23.7	98.7	42
1152	10.3	56.0	2898	181.5	186.9	-0.1	14.4	10.4	5.1	23.7	98.7	42
1153	11.2	56.2	3184	181.5	186.9	0.7	14.5	11.3	4.7	23.7	98.7	42
1154			3183	181.5	187.0	2.5	14.7	10.1	6.0	23.7	98.7	42
1155	11.0	56.1	3072	181.5	186.9	1.4	14.3	11.1	6.5	23.7	98.7	42
1156	10.5	56.1	2958	181.5	187.0	1.2	14.3	10.6	6.1	23.7	98.7	42
1157	10.4	55.9	2795	181.5	187.0	0.6	14.3	10.5	4.8	23.7	98.7	42
1158	10.3	55.9	2849	181.5	187.0	0.0	14.4	10.4	6.0	23.7	98.7	42
1159	10.2	55.9	2780	181.5	187.0	0.1	14.4	9.9	5.0	23.7	98.7	42
1160	11.0	56.1	2835	181.5	187.0	-0.3	14.4	11.1	5.0	23.7	98.7	42
1161	12.2	56.1	2883	181.5	187.0	0.0	14.4	12.3	5.0	23.7	98.7	42
1162	11.5	55.9	2890	181.5	187.0	-0.1	14.4	11.6	3.3	23.7	98.7	42
1163	10.0	56.2	2667	181.5	187.0	-1.1	14.3	10.3	5.3	23.7	98.7	42
1164	10.0	56.1	2693	181.5	187.0	-0.3	14.4	9.9	5.2	23.7	98.7	42
1165	10.2	56.2	2759	181.5	187.0	-0.1	14.4	10.4	6.8	23.7	98.7	42
1166	10.1	56.0	2726	181.5	187.0	-1.0	14.3	9.9	4.8	23.7	98.7	42
1167	9.9	56.0	2608	181.5	187.0	-1.2	14.3	9.9	5.0	23.7	98.7	42
1168	9.8	56.1	2590	181.5	187.0	-1.0	14.4	10.2	4.2	23.7	98.7	42
1169	10.0	56.1	2694	181.5	186.9	-1.0	14.4	10.1	5.0	23.7	98.7	42
1170			2944	181.5	186.9	0.4	14.4	8.3	5.5	23.7	98.7	42
1171			2821	181.5	187.0	-0.2	14.4	10.3	4.7	23.7	98.7	42
1172	9.8	55.9	2564	181.5	186.9	-1.4	14.3	11.4	7.0	23.7	98.7	42
1173	10.1	56.1	2724	181.5	186.9	-1.1	14.4	11.0	5.5	23.7	98.7	42
1174	9.9	56.2	2653	181.5	186.9	-1.1	14.4	10.0	6.4	23.7	98.7	42
1175	9.6	56.4	2455	181.5	187.0	-1.6	14.3	8.9	7.8	23.7	98.7	42
1176	9.5	56.0	2381	181.5	186.9	-1.7	14.3	11.0	5.6	23.7	98.7	42
1177	9.9	56.5	2609	181.5	186.9	-1.2	14.4	10.4	3.8	23.7	98.7	42
1178	9.6	56.2	2464	181.5	187.0	-1.6	14.3	10.7	6.7	23.7	98.7	42
1179	9.8	56.6	2584	181.5	187.0	-1.3	14.4	9.2	4.8	23.7	98.7	42
1180	9.7	56.3	2531	181.5	187.0	-1.5	14.3	9.5	3.4	23.7	98.7	42
1181			2716	181.5	187.0	-0.7	14.5	9.4	5.5	23.7	98.7	42
1182	10.0	56.0	2692	181.5	187.0	-0.3	14.4	11.3	5.4	23.7	98.7	42
1183			2810	181.5	187.0	-0.8	14.4	8.7	5.8	23.7	98.7	42
1184	10.6	56.2	2903	181.5	187.0	0.0	14.4	10.7	4.0	23.7	98.7	42
1185			2803	181.5	187.0	-0.4	14.3	10.2	6.9	23.7	98.7	42
1186	11.0	56.1	2803	181.5	187.0	-0.9	14.4	11.1	6.4	23.7	98.7	42
1187	9.9	56.3	2654	181.5	186.9	-1.1	14.3	9.9	5.3	23.7	98.7	42
1188	9.5	56.1	2376	181.5	186.9	-1.8	14.3	9.1	4.3	23.7	98.7	42
1189	9.7	56.4	2537	181.5	186.9	-1.4	14.4	9.0	5.1	23.7	98.7	42
1190	10.0	56.1	2701	181.5	186.9	-0.8	14.5	10.6	6.1	23.7	98.7	42
1191	10.0	56.3	2700	181.5	186.9	-1.0	14.3	11.0	5.9	23.7	98.7	42
1192	11.7	56.2	2822	181.5	186.9	-0.2	14.4	11.8	4.9	23.7	98.7	42
1193	9.8	56.2	2550	181.5	187.0	-1.4	14.3	9.3	6.2	23.7	98.7	42
1194	10.0	56.1	2689	181.5	186.9	-0.5	14.4	10.2	3.9	23.7	98.7	42
1195	10.0	56.3	2676	181.5	186.9	-0.9	14.4	11.1	5.2	23.7	98.7	42
1196			2828	181.5	186.9	-0.5	14.4	9.0	4.5	23.7	98.7	42
1197	9.9	56.1	2638	181.5	186.9	-1.2	14.3	10.6	3.4	23.7	98.7	42
1198	9.9	56.1	2647	181.5	187.0	-1.2	14.3	10.2	4.4	23.7	98.7	42
1199			2799	181.5	186.9	-0.9	14.5	9.4	4.6	23.7	98.7	42
1200	10.0	56.3	2685	181.5	186.9	-1.1	14.4	10.4	4.7	23.7	98.7	42
1201	9.4	56.2	2316	181.5	186.9	-1.8	14.2	11.1	6.0	23.7	98.7	42
1202	9.1	56.1	2134	181.5	186.9	-1.8	14.3	9.9	3.6	23.7	98.7	42
1203	9.5	56.0	2380	181.5	184.9	-1.8	14.5	8.6	6.6	23.7	98.7	42
1204	9.6	56.2	2460	181.5	184.6	-1.6	14.4	7.6	6.4	23.7	98.7	42
1205	9.6	56.1	2432	181.5	184.6	-1.6	14.4	8.8	5.7	23.7	98.7	42
1206	10.0	56.5	2696	181.5	184.7	-1.1	14.4	9.7	5.7	23.7	98.7	42
1207	9.8	56.5	2567	181.5	184.7	-1.4	14.4	11.6	5.3	23.7	98.7	42
1208	10.1	56.4	2728	181.5	184.7	-1.1	14.4	10.8	4.6	23.7	98.7	42
1209	10.2	56.5	2747	181.5	184.6	-1.0	14.4	11.7	5.7	23.7	98.7	42
1210	10.0	56.5	2666	181.5	184.7	-1.2	14.4	11.5	4.6	23.7	98.7	42
1211	10.3	56.3	2900	181.5	184.6	-0.3	14.5	10.4	3.9	23.7	98.7	42
1212			2790	181.5	184.6	-0.1	14.3	9.8	3.0	23.7	98.7	42
1213	10.1	56.1	2722	181.5	184.7	-1.1	14.3	10.2	3.0	23.7	98.7	42
1214	9.6	56.4	2461	181.5	184.7	-1.6	14.3	10.8	4.1	23.7	98.7	42
1215	9.3	56.4	2290	181.5	184.7	-1.8	14.2	8.6	4.6	23.7	98.7	42
1216	9.8	56.1	2581	181.5	184.7	-0.1	14.5	8.9	4.4	23.7	98.7	42
1217	9.7	56.3	2525	181.5	184.7	-0.5	14.4	9.9	5.1	23.7	98.7	42
1218	9.9	56.1	2616	181.5	184.7	-0.4	14.4	9.7	5.4	23.7	98.7	42
1219	10.0	56.1	2687	181.5	184.7	-0.9	14.4	10.4	4.7	23.7	98.7	42
1220	9.5	56.0	2405	181.5	184.6	-1.7	14.3	9.0	4.1	23.7	98.7	42
1221			2585	181.5	184.6	-1.4	14.4	9.2	5.7	23.7	98.7	42
1222	9.7	56.5	2519	181.5	184.7	-1.5	14.3	9.3	6.7	23.7	98.7	42
1223	9.4	56.1	2352	181.5	184.7	-1.8	14.3	9.4	6.7	23.7	98.7	42
1224	9.5	56.0	2384	181.5	184.7	-1.8	14.4	10.2	6.0	23.7	98.7	42
1225	9.6	56.5	2425	181.5	184.7	-1.6	14.3	9.2	2.8	23.7	98.7	42
1226	9.0	56.3	2065	181.5	184.7	-1.5	14.3	8.5	3.4	23.7	98.7	42
1227	8.8	56.2	1968	181.5	184.7	-1.5	14.3	10.4	4.5	23.7	98.7	42
1228	9.1	56.1	2154	181.5	184.7	-1.5	14.5	9.5	7.1	23.7	98.7	42
1229	9.0	56.4	2104	181.5	184.7	-1.5	14.3	9.0	6.5	23.7	98.7	42
1230	8.9	56.4	2009	181.5	184.7	-1.5	14.3	7.4	5.1	23.7	98.7	42
1231	8.8	56.3	1987	181.5	184.7	-1.5	14.4	9.9	4.7	23.7	98.7	42
1232	9.1	56.3	2142	181.5	184.7	-1.8	14.4	8.4	3.7	23.7	98.7	42

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (-C)	Pressure (kPa)	Relative Humidity (%)
1233	9.2	56.1	2237	181.5	184.7	-1.8	14.4	8.4	2.9	23.7	98.7	42
1234	8.9	56.3	2036	181.5	184.6	-1.8	14.3	10.1	4.2	23.7	98.7	42
1235	8.6	56.1	1860	181.5	184.7	-1.8	14.3	8.9	5.8	23.7	98.7	42
1236	8.5	56.3	1787	181.5	184.7	-1.8	14.2	8.0	5.2	23.7	98.7	42
1237	8.8	56.2	1987	181.5	184.7	-1.8	14.4	8.2	3.6	23.7	98.7	42
1238	9.1	56.3	2174	181.5	184.7	-2.1	14.5	9.1	4.6	23.7	98.7	41
1239	9.1	56.2	2156	181.5	184.6	-2.1	14.3	8.4	4.6	23.7	98.7	41
1240	8.5	56.0	1782	181.5	184.6	-2.1	14.1	9.8	3.7	23.7	98.7	41
1241	8.5	55.5	1763	181.5	184.6	-2.1	14.1	7.4	4.9	23.7	98.7	41
1242	8.8	55.8	1985	181.5	184.6	-2.0	14.4	9.0	4.8	23.7	98.7	41
1243	8.7	56.4	1901	181.5	181.5	-2.1	14.3	9.6	5.2	23.7	98.7	41
1244	8.3	55.9	1661	181.5	181.5	-1.8	13.8	8.3	3.7	23.7	98.7	42
1245	8.2	54.9	1617	181.5	181.5	-1.8	13.6	8.1	4.2	23.7	98.7	42
1246	8.4	55.0	1706	181.5	181.4	-1.8	13.9	9.5	3.4	23.7	98.7	42
1247	8.3	55.2	1668	181.5	181.4	-1.8	13.8	8.8	4.4	23.7	98.7	42
1248	8.2	54.9	1596	181.5	181.4	-1.8	13.6	6.7	4.2	23.7	98.7	42
1249	8.2	54.7	1627	181.5	181.5	-1.8	13.7	7.5	4.9	23.7	98.7	42
1250	8.3	55.0	1658	181.5	181.5	-1.5	13.8	9.0	4.6	23.7	98.7	41
1251	8.6	55.5	1835	181.5	181.5	-1.5	14.3	9.6	5.6	23.7	98.7	41
1252	9.1	56.2	2161	181.5	181.4	-1.0	14.4	8.6	5.2	23.7	98.7	41
1253	9.0	56.4	2062	181.5	181.4	-1.5	14.4	9.7	4.5	23.7	98.7	41
1254	9.0	56.2	2102	181.5	181.5	-1.5	14.4	8.8	4.6	23.7	98.7	41
1255	9.2	56.5	2203	181.5	181.5	-1.5	14.4	10.1	3.4	23.7	98.7	41
1256	9.5	56.8	2371	181.5	181.5	-1.8	14.4	9.4	5.2	23.7	98.7	41
1257	9.0	56.4	2116	181.5	181.5	-1.8	14.3	9.4	4.0	23.7	98.7	41
1258	8.5	55.8	1809	181.5	181.4	-1.8	14.2	9.4	3.3	23.7	98.7	41
1259	8.4	55.4	1703	181.5	181.5	-1.8	13.9	9.1	4.1	23.7	98.7	41
1260	8.6	55.7	1859	181.5	181.5	-1.6	14.4	9.1	4.1	23.7	98.7	41
1261			2295	181.5	181.5	-1.3	14.4	9.3	5.3	23.7	98.7	41
1262	8.8	56.1	1976	181.5	180.0	-1.8	14.3	8.8	4.8	23.7	98.7	41
1263	8.9	56.0	2046	181.5	179.3	-1.8	14.4	7.4	4.3	23.7	98.7	41
1264	9.1	56.5	2176	181.5	179.3	-1.8	14.4	8.6	4.8	23.7	98.7	41
1265	9.4	56.3	2323	181.5	179.3	-1.8	14.4	8.2	4.8	23.7	98.7	41
1266	9.7	56.5	2535	181.5	179.3	-1.5	14.4	9.5	3.1	23.7	98.7	41
1267	9.7	56.3	2518	181.5	179.3	-1.4	14.4	11.2	4.5	23.7	98.7	41
1268	10.0	56.3	2672	181.5	179.3	-1.2	14.4	10.3	3.0	23.7	98.7	41
1269	9.7	56.3	2522	181.5	179.3	-1.4	14.3	11.0	4.9	23.7	98.7	41
1270	10.0	56.1	2660	181.5	179.3	-1.2	14.4	10.9	4.5	23.7	98.7	41
1271	10.3	56.4	2792	181.5	179.3	-1.0	14.4	10.3	3.9	23.7	98.7	41
1272	10.1	56.4	2717	181.5	179.3	-1.0	14.3	9.9	5.1	23.7	98.7	41
1273	10.1	56.2	2734	181.5	179.3	-1.1	14.4	10.6	6.2	23.7	98.7	41
1274	9.7	56.2	2535	181.5	179.2	-1.4	14.3	9.9	5.2	23.7	98.7	41
1275	9.8	56.1	2558	181.5	179.3	-1.4	14.4	9.9	5.3	23.7	98.7	41
1276	9.7	56.3	2507	181.5	179.3	-1.5	14.4	10.4	5.5	23.7	98.7	41
1277	9.7	56.3	2496	181.5	179.2	-1.5	14.4	10.2	4.1	23.7	98.7	41
1278	9.6	56.2	2477	181.5	179.3	-1.5	14.3	10.9	3.4	23.7	98.7	41
1279	9.5	56.1	2405	181.5	179.3	-1.7	14.3	11.8	4.6	23.7	98.7	41
1280	9.9	56.3	2645	181.5	179.3	-0.4	14.4	9.6	5.4	23.7	98.7	41
1281			2885	181.5	179.3	0.5	14.5	9.1	5.3	23.7	98.7	41
1282	10.2	56.2	2751	181.5	179.3	-1.0	14.4	10.4	4.4	23.7	98.7	41
1283	9.5	56.2	2366	181.5	179.3	-1.8	14.2	9.7	5.6	23.7	98.7	41
1284	9.1	56.4	2131	181.5	179.3	-1.8	14.3	9.2	5.8	23.7	98.7	41
1285	9.6	56.5	2476	181.5	179.3	-1.6	14.5	9.0	4.9	23.7	98.7	41
1286	10.1	56.4	2710	181.5	179.3	-1.1	14.4	9.7	4.7	23.7	98.7	41
1287	10.1	56.3	2735	181.5	179.3	-0.8	14.4	11.3	4.1	23.7	98.7	41
1288	9.9	56.4	2602	181.5	179.3	-1.3	14.3	10.2	5.6	23.7	98.7	41
1289	10.2	56.6	2778	181.5	177.3	-0.5	14.5	11.4	4.9	23.7	98.7	41
1290	10.6	56.3	2887	181.5	177.3	0.2	14.5	10.7	3.7	23.7	98.7	41
1291	10.0	56.2	2665	181.5	177.3	-1.1	14.3	11.3	4.2	23.7	98.7	41
1292	10.0	56.2	2685	181.5	177.3	-1.0	14.4	10.2	4.4	23.7	98.7	41
1293	9.9	56.2	2599	181.5	177.3	-1.2	14.3	10.5	5.5	23.7	98.7	41
1294	9.9	56.3	2614	181.5	177.3	-1.3	14.4	11.6	5.0	23.7	98.7	41
1295	9.6	56.4	2422	181.5	177.3	-1.6	14.3	9.0	5.5	23.7	98.7	41
1296	9.1	56.2	2144	181.5	177.3	-1.8	14.3	9.0	4.5	23.7	98.7	41
1297	10.8	56.4	2785	181.5	177.3	1.2	14.6	11.0	3.9	23.7	98.7	41
1298	11.1	55.8	2804	181.5	177.3	0.7	14.4	11.2	3.0	23.7	98.7	42
1299	10.1	56.4	2730	181.5	177.3	-0.9	14.4	10.4	3.0	23.7	98.7	42
1300			2790	181.5	177.3	-0.9	14.4	9.9	4.5	23.7	98.7	42
1301			1862	181.5	177.3	-1.8	14.1	9.5	5.3	23.7	98.7	42
1302	8.6	56.1	1850	181.5	177.3	-1.8	14.4	8.0	3.8	23.7	98.7	42
1303	9.4	56.6	2350	181.5	177.3	-1.5	14.6	9.4	3.3	23.6	98.7	42
1304	9.5	56.3	2396	181.5	177.2	-1.7	14.4	10.7	3.0	23.6	98.7	42
1305	9.7	56.4	2520	181.5	177.3	-1.4	14.4	11.7	4.6	23.6	98.7	42
1306	9.3	56.5	2266	181.5	177.3	-1.8	14.3	8.1	4.1	23.6	98.7	42
1307	9.3	56.6	2257	181.5	177.3	-1.8	14.4	10.7	5.7	23.6	98.7	42
1308	9.2	56.6	2205	181.5	177.2	-1.8	14.4	9.2	4.3	23.6	98.7	42
1309	9.1	56.6	2141	181.5	175.3	-1.8	14.3	8.6	3.2	23.6	98.7	42
1310	8.7	56.6	1907	181.5	174.9	-1.8	14.3	9.6	4.1	23.6	98.7	42
1311	9.0	56.4	2067	181.5	174.9	-1.8	14.5	10.0	3.3	23.6	98.7	42
1312	9.4	56.4	2347	181.5	174.9	-0.6	14.4	9.5	3.5	23.6	98.7	42
1313	9.1	56.4	2149	181.5	174.9	-1.8	14.3	7.4	5.0	23.6	98.7	42
1314	9.2	56.3	2238	181.5	174.9	-1.8	14.4	8.7	4.1	23.6	98.7	42
1315	9.2	56.6	2189	181.5	174.9	-1.8	14.4	11.7	5.3	23.5	98.7	42
1316	8.7	56.6	1902	181.5	174.9	-1.8	14.3	9.0	4.7	23.5	98.7	42
1317	9.3	56.7	2286	181.5	174.9	-1.8	14.4	7.7	4.8	23.5	98.7	42
1318	9.4	57.1	2347	181.5	174.9	-1.8	14.4	9.5	5.3	23.5	98.7	42
1319	8.9	56.6	2010	181.5	174.9	-1.8	14.3	7.8	4.2	23.5	98.7	42
1320	9.4	56.8	2343	181.5	174.8	-2.1	14.5	8.4	4.4	23.5	98.7	42

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (-C)	Pressure (kPa)	Relative Humidity (%)
1321	9.6	56.7	2435	181.5	174.9	-2.0	14.4	8.6	6.3	23.5	98.7	42
1322	9.0	57.3	2093	181.5	174.9	-2.1	14.2	7.7	5.4	23.5	98.7	42
1323	8.5	56.9	1802	181.5	174.9	-2.1	14.2	8.5	4.2	23.5	98.7	42
1324	8.6	56.4	1825	181.5	174.9	-2.1	14.2	8.5	3.3	23.5	98.7	42
1325	8.3	55.8	1697	181.5	174.9	-2.1	13.9	8.2	3.2	23.5	98.7	42
1326	8.4	55.4	1709	181.5	174.8	-1.8	14.0	9.5	3.9	23.5	98.7	42
1327	8.1	55.4	1520	181.5	174.9	-1.8	13.4	8.6	5.6	23.5	98.7	42
1328	7.8	53.9	1404	181.5	174.9	-1.8	13.1	6.1	3.7	23.5	98.7	42
1329	7.9	54.4	1458	181.5	174.9	-1.8	13.2	8.7	4.1	23.5	98.7	42
1330	8.3	54.9	1683	181.5	174.8	-1.7	13.9	7.6	5.5	23.5	98.7	42
1331	9.2	56.1	2194	181.5	174.8	-0.3	14.5	9.6	5.4	23.5	98.7	42
1332	9.5	56.6	2366	181.5	174.8	-1.8	14.4	11.2	4.4	23.5	98.7	42
1333	8.8	56.7	1978	181.5	174.9	-1.8	14.2	9.8	5.1	23.5	98.7	42
1334	8.4	56.2	1725	181.5	174.9	-1.8	14.0	9.0	5.6	23.5	98.7	42
1335	8.8	56.4	1985	181.5	174.8	-1.1	14.5	7.0	4.4	23.5	98.7	42
1336	9.7	56.8	2537	181.5	174.9	0.7	14.5	11.2	4.7	23.5	98.7	42
1337	9.4	56.4	2319	181.5	174.8	-1.8	14.4	11.2	4.2	23.5	98.7	42
1338	8.8	56.4	1981	181.5	174.8	-1.8	14.3	7.4	5.0	23.5	98.7	42
1339	9.0	56.8	2070	181.5	174.8	-1.8	14.3	8.5	5.2	23.5	98.7	42
1340	8.6	56.3	1845	181.5	174.8	-1.8	14.3	9.4	4.0	23.5	98.7	42
1341			2380	181.5	174.9	0.0	14.4	8.9	5.8	23.5	98.7	42
1342	9.9	56.1	2612	181.5	174.9	0.2	14.5	10.1	4.3	23.5	98.7	42
1343	10.2	56.4	2755	181.5	174.8	0.4	14.4	10.5	4.2	23.5	98.7	42
1344	9.7	56.1	2529	181.5	174.9	-1.2	14.3	11.4	3.9	23.4	98.7	43
1345	9.1	56.2	2171	181.5	174.8	-1.8	14.3	10.4	4.3	23.4	98.7	43
1346	9.7	56.5	2520	181.5	174.8	-1.4	14.5	9.2	5.4	23.4	98.7	43
1347	9.4	56.3	2331	181.5	174.9	-1.8	14.3	10.3	4.7	23.4	98.7	43
1348	9.8	56.7	2591	181.5	174.8	-0.3	14.4	9.0	5.7	23.4	98.7	43
1349	10.1	56.9	2707	181.5	174.8	-1.1	14.5	9.7	5.0	23.4	98.7	43
1350	9.6	56.9	2442	181.5	174.9	-1.7	14.3	8.1	5.0	23.4	98.7	43
1351	9.8	56.9	2545	181.5	174.9	-1.4	14.4	11.9	5.2	23.4	98.7	43
1352	10.2	56.5	2749	181.5	174.9	-0.2	14.5	10.1	3.8	23.4	98.7	43
1353			2786	181.5	174.8	-0.8	14.5	10.3	4.7	23.4	98.7	43
1354			2865	181.5	174.9	-0.7	14.4	10.0	5.5	23.4	98.7	43
1355			2959	181.5	174.8	0.1	14.4	9.3	4.2	23.4	98.7	43
1356	10.9	56.6	2996	181.5	174.8	0.2	14.4	11.0	5.1	23.4	98.7	43
1357	9.9	56.4	2597	181.5	174.9	-1.4	14.3	10.5	4.4	23.4	98.7	43
1358	10.1	56.7	2707	181.5	174.8	-1.0	14.4	9.1	3.3	23.4	98.7	43
1359	9.6	56.6	2430	181.5	174.8	-1.6	14.2	11.3	5.3	23.4	98.7	43
1360	9.7	56.6	2484	181.5	174.8	-1.6	14.4	9.3	3.8	23.4	98.7	43
1361	10.1	56.4	2718	181.5	174.9	-1.0	14.4	9.3	4.9	23.4	98.7	43
1362	9.8	56.3	2574	181.5	174.9	-1.4	14.3	9.4	5.2	23.3	98.7	43
1363	9.4	56.3	2351	181.5	174.9	-1.8	14.2	9.8	5.6	23.3	98.7	43
1364	9.5	56.4	2395	181.5	174.9	-1.3	14.4	10.0	4.7	23.3	98.7	43
1365			2798	181.5	174.9	0.7	14.5	10.2	3.2	23.3	98.7	43
1366	10.2	56.5	2761	181.5	174.9	-0.1	14.4	12.4	4.0	23.3	98.7	43
1367	13.0	56.7	3033	181.5	174.9	0.7	14.4	13.1	5.0	23.3	98.7	43
1368	11.4	56.5	2792	181.5	174.8	0.0	14.3	11.5	5.1	23.3	98.7	43
1369	9.6	56.3	2473	181.5	174.8	-1.5	14.3	9.9	4.8	23.3	98.7	43
1370	10.0	56.5	2662	181.5	174.9	-1.2	14.4	9.1	4.2	23.3	98.6	43
1371	9.6	56.5	2447	181.5	174.8	-1.6	14.3	10.6	3.4	23.2	98.6	43
1372	9.6	56.5	2459	181.5	175.4	-1.5	14.4	9.6	5.4	23.2	98.6	43
1373	9.9	56.5	2639	181.5	177.1	-1.3	14.5	11.5	4.5	23.2	98.6	43
1374	10.2	56.6	2769	181.5	177.1	-0.3	14.4	10.2	4.1	23.2	98.6	43
1375			2979	181.5	177.1	0.5	14.4	9.8	3.6	23.2	98.6	43
1376			2979	181.5	177.1	0.5	14.4	9.8	6.5	23.2	98.6	43
1377	10.3	56.1	2852	181.5	177.2	0.1	14.3	10.4	5.4	23.2	98.6	43
1378	10.1	56.2	2710	181.5	177.2	-1.0	14.3	9.6	3.8	23.2	98.6	43
1379			2837	181.5	177.3	0.1	14.4	9.7	3.3	23.2	98.6	43
1380			2874	181.5	177.3	0.3	14.4	9.5	5.3	23.2	98.6	44
1381			2999	181.5	177.3	0.4	14.4	13.2	5.0	23.2	98.6	44
1382	11.2	56.4	3041	181.5	177.3	0.5	14.4	11.3	7.6	23.2	98.6	44
1383	11.2	56.2	3139	181.5	177.2	0.7	14.4	11.3	5.2	23.2	98.6	44
1384	11.1	56.3	3174	181.5	177.2	0.7	14.4	11.2	6.2	23.2	98.6	44
1385	11.4	56.3	3046	181.5	177.3	0.4	14.3	11.5	5.6	23.2	98.6	43
1386	11.9	56.4	3191	181.5	177.2	1.9	14.6	12.0	5.0	23.2	98.6	43
1387	11.9	56.7	3180	181.5	177.2	2.7	14.6	12.0	5.5	23.2	98.6	43
1388	11.3	56.4	3078	181.5	177.2	2.0	14.3	11.4	5.0	23.2	98.6	43
1389	11.3	55.8	2878	181.5	177.3	1.6	14.3	11.4	6.0	23.2	98.6	43
1390			2799	181.5	177.3	1.0	14.3	10.1	5.6	23.2	98.6	43
1391	11.0	55.9	3017	181.5	177.2	1.5	14.5	11.1	6.1	23.2	98.6	43
1392	10.8	56.2	2972	181.5	177.2	1.4	14.4	10.9	6.7	23.2	98.6	43
1393	11.4	56.1	3115	181.5	177.2	1.7	14.4	11.5	7.0	23.2	98.6	43
1394	10.3	56.3	3149	181.5	177.2	1.8	14.4	10.4	4.5	23.2	98.6	43
1395	13.2	56.4	3159	181.5	177.3	2.0	14.3	13.3	5.0	23.2	98.6	43
1396	11.2	56.0	3161	181.5	177.2	2.1	14.4	11.3	3.6	23.2	98.6	43
1397			2989	181.5	177.2	1.5	14.3	10.2	4.8	23.2	98.6	43
1398	11.6	56.0	2936	181.5	177.2	1.5	14.3	11.7	5.2	23.2	98.6	43
1399	10.6	56.3	2851	181.5	177.2	1.0	14.3	10.7	6.4	23.2	98.6	43
1400	10.8	56.5	3190	181.5	177.2	2.1	14.4	10.9	3.9	23.2	98.6	43
1401	13.1	56.1	3085	181.5	177.2	1.6	14.3	13.2	4.0	23.2	98.6	43
1402	11.3	56.4	3119	181.5	177.2	1.9	14.4	11.4	4.4	23.2	98.6	43
1403	12.8	56.2	3184	181.5	177.1	2.8	14.5	12.9	4.1	23.2	98.6	43
1404	12.0	56.3	3207	181.5	177.2	2.9	14.4	12.1	5.1	23.2	98.6	43
1405	10.9	55.9	2938	181.5	177.1	2.1	14.3	11.0	5.3	23.2	98.6	43
1406			3018	181.5	177.2	2.3	14.4	9.6	6.5	23.2	98.6	43
1407	12.7	56.2	3181	181.5	177.2	2.8	14.4	12.8	5.2	23.2	98.6	43
1408			3044	181.5	177.2	2.3	14.3	10.2	5.1	23.2	98.6	43

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1409	10.6	55.8	2941	181.5	177.2	2.1	14.3	10.7	6.8	23.2	98.6	43
1410	10.4	55.9	3081	181.5	177.2	2.6	14.5	10.5	5.0	23.2	98.6	43
1411	11.7	55.8	2920	181.5	177.2	2.2	14.3	11.8	4.8	23.2	98.6	43
1412	11.1	56.3	2891	181.5	179.3	1.7	14.4	11.2	5.0	23.2	98.6	43
1413	10.2	56.0	2760	181.5	179.3	1.5	14.3	9.5	4.2	23.2	98.6	43
1414	11.2	56.2	2915	181.5	179.4	1.8	14.4	11.3	3.5	23.2	98.6	43
1415	10.2	56.9	2772	181.5	179.4	0.5	14.4	11.7	5.6	23.2	98.7	44
1416	11.0	56.3	2968	181.5	179.4	1.5	14.4	11.1	4.3	23.2	98.7	44
1417	11.0	56.3	3018	181.5	179.4	1.7	14.4	11.1	6.1	23.2	98.7	44
1418	10.9	56.8	3177	181.5	179.4	3.0	14.6	11.0	4.7	23.2	98.7	44
1419	11.8	56.8	3202	181.5	179.3	3.8	14.6	11.9	5.2	23.2	98.7	44
1420	12.5	55.7	2854	181.5	179.4	2.4	14.2	12.6	4.1	23.2	98.7	44
1421			2830	181.5	182.1	1.4	14.3	11.1	6.5	23.2	98.7	44
1422	12.5	55.9	3080	181.5	182.0	2.1	14.4	12.6	6.5	23.2	98.7	44
1423			2832	181.5	182.0	1.3	14.3	10.1	6.5	23.2	98.7	44
1424	10.5	56.1	2962	181.5	182.0	1.7	14.4	10.6	5.3	23.2	98.7	44
1425	11.5	56.6	2919	181.5	182.1	1.6	14.3	11.6	4.1	23.2	98.7	44
1426			2861	181.5	183.9	1.4	14.4	10.1	5.6	23.2	98.7	43
1427			2830	181.5	184.6	0.7	14.4	9.9	5.0	23.2	98.7	43
1428			3107	181.5	184.6	1.5	14.5	10.0	5.1	23.2	98.7	43
1429			3103	181.5	184.6	1.4	14.3	9.1	4.5	23.2	98.7	43
1430	13.1	56.2	2972	181.5	187.4	1.1	14.3	13.2	3.6	23.2	98.7	43
1431			2883	181.5	187.3	0.7	14.3	8.9	6.5	23.2	98.7	43
1432			3145	181.5	187.3	1.5	14.6	13.4	8.6	23.2	98.7	43
1433			3205	181.5	189.9	2.3	14.5	10.9	5.3	23.2	98.7	43
1434			2758	181.5	189.8	0.5	14.2	9.3	4.7	23.2	98.7	43
1435	10.0	56.5	2700	181.5	190.0	-0.1	14.2	9.8	4.4	23.2	98.7	43
1436	13.0	56.8	3187	181.5	193.0	1.6	14.7	13.1	4.7	23.2	98.7	43
1437	13.0	56.9	3198	181.5	193.0	5.1	15.0	13.1	5.6	23.2	98.7	43
1438	13.7	56.9	3174	181.5	195.8	5.5	14.7	13.9	7.3	23.2	98.7	43
1439			3228	181.5	195.8	5.9	14.5	14.0	5.0	23.2	98.7	43
1440			2681	181.5	198.5	2.5	13.9	10.7	3.8	23.2	98.7	43
1441			2497	181.5	200.1	1.3	14.1	9.8	5.7	23.2	98.7	43
1442			2803	181.5	202.1	1.3	14.3	11.9	4.7	23.2	98.7	43
1443			3168	181.5	205.3	3.9	14.8	14.0	5.3	23.2	98.7	43
1444			3223	181.5	180.6	11.2	14.5	14.3	4.4	20.1	98.6	65
1445	13.2	55.7	3180	181.5	180.8	11.6	14.5	13.3	5.7	20.1	98.6	65
1446	15.6	55.2	3224	181.5	180.7	11.5	14.4	15.8	5.3	20.1	98.6	65
1447	14.4	55.2	3132	181.5	180.7	11.5	14.4	14.6	6.4	20.1	98.6	65
1448	16.0	54.7	2970	181.5	180.8	11.2	14.3	16.1	4.0	20.1	98.6	65
1449	16.4	55.1	3045	181.5	180.8	11.4	14.4	16.5	6.2	20.1	98.6	65
1450	10.2	55.3	2753	181.5	180.7	10.8	14.2	14.5	5.4	20.1	98.6	65
1451	10.0	55.3	2691	181.5	180.7	10.5	14.3	15.6	6.7	20.1	98.6	65
1452	9.9	55.8	2651	181.5	180.8	10.3	14.3	13.2	5.4	20.1	98.6	65
1453	13.8	55.8	2950	181.5	180.7	10.8	14.4	13.9	4.8	20.1	98.6	65
1454	9.9	55.5	2641	181.5	180.8	10.0	14.2	14.3	7.8	20.1	98.6	65
1455	10.1	55.7	2708	181.5	180.8	10.1	14.4	14.7	7.9	20.1	98.6	65
1456	9.7	55.9	2521	181.5	180.8	8.9	14.3	12.0	7.4	20.1	98.6	65
1457	9.4	56.0	2328	181.5	178.4	6.7	14.4	11.5	7.9	20.1	98.6	64
1458	10.2	56.1	2772	181.5	178.3	6.7	14.6	11.7	6.8	20.1	98.6	64
1459	11.6	56.7	2867	181.5	176.1	7.3	14.4	11.7	8.3	20.1	98.6	64
1460	9.7	56.2	2524	181.5	175.5	6.4	14.3	14.2	5.9	20.1	98.6	64
1461	11.8	57.0	3141	181.5	175.6	7.5	14.6	11.9	3.9	20.1	98.6	64
1462	12.5	57.1	3201	181.5	175.6	9.5	14.9	12.6	7.7	20.1	98.6	64
1463	12.9	56.8	3101	181.5	175.6	7.3	13.9	13.0	9.1	20.1	98.6	64
1464			2793	181.5	175.6	4.4	13.8	10.1	7.4	20.1	98.6	64
1465	10.2	55.8	2772	181.5	173.1	2.2	13.9	9.8	7.4	20.1	98.6	64
1466	12.5	56.3	3202	181.5	173.1	3.9	14.7	12.6	6.8	20.1	98.6	64
1467	11.9	56.7	3200	181.5	173.1	6.6	15.0	12.0	6.2	20.1	98.6	64
1468	12.2	56.5	3198	181.5	173.1	6.7	14.6	12.3	6.8	20.1	98.6	64
1469	11.6	56.5	3218	181.5	173.1	7.0	14.4	11.7	7.1	20.1	98.6	65
1470	11.3	56.1	2959	181.5	173.1	6.5	14.3	11.4	5.9	20.1	98.6	65
1471	12.9	55.9	3220	181.5	173.1	7.5	14.6	13.1	5.9	20.1	98.6	65
1472	13.0	55.9	3166	181.5	173.0	7.5	14.4	13.1	6.2	20.1	98.6	65
1473			2913	181.5	173.1	7.2	14.3	9.9	7.1	20.1	98.6	65
1474	12.7	56.4	3151	181.5	173.1	7.6	14.5	12.8	5.3	20.1	98.6	65
1475	9.9	57.1	2638	181.5	173.1	6.0	14.2	10.1	4.3	20.0	98.6	66
1476	13.2	56.3	2897	181.5	173.1	6.8	14.4	13.3	5.9	20.0	98.6	66
1477	12.0	56.4	2843	181.5	173.1	6.5	14.4	12.2	5.4	20.0	98.6	66
1478	11.8	56.7	2861	181.5	173.1	6.5	14.3	11.9	5.7	20.0	98.6	66
1479	12.7	56.5	2823	181.5	173.1	5.8	14.4	12.8	7.9	20.0	98.6	66
1480	12.2	56.7	3123	181.5	173.1	6.6	14.5	12.3	6.5	20.0	98.6	66
1481	13.4	56.6	3121	181.5	173.1	6.5	14.4	13.6	6.9	19.9	98.6	66
1482	14.0	56.6	3143	181.5	173.2	6.5	14.4	14.1	7.7	19.9	98.6	66
1483	13.3	57.0	3167	181.5	173.1	8.2	14.8	13.5	7.0	19.9	98.6	66
1484			3211	181.5	173.0	8.5	14.6	13.9	5.6	19.9	98.6	66
1485	12.6	56.6	3125	181.5	173.1	8.0	14.4	12.7	7.1	19.9	98.6	66
1486	12.1	56.5	2883	181.5	173.1	7.5	14.4	12.2	6.1	19.8	98.6	66
1487	10.8	56.7	2791	181.5	173.1	7.2	14.3	10.9	9.2	19.8	98.6	66
1488	13.3	56.3	2832	181.5	173.1	7.2	14.4	13.5	6.7	19.8	98.6	66
1489	13.8	56.2	3140	181.5	173.0	7.8	14.5	13.9	5.9	19.8	98.6	66
1490	11.3	55.7	3014	181.5	173.0	7.5	14.4	11.4	6.2	19.8	98.6	66
1491	13.6	55.9	3169	181.5	173.0	7.8	14.4	13.7	5.5	19.8	98.6	66
1492	12.0	55.8	3196	181.5	173.1	7.8	14.4	12.1	7.4	19.8	98.6	67
1493	11.5	56.1	3187	181.5	173.0	8.3	14.5	11.6	4.5	19.8	98.6	67
1494	12.9	55.8	3048	181.5	173.0	8.0	14.3	13.0	6.9	19.8	98.6	67
1495	13.4	55.9	3122	181.5	173.0	8.2	14.4	13.6	5.3	19.8	98.6	67
1496	14.5	55.8	3216	181.5	173.0	9.3	14.7	14.6	5.8	19.8	98.6	67

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1497	12.3	56.0	3206	181.5	173.0	9.4	14.5	12.4	5.4	19.8	98.6	67
1498	14.2	55.6	3175	181.5	173.1	9.8	14.6	14.3	7.4	19.7	98.6	68
1499	12.5	55.4	3039	181.5	173.1	9.2	14.3	12.6	6.8	19.7	98.6	68
1500	13.7	55.2	2993	181.5	173.1	9.2	14.4	13.9	4.0	19.7	98.6	68
1501	14.6	55.3	2887	181.5	173.1	8.8	14.4	14.8	5.0	19.7	98.6	68
1502	11.8	55.3	3148	181.5	173.1	9.4	14.5	12.0	6.5	19.7	98.6	68
1503	13.7	55.6	3066	181.5	173.1	9.2	14.4	13.9	5.8	19.7	98.6	68
1504	13.8	55.6	3193	181.5	173.1	9.3	14.4	13.9	4.1	19.6	98.6	68
1505	14.0	55.6	3143	181.5	173.1	9.3	14.3	14.2	5.5	19.6	98.6	68
1506	13.0	55.3	3054	181.5	173.1	9.1	14.3	13.2	6.6	19.6	98.6	68
1507	15.4	55.5	2887	181.5	173.1	8.9	14.3	15.5	6.7	19.6	98.6	68
1508	10.1	55.5	2715	181.5	173.1	8.4	14.3	12.8	7.1	19.6	98.6	68
1509	10.2	55.7	2752	181.5	173.1	7.9	14.3	10.1	5.1	19.6	98.6	68
1510	9.7	55.7	2527	181.5	173.1	7.4	14.3	12.9	3.8	19.6	98.6	69
1511	10.0	55.4	2667	181.5	173.1	7.7	14.4	12.7	3.8	19.6	98.6	69
1512	11.5	55.7	2971	181.5	173.1	8.1	14.5	11.6	5.8	19.6	98.6	69
1513	10.0	55.7	2664	181.5	173.0	7.1	14.3	13.4	7.7	19.6	98.6	69
1514	10.1	55.5	2715	181.5	173.0	7.0	14.3	11.6	6.8	19.6	98.6	69
1515	11.1	55.7	2921	181.5	173.1	7.6	14.4	11.2	6.0	19.6	98.6	69
1516	12.9	55.6	3182	181.5	173.1	8.0	14.5	13.0	4.1	19.5	98.6	69
1517	12.5	55.7	3077	181.5	173.1	7.7	14.3	12.6	5.0	19.5	98.6	69
1518	12.4	55.4	2920	181.5	173.1	7.5	14.3	12.6	7.0	19.5	98.6	69
1519	12.5	55.6	2981	181.5	173.1	7.6	14.4	12.6	5.4	19.5	98.6	69
1520	11.8	55.3	2840	181.5	173.1	7.3	14.4	11.9	7.3	19.5	98.6	69
1521	12.5	55.7	3203	181.5	173.1	8.7	14.7	12.6	4.2	19.5	98.6	69
1522	13.4	56.0	3192	181.5	172.2	9.1	14.5	13.6	5.9	19.5	98.6	69
1523	14.1	55.7	3142	181.5	170.4	8.8	14.3	14.2	5.1	19.5	98.6	69
1524			3053	181.5	170.4	8.7	14.3	15.3	6.3	19.5	98.6	69
1525	13.1	55.6	3090	181.5	170.4	8.7	14.3	13.3	5.3	19.5	98.6	69
1526	12.3	55.2	2947	181.5	170.4	8.6	14.4	12.4	4.8	19.5	98.6	69
1527	13.7	55.1	3052	181.5	170.4	8.6	14.4	13.8	5.8	19.5	98.6	69
1528	13.0	55.3	3094	181.5	167.6	8.8	14.4	13.1	8.2	19.5	98.6	69
1529	13.4	55.2	2924	181.5	167.6	8.5	14.4	13.5	5.6	19.5	98.6	69
1530	13.1	55.3	3081	181.5	167.7	8.7	14.4	13.2	5.3	19.5	98.6	69
1531	15.4	54.9	3159	181.5	167.6	8.9	14.5	15.5	4.7	19.5	98.6	69
1532	13.6	55.1	3200	181.5	167.6	9.2	14.5	13.7	5.0	19.5	98.6	69
1533	13.8	55.8	3194	181.5	167.6	9.5	14.5	13.9	4.8	19.5	98.6	69
1534	14.4	55.6	3163	181.5	167.6	9.5	14.5	14.5	4.4	19.5	98.6	68
1535			3079	181.5	165.2	9.3	14.3	13.7	4.1	19.5	98.6	68
1536			3095	181.5	165.2	9.4	14.3	12.7	6.6	19.5	98.6	68
1537			3085	181.5	165.2	9.3	14.4	14.1	6.7	19.5	98.6	68
1538			2860	181.5	165.2	8.9	14.3	10.9	5.0	19.5	98.6	68
1539			3111	181.5	165.2	9.3	14.5	13.0	5.1	19.5	98.6	68
1540			3139	181.5	165.2	9.4	14.4	14.4	5.4	19.5	98.6	68
1541			3183	181.5	165.2	9.8	14.5	14.0	6.1	19.5	98.6	68
1542			3193	181.5	165.2	9.9	14.5	12.8	6.5	19.5	98.6	68
1543			3128	181.5	165.2	9.7	14.3	12.9	4.5	19.5	98.6	68
1544			3206	181.5	165.2	10.5	14.5	15.9	5.0	19.5	98.6	68
1545			3080	181.5	165.2	10.0	14.3	13.1	6.2	19.5	98.6	68
1546			3151	181.5	170.1	10.1	14.4	13.0	8.3	19.7	98.6	67
1547	12.1	55.0	2963	181.5	170.1	9.9	14.3	12.2	6.8	19.7	98.6	67
1548	12.4	55.0	3153	181.5	170.1	10.1	14.4	12.5	5.9	19.7	98.6	67
1549	13.3	54.9	3013	181.5	170.0	9.9	14.3	13.5	4.1	19.7	98.6	67
1550	12.1	54.8	3132	181.5	170.1	10.1	14.4	12.2	7.7	19.7	98.6	67
1551	14.2	54.8	2993	181.5	170.0	9.9	14.4	14.3	7.4	19.8	98.6	66
1552	13.7	54.6	3132	181.5	170.0	10.2	14.5	13.8	6.6	19.8	98.6	66
1553	12.2	55.0	2986	181.5	170.0	9.9	14.3	12.3	4.8	19.8	98.6	66
1554	15.3	54.8	2884	181.5	170.1	9.7	14.3	15.5	6.1	19.8	98.6	66
1555	13.2	54.6	2871	181.5	170.1	9.7	14.3	13.3	5.6	19.8	98.6	66
1556	14.3	54.8	2891	181.5	170.1	9.8	14.3	14.5	6.1	19.8	98.6	66
1557	12.0	54.9	2866	181.5	170.0	9.5	14.4	12.1	6.2	19.9	98.6	66
1558	14.8	55.0	3058	181.5	170.0	9.9	14.4	14.9	4.1	19.9	98.6	66
1559	14.2	55.0	3058	181.5	170.0	9.9	14.4	14.4	7.1	19.9	98.6	66
1560	14.2	55.1	3117	181.5	170.0	9.9	14.4	14.4	5.8	19.9	98.6	66
1561	14.8	54.9	3066	181.5	170.0	9.8	14.4	14.9	6.3	19.9	98.6	66
1562	16.3	55.1	3052	181.5	170.0	9.9	14.4	16.4	6.7	19.9	98.6	66
1563	12.5	54.7	3004	181.5	170.0	9.8	14.4	12.6	6.7	19.9	98.6	66
1564	14.5	54.9	3201	181.5	170.0	10.2	14.5	14.7	5.9	19.9	98.6	66
1565	16.1	55.1	2969	181.5	170.1	9.7	14.3	16.3	8.3	19.9	98.6	66
1566	14.5	55.0	3116	181.5	170.0	9.9	14.4	14.6	5.6	19.9	98.6	66
1567	13.9	55.1	2974	181.5	170.0	9.8	14.4	14.0	8.0	19.9	98.6	66
1568	13.9	55.0	3111	181.5	170.1	9.9	14.4	14.0	5.4	19.9	98.6	66
1569	15.9	55.0	3096	181.5	170.0	9.9	14.4	16.0	6.4	19.9	98.6	66
1570	15.0	54.8	3189	181.5	170.0	10.1	14.5	15.1	5.9	19.9	98.6	66
1571	14.9	54.9	3210	181.5	170.0	10.4	14.4	15.0	6.8	19.9	98.6	66
1572	16.2	54.9	3192	181.5	170.0	10.6	14.5	16.4	7.9	19.9	98.6	66
1573	15.1	55.2	3192	181.5	170.0	10.6	14.4	15.3	3.8	19.9	98.6	66
1574	13.4	54.9	3082	181.5	170.0	10.5	14.3	13.5	6.7	19.9	98.6	66
1575	15.3	54.9	3004	181.5	170.0	10.4	14.4	15.4	5.9	19.9	98.6	66
1576	14.9	55.1	3035	181.5	170.0	10.4	14.4	15.1	5.1	19.9	98.6	66
1577	14.9	55.0	2914	181.5	170.0	10.3	14.4	15.1	7.4	19.9	98.6	66
1578	14.8	54.8	2991	181.5	170.0	10.3	14.4	15.0	5.6	19.9	98.6	66
1579	15.1	55.1	2951	181.5	170.0	10.1	14.4	15.3	7.7	19.9	98.6	66
1580	16.1	54.8	2898	181.5	170.0	9.9	14.4	16.2	5.6	19.9	98.6	66
1581	13.5	55.2	2877	181.5	170.0	9.5	14.4	13.7	5.6	20.0	98.6	65
1582	14.7	54.7	2939	181.5	170.0	9.9	14.4	14.9	7.0	20.0	98.6	65
1583	14.6	54.7	2901	181.5	170.0	9.8	14.3	14.8	6.2	20.0	98.6	65
1584	15.0	54.7	2942	181.5	170.0	9.8	14.3	15.2	6.2	20.0	98.6	65

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1585	14.5	54.8	2956	181.5	170.0	9.9	14.4	14.7	5.4	20.0	98.6	65
1586			2962	181.5	170.0	9.8	14.3	14.9	5.1	20.0	98.6	66
1587	12.0	55.0	2963	181.5	170.0	9.9	14.4	12.1	6.4	20.0	98.6	66
1588	14.9	54.9	2867	181.5	170.0	9.7	14.4	15.0	5.8	20.0	98.6	66
1589	13.0	55.6	3120	181.5	170.0	10.0	14.5	13.1	6.1	20.0	98.6	66
1590	15.9	55.1	2920	181.5	170.0	9.7	14.3	16.1	6.8	20.0	98.6	66
1591	12.6	55.0	2829	181.5	170.0	9.5	14.3	12.7	6.2	20.0	98.6	66
1592	13.2	55.0	3006	181.5	170.0	9.7	14.5	13.3	7.3	20.0	98.6	65
1593	13.2	54.8	2860	181.5	170.0	9.2	14.4	13.4	6.2	20.0	98.6	65
1594	14.0	55.6	2787	181.5	170.0	8.4	14.4	14.1	5.6	20.0	98.6	65
1595	15.0	55.4	2822	181.5	170.0	8.6	14.3	15.1	5.5	20.0	98.6	65
1596	14.1	54.8	2897	181.5	170.0	8.7	14.5	14.2	5.6	20.0	98.6	65
1597	12.7	55.3	3215	181.5	170.1	9.1	14.5	12.8	5.9	20.0	98.6	65
1598	15.7	55.5	3088	181.5	170.1	9.0	14.3	15.9	6.3	20.0	98.6	65
1599	13.9	55.2	3153	181.5	170.0	9.1	14.4	14.0	7.1	20.0	98.6	65
1600	14.0	54.8	2863	181.5	170.1	8.7	14.3	14.2	5.1	20.0	98.6	65
1601	13.4	55.2	3090	181.5	170.1	9.1	14.4	13.5	6.1	20.0	98.6	65
1602	13.8	55.6	3121	181.5	167.8	9.1	14.4	13.9	3.9	20.0	98.6	65
1603	13.1	55.1	3050	181.5	167.8	9.0	14.4	13.3	6.1	20.0	98.6	65
1604	10.2	55.2	2783	181.5	167.7	8.3	14.3	12.4	5.0	20.0	98.6	65
1605	11.9	55.1	2943	181.5	167.7	8.6	14.4	12.0	6.5	20.0	98.6	65
1606	12.2	55.0	2965	181.5	167.7	8.4	14.5	12.4	5.6	20.0	98.6	65
1607	12.9	55.2	3180	181.5	167.7	8.7	14.5	13.1	4.7	20.0	98.6	65
1608	15.3	55.4	3166	181.5	167.7	8.8	14.4	15.4	6.5	20.0	98.6	65
1609	13.0	55.0	2958	181.5	167.7	8.3	14.3	13.1	7.1	20.0	98.6	65
1610	12.3	55.2	2978	181.5	167.7	8.4	14.3	12.4	5.8	20.0	98.6	65
1611	14.0	55.2	2975	181.5	167.7	8.4	14.4	14.1	5.6	20.0	98.6	65
1612	14.6	55.4	3047	181.5	167.7	8.5	14.4	14.7	4.8	20.0	98.6	65
1613	12.8	55.3	2928	181.5	167.7	8.3	14.4	12.9	4.3	20.0	98.6	65
1614	12.9	55.0	2887	181.5	167.7	8.1	14.4	13.0	4.1	20.0	98.6	65
1615	14.1	55.4	3047	181.5	167.7	8.3	14.4	14.2	6.7	20.0	98.6	65
1616	13.9	55.2	3017	181.5	167.7	8.2	14.4	14.1	5.4	20.0	98.6	65
1617	12.9	55.1	3092	181.5	167.7	8.4	14.4	13.0	7.0	20.0	98.6	65
1618	13.5	55.1	2860	181.5	167.7	8.0	14.2	13.6	4.8	20.0	98.6	65
1619	13.8	55.1	2785	181.5	167.7	7.7	14.3	14.0	4.8	20.0	98.6	65
1620	13.3	54.8	2962	181.5	167.8	7.9	14.4	13.4	3.2	20.0	98.6	65
1621	12.8	55.2	2843	181.5	167.8	7.4	14.4	12.9	4.1	20.0	98.6	65
1622	10.2	55.0	2770	181.5	167.8	7.1	14.3	11.2	5.3	19.9	98.6	65
1623	12.6	55.3	2822	181.5	167.8	6.8	14.4	12.7	6.4	19.9	98.6	65
1624	13.2	55.4	2952	181.5	167.8	7.2	14.4	13.4	5.8	19.9	98.6	65
1625	11.3	55.3	2908	181.5	167.7	7.2	14.4	11.4	4.7	19.9	98.6	65
1626			2790	181.5	167.8	6.5	14.3	12.5	4.9	19.9	98.6	65
1627	11.2	55.4	2958	181.5	167.8	5.8	14.4	11.3	4.7	19.9	98.6	65
1628	11.7	55.4	2889	181.5	167.7	6.0	14.4	11.8	6.5	19.9	98.6	65
1629	12.3	55.7	2880	181.5	167.7	5.3	14.4	12.4	5.9	19.9	98.6	65
1630	12.4	55.7	3117	181.5	167.7	6.1	14.4	12.5	6.5	19.9	98.6	65
1631	13.8	55.5	3025	181.5	167.7	5.9	14.4	13.9	5.0	19.9	98.6	65
1632	13.3	55.6	3192	181.5	167.7	6.4	14.5	13.4	5.2	19.9	98.6	65
1633	12.0	55.8	2914	181.5	167.7	5.7	14.3	12.1	4.8	19.9	98.6	65
1634	11.6	55.9	3093	181.5	167.7	6.2	14.4	11.7	6.5	19.9	98.6	65
1635	11.5	55.5	2870	181.5	167.7	5.5	14.3	11.6	5.4	19.9	98.6	65
1636	14.2	55.6	2985	181.5	167.7	5.8	14.4	14.4	4.7	19.9	98.6	65
1637	11.9	55.8	3110	181.5	167.8	6.0	14.5	12.0	5.8	19.9	98.6	65
1638	11.9	55.4	3188	181.5	167.7	6.8	14.5	12.0	6.8	19.9	98.6	65
1639	12.0	56.0	3206	181.5	167.7	7.3	14.5	12.1	5.6	19.9	98.6	64
1640	12.4	55.7	3178	181.5	167.7	7.0	14.3	12.5	7.3	19.9	98.6	64
1641	13.0	55.6	3191	181.5	167.7	7.3	14.5	13.1	5.0	19.9	98.6	64
1642	13.1	55.6	3133	181.5	167.7	7.2	14.3	13.2	3.9	19.9	98.6	64
1643	10.9	55.3	2799	181.5	167.7	6.6	14.2	11.0	5.5	19.9	98.6	64
1644	13.3	55.4	3063	181.5	167.7	7.1	14.4	13.4	6.5	19.9	98.6	64
1645	12.6	55.4	3128	181.5	167.7	7.2	14.4	12.7	5.9	19.9	98.6	64
1646	12.6	55.5	3065	181.5	167.8	7.1	14.4	12.7	6.2	19.9	98.6	64
1647	13.3	55.5	3101	181.5	167.7	7.1	14.4	13.4	5.0	19.9	98.6	64
1648	12.1	55.3	3061	181.5	167.8	7.1	14.3	12.2	5.0	19.9	98.6	64
1649	12.5	55.4	2920	181.5	167.7	6.8	14.3	12.6	4.1	19.9	98.6	64
1650	13.6	55.8	3167	181.5	167.7	7.3	14.4	13.7	8.0	19.9	98.6	64
1651	12.4	55.1	2966	181.5	167.7	6.9	14.3	12.5	5.9	20.0	98.6	64
1652	12.0	55.1	3122	181.5	167.7	7.2	14.4	12.1	7.0	20.0	98.6	64
1653	11.6	55.5	3193	181.5	167.7	7.3	14.4	11.8	6.4	20.0	98.6	64
1654	13.6	55.8	3194	181.5	167.7	7.7	14.5	13.7	4.5	20.0	98.6	64
1655	14.3	55.5	3115	181.5	167.7	7.4	14.3	14.4	7.0	20.0	98.6	64
1656	13.2	55.6	2869	181.5	167.7	7.1	14.3	13.3	5.4	20.0	98.6	64
1657	14.8	55.4	2932	181.5	167.8	7.2	14.3	15.0	6.2	20.0	98.6	64
1658	10.0	55.1	2691	181.5	167.7	6.3	14.3	12.4	5.6	20.0	98.6	64
1659	10.3	55.5	3025	181.5	167.8	7.3	14.4	10.4	4.7	20.0	98.6	64
1660	11.8	55.3	2947	181.5	167.7	7.0	14.4	11.9	5.6	20.0	98.6	64
1661	13.8	55.4	3040	181.5	167.7	7.2	14.4	14.0	4.2	20.0	98.6	64
1662	13.4	55.5	2911	181.5	167.8	6.8	14.4	13.5	5.0	20.0	98.6	64
1663	12.6	55.4	2906	181.5	167.7	6.8	14.3	12.7	7.1	20.0	98.5	64
1664	11.5	55.5	3002	181.5	167.7	7.1	14.4	11.6	7.3	20.0	98.5	64
1665	12.8	55.9	3220	181.5	167.7	7.6	14.6	12.9	5.4	20.0	98.5	64
1666			3025	181.5	167.7	7.4	14.3	12.5	7.6	20.0	98.5	64
1667	13.4	55.7	3001	181.5	167.7	7.3	14.3	13.5	5.9	20.0	98.5	64
1668	13.1	55.2	3062	181.5	167.8	7.5	14.4	13.2	4.6	19.9	98.6	64
1669	13.6	55.5	2943	181.5	167.8	7.3	14.4	13.7	4.7	19.9	98.6	64
1670	13.6	55.6	3038	181.5	167.7	7.4	14.4	13.7	4.7	19.9	98.6	64
1671	13.9	55.7	3099	181.5	167.8	7.6	14.5	14.0	4.1	19.9	98.6	64
1672	12.6	55.6	3075	181.5	167.8	7.4	14.4	12.7	3.9	19.9	98.6	64

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1673	13.5	55.5	3180	181.5	167.8	7.7	14.4	13.7	4.1	19.9	98.6	64
1674	13.4	55.2	3134	181.5	167.8	7.6	14.4	13.6	6.5	19.9	98.6	63
1675	13.9	55.4	3040	181.5	167.8	7.4	14.4	14.1	3.6	19.9	98.6	63
1676	13.8	55.4	2907	181.5	167.8	7.2	14.4	13.9	4.5	19.9	98.6	63
1677	13.7	55.2	2859	181.5	168.3	7.2	14.3	13.8	5.5	19.9	98.6	63
1678	12.6	55.4	2945	181.5	170.1	7.2	14.3	12.7	5.8	19.9	98.6	63
1679	13.3	55.0	2993	181.5	170.1	7.4	14.4	13.4	3.3	19.9	98.6	63
1680	15.1	55.1	2914	181.5	170.2	7.2	14.4	15.3	6.4	19.9	98.5	63
1681			3138	181.5	183.8	12.2	14.2	14.7	5.6	19.8	98.5	62
1682	15.2	54.7	3112	181.5	183.9	10.9	14.0	15.3	5.9	19.8	98.5	62
1683	14.0	54.9	3181	181.5	183.8	10.6	14.2	14.1	5.9	19.8	98.5	62
1684	14.4	55.3	3189	181.5	183.9	11.1	14.5	14.5	5.6	19.8	98.5	62
1685	13.9	55.5	3226	181.5	181.9	11.0	14.4	14.0	7.4	19.8	98.5	62
1686	16.3	55.5	3213	181.5	181.3	11.4	14.5	16.4	6.1	19.8	98.5	62
1687	15.7	55.3	3221	181.5	181.3	11.6	14.5	15.8	7.1	19.8	98.5	62
1688	14.9	55.3	3178	181.5	181.3	11.2	14.3	15.0	5.0	19.8	98.5	62
1689	14.7	54.9	3160	181.5	181.3	10.9	14.3	14.8	5.7	19.8	98.5	62
1690	14.5	54.9	3220	181.5	181.3	11.1	14.4	14.6	5.6	19.8	98.5	62
1691	13.1	54.9	3191	181.5	181.3	10.9	14.4	13.2	6.2	19.8	98.5	62
1692	14.8	55.0	3230	181.5	181.3	11.3	14.5	14.9	5.3	19.8	98.5	62
1693	14.8	55.4	3219	181.5	181.3	11.3	14.4	14.9	5.0	19.8	98.5	62
1694	14.5	55.0	3149	181.5	181.3	10.3	14.2	14.6	5.6	19.8	98.5	62
1695	15.1	55.1	3216	181.5	181.4	10.1	14.4	15.3	7.5	19.8	98.5	62
1696	14.0	55.5	3244	181.5	181.3	11.4	14.7	14.1	5.0	19.8	98.5	62
1697	14.4	55.2	3222	181.5	181.3	10.9	14.4	14.5	7.4	19.8	98.5	62
1698	14.8	55.2	3232	181.5	181.3	11.4	14.5	14.9	5.0	19.8	98.5	62
1699	14.4	55.4	3194	181.5	181.3	11.1	14.4	14.5	5.0	19.8	98.5	62
1700	13.2	55.3	3171	181.5	181.3	10.5	14.2	13.4	6.2	19.8	98.5	62
1701	15.7	55.1	3200	181.5	181.3	10.8	14.4	15.8	6.8	19.8	98.5	62
1702	15.6	55.3	3257	181.5	181.3	11.5	14.6	15.7	6.5	19.8	98.5	62
1703	14.5	55.5	3194	181.5	181.3	11.1	14.3	14.6	6.5	19.8	98.5	62
1704	16.9	55.4	3218	181.5	181.3	11.6	14.5	17.0	6.4	19.8	98.5	62
1705	16.3	55.5	3233	181.5	181.3	11.5	14.5	16.4	4.5	19.8	98.5	62
1706	14.6	55.8	3204	181.5	181.3	12.1	14.6	14.7	6.5	19.8	98.5	62
1707	16.8	55.6	3210	181.5	181.3	11.7	14.3	16.9	6.3	19.8	98.5	62
1708	14.0	55.4	3220	181.5	181.3	11.5	14.4	14.2	4.2	19.8	98.5	62
1709	15.2	55.4	3155	181.5	181.3	11.2	14.3	15.3	4.2	19.8	98.5	62
1710	13.6	55.3	3190	181.5	181.3	10.8	14.2	13.7	6.5	19.8	98.5	62
1711	16.2	55.4	3188	181.5	181.3	11.0	14.4	16.3	4.7	19.8	98.5	62
1712	16.0	55.1	3201	181.5	181.3	10.9	14.3	16.2	5.6	19.8	98.5	62
1713	14.3	55.3	3227	181.5	181.3	11.2	14.5	14.4	5.8	19.8	98.5	62
1714	13.3	55.3	3218	181.5	181.3	11.5	14.5	13.4	5.1	19.8	98.5	62
1715	16.8	55.3	3193	181.5	181.4	11.3	14.4	16.9	4.7	19.8	98.5	62
1716	14.4	55.2	3173	181.5	181.4	10.7	14.3	14.6	7.6	19.8	98.5	62
1717	16.0	55.0	3215	181.5	181.3	11.1	14.5	16.1	5.0	19.8	98.5	62
1718	14.7	54.9	3184	181.5	181.3	10.6	14.3	14.8	4.1	19.8	98.5	62
1719	13.9	54.7	3183	181.5	181.3	10.6	14.4	14.0	5.0	19.8	98.5	62
1720	16.0	55.1	3232	181.5	181.3	10.7	14.4	16.2	5.0	19.8	98.5	62
1721			3222	181.5	181.3	10.2	14.4	14.4	5.6	19.8	98.5	62
1722	15.7	55.5	3214	181.5	181.3	10.5	14.5	15.8	5.1	19.8	98.5	62
1723	16.5	55.5	3259	181.5	181.3	11.1	14.7	16.6	5.5	19.8	98.5	62
1724	14.9	55.5	3225	181.5	181.3	11.0	14.5	15.1	7.1	19.8	98.5	62
1725	13.1	55.3	3210	181.5	181.4	10.9	14.5	13.3	5.9	19.8	98.5	62
1726	13.6	54.9	3221	181.5	181.3	11.1	14.4	13.7	5.9	19.8	98.5	62
1727	14.1	54.9	3206	181.5	181.3	10.9	14.5	14.2	5.5	19.8	98.5	62
1728	16.4	55.2	3205	181.5	181.3	10.7	14.4	16.5	6.5	19.8	98.5	62
1729	14.8	55.2	3219	181.5	181.3	10.9	14.4	14.9	5.6	19.8	98.5	62
1730	15.9	55.6	3181	181.5	181.3	11.1	14.4	16.1	4.5	19.8	98.5	62
1731	14.1	55.2	3227	181.5	181.3	11.1	14.5	14.3	4.1	19.8	98.5	62
1732	12.6	55.1	3127	181.5	181.3	10.5	14.2	12.7	4.7	19.8	98.5	62
1733	15.8	55.3	3271	181.5	181.3	11.7	14.7	16.0	5.1	19.8	98.5	62
1734	14.4	55.6	3195	181.5	181.4	11.4	14.4	14.5	5.3	19.8	98.5	62
1735	13.9	55.1	3149	181.5	181.3	10.4	14.2	14.1	5.0	19.8	98.5	62
1736	12.7	55.3	3195	181.5	181.3	10.4	14.3	12.8	6.1	19.8	98.5	62
1737	13.4	55.6	3223	181.5	181.3	10.9	14.6	13.5	6.5	19.8	98.5	62
1738	14.1	55.6	3254	181.5	181.3	11.5	14.6	14.2	7.1	19.8	98.5	62
1739	14.8	55.2	3202	181.5	181.4	11.2	14.4	15.0	6.1	19.8	98.5	62
1740	14.2	55.4	3208	181.5	181.3	11.3	14.5	14.4	4.4	19.8	98.5	62
1741	16.4	55.4	3243	181.5	181.3	11.6	14.5	16.5	4.5	19.8	98.5	62
1742	17.0	55.4	3171	181.5	181.3	11.5	14.5	17.2	6.5	19.8	98.5	62
1743	15.2	55.5	3215	181.5	181.3	11.2	14.4	15.3	7.4	19.8	98.5	62
1744	13.7	55.7	3179	181.5	181.3	11.0	14.3	13.8	5.8	19.8	98.5	62
1745	14.8	55.3	3227	181.5	181.3	11.6	14.6	15.0	4.8	19.9	98.5	62
1746	13.2	55.1	3248	181.5	181.3	11.5	14.5	13.3	5.0	19.9	98.5	62
1747	16.6	55.7	3187	181.5	181.4	12.1	14.6	16.8	5.5	19.9	98.5	62
1748	16.3	54.9	3216	181.5	181.3	11.5	14.3	16.5	5.1	19.9	98.5	62
1749	15.8	55.2	3209	181.5	181.3	11.9	14.5	15.9	8.3	19.9	98.5	62
1750	14.8	55.2	3127	181.5	181.3	10.5	14.1	14.9	5.8	19.9	98.5	62
1751	14.1	55.0	3167	181.5	181.3	10.1	14.2	14.2	4.5	19.9	98.5	61
1752	16.1	55.3	3228	181.5	181.3	10.8	14.5	16.2	6.8	19.9	98.5	61
1753	13.3	55.2	3210	181.5	181.3	10.4	14.4	13.5	5.9	19.9	98.5	61
1754	16.9	55.6	3264	181.5	181.3	11.4	14.6	17.1	5.8	19.9	98.5	61
1755	15.8	55.1	3185	181.5	181.4	11.1	14.4	16.0	9.8	19.9	98.5	61
1756	16.4	55.4	3243	181.5	181.3	11.3	14.6	16.6	5.9	19.9	98.5	61
1757	15.0	55.4	3188	181.5	181.3	10.8	14.3	15.1	4.7	20.0	98.5	61
1758	14.3	55.4	3210	181.5	181.3	11.0	14.5	14.4	4.4	20.0	98.5	61
1759	14.3	54.9	3177	181.5	181.4	10.7	14.3	14.5	10.1	20.0	98.5	61
1760	12.8	55.1	3109	181.5	181.4	9.6	14.1	12.9	8.0	20.0	98.5	61

Table E.01 Measurement data - Turbine ON

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1761			3254	181.5	181.3	11.7	14.7	16.6	7.3	20.0	98.5	61
1762	16.3	55.6	3201	181.5	181.3	10.9	14.3	16.5	7.5	20.0	98.5	61
1763	13.9	55.9	3187	181.5	181.3	11.3	14.4	14.1	5.0	20.1	98.5	60
1764	15.9	55.1	3191	181.5	182.3	10.7	14.4	16.0	4.1	20.1	98.5	60
1765	14.0	55.3	3219	181.5	183.8	11.0	14.5	14.2	6.9	20.1	98.5	60
1766	14.4	55.4	3236	181.5	183.7	11.4	14.6	14.6	4.5	20.1	98.5	60
1767	12.5	55.4	3216	181.5	183.7	11.5	14.5	12.7	4.2	20.1	98.5	60
1768	15.5	55.5	3156	181.5	183.7	11.2	14.4	15.6	6.6	20.1	98.5	60
1769	14.8	55.0	3178	181.5	183.7	10.4	14.2	15.0	5.9	20.1	98.5	60
1770	16.5	55.1	3168	181.5	183.7	10.3	14.3	16.6	5.1	20.1	98.5	60
1771	12.9	55.0	3203	181.5	183.7	10.2	14.4	13.0	5.2	20.1	98.5	60
1772	14.6	55.3	3159	181.5	183.7	9.5	14.2	14.7	7.0	20.1	98.5	60
1773	14.8	56.2	3238	181.5	183.7	10.5	14.6	14.9	6.2	20.1	98.5	60
1774	15.4	55.6	3279	181.5	183.7	11.2	14.7	15.6	5.9	20.1	98.5	60
1775	14.6	55.5	3208	181.5	183.7	10.9	14.4	14.7	6.5	20.1	98.5	60
1776	15.7	55.1	3188	181.5	183.7	10.7	14.4	15.8	6.7	20.1	98.5	60
1777	15.0	55.5	3240	181.5	183.7	10.8	14.5	15.1	6.1	20.1	98.5	60
1778	15.3	55.4	3225	181.5	183.7	11.2	14.6	15.5	6.7	20.1	98.5	60
1779	19.1	56.3	3290	181.5	183.7	12.0	14.7	19.2	5.9	20.1	98.5	60
1780	14.8	55.7	3164	181.5	183.7	11.6	14.4	15.0	6.2	20.1	98.5	60
1781	14.6	55.1	3206	181.5	183.7	11.2	14.3	14.8	5.5	20.1	98.5	60
1782	15.6	55.1	3205	181.5	183.7	11.3	14.4	15.7	6.4	20.1	98.5	60
1783	14.2	55.2	3177	181.5	183.7	10.9	14.3	14.3	5.7	20.1	98.5	60
1784	15.1	55.4	3167	181.5	183.7	9.9	14.2	15.2	7.0	20.1	98.5	60
1785	16.0	55.5	3277	181.5	183.7	11.6	14.8	16.1	6.2	20.1	98.5	60
1786			3289	181.5	183.7	12.5	14.8	16.0	6.4	20.3	98.5	60
1787	17.6	55.6	3197	181.5	183.6	12.2	14.6	17.7	6.9	20.3	98.5	60
1788	12.1	55.5	3200	181.5	183.7	12.0	14.3	12.2	4.8	20.3	98.5	60
1789	16.6	55.3	3140	181.5	183.7	11.6	14.3	16.8	7.1	20.3	98.5	60
1790	16.4	55.8	3218	181.5	183.7	11.7	14.4	16.5	5.2	20.3	98.5	60
1791	13.7	56.1	3235	181.5	183.7	12.2	14.6	13.9	5.4	20.3	98.5	60
1792	16.3	56.2	3184	181.5	183.7	12.2	14.4	16.4	3.3	20.3	98.5	60
1793	14.1	55.5	3201	181.5	183.7	12.2	14.4	14.3	7.0	20.3	98.5	60
1794	15.1	55.0	3179	181.5	183.7	11.8	14.4	15.3	7.7	20.3	98.5	60
1795	15.0	55.5	3213	181.5	183.7	11.5	14.3	15.2	6.5	20.3	98.5	60
1796	15.1	55.7	3205	181.5	183.7	12.0	14.5	15.2	7.8	20.3	98.5	60
1797	15.0	55.0	3159	181.5	183.7	11.5	14.3	15.2	6.5	20.3	98.5	60
1798	13.6	54.9	3172	181.5	183.7	10.9	14.2	13.8	4.4	20.3	98.5	60
1799	16.2	55.5	3218	181.5	183.7	11.4	14.5	16.3	5.5	20.3	98.5	60
1800	15.7	55.6	3265	181.5	183.7	12.0	14.6	15.8	4.2	20.3	98.5	60
1801	16.4	55.5	3168	181.5	183.7	11.4	14.3	16.6	4.5	20.3	98.5	60
1802	13.4	55.1	3191	181.5	183.7	11.0	14.3	13.5	8.1	20.3	98.5	60
1803	14.8	55.5	3260	181.5	183.7	11.7	14.7	14.9	5.9	20.3	98.5	60
1804	14.6	55.4	3195	181.5	183.7	11.5	14.3	14.7	7.6	20.3	98.5	60
1805	16.5	55.1	3185	181.5	183.7	11.1	14.4	16.6	6.4	20.3	98.5	60
1806	15.5	55.3	3212	181.5	183.7	11.7	14.5	15.7	4.8	20.3	98.5	60
1807	15.3	55.2	3188	181.5	183.7	11.4	14.3	15.4	4.1	20.3	98.5	60
1808	14.5	55.4	3187	181.5	183.7	11.0	14.3	14.6	4.5	20.3	98.5	60
1809	14.9	55.3	3199	181.5	183.7	11.1	14.4	15.1	4.8	20.3	98.5	60
1810	18.6	55.7	3205	181.5	183.7	11.0	14.3	18.7	7.3	20.3	98.5	60
1811	17.4	55.9	3202	181.5	183.7	11.1	14.4	17.6	6.6	20.3	98.5	60
1812	13.4	55.3	3166	181.5	183.8	10.4	14.3	13.5	5.6	20.3	98.5	60
1813	13.5	55.4	3264	181.5	183.7	11.1	14.6	13.7	5.3	20.3	98.5	60
1814	14.1	55.9	3234	181.5	183.7	11.6	14.6	14.3	5.9	20.3	98.5	60
1815			3153	181.5	183.8	10.3	14.1	14.0	6.2	20.3	98.5	60
1816			3246	181.5	183.7	11.2	14.6	17.0	5.9	20.3	98.5	60
1817			3155	181.5	183.6	10.3	14.3	14.8	5.5	20.3	98.5	60
1818			3217	181.5	183.6	10.1	14.4	16.3	5.4	20.3	98.5	60
1819	15.5	57.7	3209	181.5	183.7	10.5	14.5	15.7	3.9	20.3	98.5	60
1820	16.6	57.0	3279	181.5	183.7	11.1	14.7	16.8	6.6	20.3	98.5	60
1821	13.4	56.1	3249	181.5	183.7	11.6	14.6	13.5	6.7	20.3	98.5	60
1822	14.8	56.4	3170	181.5	183.7	11.2	14.3	15.0	5.0	20.3	98.5	60
1823	13.1	55.7	3204	181.5	183.7	11.0	14.4	13.2	7.5	20.3	98.5	60
1824	13.9	55.4	3143	181.5	183.7	10.3	14.2	14.0	8.3	20.3	98.5	60
1825	14.6	55.3	3242	181.5	183.7	10.7	14.6	14.7	6.7	20.3	98.5	60
1826			3220	181.5	183.7	11.0	14.4	14.6	5.2	20.3	98.5	59
1827	13.5	55.3	3178	181.5	183.7	10.6	14.4	13.6	7.0	20.3	98.5	59
1828	15.1	55.7	3173	181.5	183.7	10.4	14.3	15.3	8.5	20.3	98.5	59
1829	14.9	55.3	3229	181.5	183.7	10.8	14.5	15.0	5.4	20.3	98.5	59
1830	14.7	55.6	3233	181.5	183.7	11.6	14.7	14.9	7.0	20.3	98.5	59
1831	15.2	54.8	3177	181.5	183.7	10.8	14.2	15.3	6.5	20.3	98.5	59
1832	15.2	54.9	3179	181.5	183.7	10.8	14.4	15.4	8.0	20.3	98.5	59
1833	16.1	55.2	3235	181.5	183.7	10.9	14.4	16.3	7.3	20.3	98.5	59
1834	15.0	55.2	3162	181.5	183.7	10.3	14.2	15.1	5.8	20.3	98.5	59
1835	15.5	55.0	3187	181.5	183.7	10.5	14.4	15.6	5.6	20.3	98.5	59
1836	14.5	55.0	3222	181.5	183.7	10.4	14.3	14.7	7.1	20.3	98.5	59
1837	16.3	55.3	3202	181.5	183.7	10.7	14.5	16.4	7.4	20.3	98.5	59
1838	14.4	55.9	3234	181.5	183.7	11.2	14.5	14.5	4.8	20.3	98.5	60
1839	15.8	55.7	3238	181.5	185.7	11.3	14.5	15.9	8.3	20.3	98.5	60
1840	15.3	55.5	3143	181.5	185.7	10.5	14.3	15.5	5.4	20.3	98.5	60
1841	13.8	55.0	3245	181.5	185.7	10.8	14.5	13.9	5.6	20.3	98.5	60
1842	13.5	55.5	3195	181.5	185.7	10.8	14.5	13.7	5.0	20.3	98.5	60
1843	15.5	55.6	3231	181.5	185.7	11.1	14.4	15.6	7.7	20.3	98.5	60
1844	13.0	55.4	3180	181.5	185.7	10.6	14.3	13.2	9.5	20.3	98.5	59
1845	15.5	55.3	3209	181.5	185.7	10.9	14.5	15.6	7.6	20.3	98.5	59
1846	15.6	55.6	3256	181.5	185.7	11.3	14.6	15.7	4.8	20.3	98.5	59
1847	14.5	56.0	3201	181.5	185.7	11.7	14.5	14.6	4.1	20.3	98.5	59
1848	16.0	55.5	3181	181.5	185.7	11.4	14.4	16.1	6.5	20.3	98.5	59

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1849	15.5	54.9	3194	181.5	185.7	11.1	14.4	15.7	5.9	20.3	98.5	59
1850	13.8	55.0	3161	181.5	185.7	10.7	14.3	14.0	5.2	20.3	98.5	60
1851	16.1	55.0	3241	181.5	185.7	11.4	14.5	16.3	5.6	20.3	98.5	60
1852	13.8	55.8	3208	181.5	185.7	11.7	14.5	13.9	7.0	20.3	98.5	60
1853	15.1	55.8	3206	181.5	185.8	11.7	14.4	15.2	7.1	20.3	98.5	60
1854	14.4	55.2	3212	181.5	185.7	11.8	14.4	14.6	3.9	20.3	98.5	60
1855	16.4	55.1	3217	181.5	185.7	12.0	14.5	16.5	6.7	20.3	98.5	60
1856	17.2	55.6	3213	181.5	185.7	12.2	14.4	17.4	5.6	20.3	98.5	60
1857	14.5	55.1	3174	181.5	185.7	11.8	14.4	14.6	6.8	20.3	98.5	60
1858	18.0	55.3	3236	181.5	185.7	12.2	14.5	18.2	6.2	20.3	98.5	60
1859	15.5	54.9	3166	181.5	185.7	11.3	14.3	15.6	5.5	20.3	98.5	60
1860	15.8	55.3	3188	181.5	185.7	11.7	14.4	15.9	6.5	20.3	98.5	60
1861	16.5	55.4	3250	181.5	185.7	12.3	14.5	16.7	5.6	20.3	98.5	60
1862	16.2	55.5	3179	181.5	185.7	12.2	14.5	16.3	3.8	20.2	98.5	60
1863	14.8	55.2	3192	181.5	185.7	11.8	14.3	14.9	6.8	20.2	98.5	60
1864	17.0	55.5	3189	181.5	185.7	11.9	14.4	17.1	5.3	20.2	98.5	60
1865	18.0	55.3	3206	181.5	185.7	12.0	14.4	18.2	8.4	20.2	98.5	60
1866			3221	181.5	185.7	11.7	14.5	14.2	6.5	20.2	98.5	60
1867	18.5	55.1	3229	181.5	185.7	12.0	14.5	18.7	6.1	20.2	98.5	60
1868	16.3	55.4	3185	181.5	185.7	11.8	14.4	16.5	7.6	20.2	98.5	60
1869	15.3	56.1	3264	181.5	185.8	12.5	14.6	15.4	5.1	20.2	98.5	60
1870	13.3	55.7	3160	181.5	185.7	11.7	14.2	13.5	6.7	20.2	98.5	60
1871	13.7	55.7	3172	181.5	185.7	11.6	14.4	13.8	8.2	20.2	98.5	60
1872	16.9	55.4	3218	181.5	185.7	11.6	14.4	17.1	6.4	20.2	98.5	60
1873	15.2	55.6	3150	181.5	187.4	11.9	14.5	15.4	7.4	20.2	98.5	60
1874	16.3	55.7	3183	181.5	188.1	11.3	14.3	16.5	4.8	20.2	98.5	60
1875	15.2	55.6	3207	181.5	188.1	11.5	14.4	15.3	7.7	20.2	98.5	60
1876	17.2	55.2	3233	181.5	188.1	11.9	14.6	17.4	6.4	20.2	98.5	60
1877	14.4	55.4	3227	181.5	188.1	12.0	14.5	14.5	7.3	20.2	98.5	60
1878	14.0	55.3	3197	181.5	188.1	12.0	14.4	14.2	7.7	20.2	98.5	60
1879	17.9	55.4	3202	181.5	188.1	11.6	14.4	18.0	6.2	20.2	98.5	60
1880	15.6	55.6	3238	181.5	188.1	12.8	14.7	15.7	6.1	20.2	98.5	60
1881	16.9	55.9	3218	181.5	188.2	13.0	14.5	17.0	4.1	20.2	98.5	60
1882	15.4	55.4	3170	181.5	188.2	12.1	14.3	15.6	6.2	20.2	98.5	60
1883	18.7	55.3	3180	181.5	188.2	12.3	14.4	18.9	6.9	20.2	98.5	60
1884	18.1	55.3	3229	181.5	188.2	12.5	14.4	18.3	5.3	20.2	98.5	60
1885	15.9	55.2	3145	181.5	188.2	11.7	14.2	16.1	5.6	20.2	98.5	60
1886	15.9	55.0	3192	181.5	188.1	11.6	14.4	16.1	7.5	20.2	98.5	60
1887	17.0	55.8	3265	181.5	188.2	12.6	14.6	17.1	4.7	20.2	98.5	60
1888	16.3	55.6	3196	181.5	188.2	12.6	14.5	16.5	6.4	20.2	98.5	60
1889	15.6	55.4	3174	181.5	188.1	12.1	14.2	15.7	4.7	20.2	98.5	60
1890	14.9	55.1	3160	181.5	188.1	12.1	14.3	15.0	4.7	20.2	98.5	60
1891	14.5	55.5	3246	181.5	188.1	12.7	14.6	14.6	5.6	20.2	98.5	60
1892	14.8	55.5	3160	181.5	188.2	11.6	14.2	15.0	7.7	20.2	98.5	60
1893	16.3	55.0	3103	181.5	188.2	11.4	14.2	16.5	7.1	20.2	98.5	60
1894	12.5	55.0	3159	181.5	188.2	10.5	14.2	12.6	5.5	20.2	98.5	60
1895	16.6	55.7	3260	181.5	188.1	12.1	14.6	16.7	5.8	20.2	98.5	60
1896	16.0	55.8	3222	181.5	188.1	12.1	14.5	16.2	5.9	20.2	98.5	60
1897	15.1	55.1	3232	181.5	188.3	12.4	14.6	15.2	5.6	20.2	98.5	60
1898	15.9	55.1	3197	181.5	188.3	12.6	14.5	16.1	6.3	20.1	98.5	60
1899	17.1	55.0	3240	181.5	188.3	13.0	14.6	17.3	6.5	20.1	98.5	60
1900	18.2	55.5	3196	181.5	188.2	13.0	14.5	18.4	6.5	20.1	98.5	60
1901	15.8	55.5	3190	181.5	188.2	12.9	14.3	15.9	5.6	20.1	98.5	60
1902	15.0	55.1	3175	181.5	188.2	12.4	14.3	15.2	4.7	20.1	98.5	60
1903	15.2	54.6	3117	181.5	188.2	11.2	14.1	15.4	6.5	20.1	98.5	60
1904	15.1	54.9	3245	181.5	188.2	11.5	14.5	15.2	5.6	20.1	98.5	60
1905	17.3	55.2	3157	181.5	188.1	11.3	14.3	17.4	6.1	20.1	98.5	60
1906			3261	181.5	188.2	12.3	14.6	16.4	5.5	20.1	98.5	60
1907	13.4	55.9	3205	181.5	188.1	12.4	14.6	13.6	5.9	20.1	98.5	60
1908	15.6	55.8	3246	181.5	188.2	12.9	14.6	15.7	9.5	20.1	98.5	60
1909	18.2	55.6	3233	181.5	188.2	13.5	14.7	18.4	5.3	20.1	98.5	60
1910	16.2	55.4	3195	181.5	188.2	12.7	14.2	16.4	5.9	20.1	98.5	60
1911	15.6	55.0	3112	181.5	188.2	11.9	14.1	15.7	5.0	20.1	98.5	60
1912	16.3	55.2	3184	181.5	188.2	11.3	14.3	16.5	5.6	20.1	98.5	60
1913	17.3	55.3	3182	181.5	188.2	11.7	14.4	17.5	8.8	20.1	98.5	60
1914	16.8	55.9	3245	181.5	188.2	12.5	14.7	17.0	5.9	20.1	98.5	60
1915	17.2	56.1	3238	181.5	188.2	12.8	14.5	17.4	5.1	20.1	98.5	60
1916	14.2	55.5	3134	181.5	188.3	11.9	14.2	14.3	5.5	20.1	98.5	60
1917	15.9	55.4	3226	181.5	188.2	12.6	14.5	16.0	6.2	20.1	98.5	60
1918	14.0	55.3	3148	181.5	188.2	11.9	14.2	14.1	6.1	20.1	98.5	60
1919	14.3	55.3	3153	181.5	188.2	11.9	14.3	14.4	5.5	20.1	98.5	60
1920	13.8	55.6	3253	181.5	188.1	12.4	14.5	13.9	6.1	20.1	98.5	60
1921	16.5	55.8	3202	181.5	188.1	12.5	14.5	16.6	7.4	20.1	98.5	60
1922	14.3	55.8	3194	181.5	188.1	12.2	14.4	14.4	5.9	20.1	98.5	60
1923	15.4	55.6	3205	181.5	188.1	12.4	14.4	15.6	7.9	20.1	98.5	60
1924	15.2	55.5	3178	181.5	188.1	11.8	14.4	15.4	5.8	20.1	98.5	60
1925	14.9	55.6	3221	181.5	188.1	12.4	14.4	15.1	6.8	20.1	98.5	60
1926	15.6	55.2	3169	181.5	188.1	12.3	14.4	15.8	7.1	20.1	98.5	60
1927	17.2	55.2	3256	181.5	188.1	12.6	14.5	17.4	7.5	20.1	98.5	60
1928	15.0	55.8	3169	181.5	188.1	12.3	14.3	15.1	5.6	20.1	98.5	60
1929	13.2	55.1	3131	181.5	188.2	11.5	14.1	13.3	4.4	20.1	98.5	60
1930	17.2	55.4	3246	181.5	188.1	12.7	14.7	17.3	7.4	20.1	98.5	60
1931	16.6	55.9	3222	181.5	188.2	13.3	14.6	16.7	6.1	20.1	98.5	60
1932	19.0	55.3	3188	181.5	188.2	12.9	14.4	19.2	4.1	20.1	98.5	60
1933	14.3	55.4	3156	181.5	188.2	12.3	14.2	14.5	6.7	20.1	98.5	60
1934	16.7	55.1	3137	181.5	188.2	11.5	14.2	16.9	7.3	20.1	98.5	60
1935	15.4	55.4	3236	181.5	188.2	11.9	14.4	15.6	4.7	20.1	98.5	60
1936	18.0	55.9	3240	181.5	188.2	12.4	14.6	18.2	5.5	20.1	98.5	60

Table E.01 Measurement data - Turbine ON

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
1937	15.4	55.5	3225	181.5	188.2	12.1	14.4	15.6	7.1	20.1	98.5	60
1938	16.1	55.1	3179	181.5	188.2	11.8	14.4	16.3	7.1	20.1	98.5	60
1939	17.3	55.2	3210	181.5	188.2	11.8	14.4	17.5	6.6	20.1	98.5	60
1940	16.7	55.4	3230	181.5	188.2	12.2	14.5	16.8	8.5	20.1	98.5	60
1941	17.0	55.4	3204	181.5	188.2	12.6	14.5	17.2	7.4	20.1	98.5	60
1942	14.8	55.3	3201	181.5	188.2	12.1	14.3	15.0	5.9	20.1	98.5	60
1943	14.1	55.4	3202	181.5	188.2	12.0	14.4	14.2	6.4	20.1	98.5	60
1944	15.6	55.6	3198	181.5	188.2	12.1	14.5	15.8	7.7	20.1	98.5	60
1945	15.4	55.5	3178	181.5	188.2	11.7	14.3	15.5	7.5	20.1	98.5	60
1946			3252	181.5	188.2	13.0	14.7	16.5	6.8	20.1	98.5	60
1947	16.6	55.7	3204	181.5	188.2	12.8	14.4	16.8	8.9	20.1	98.5	60
1948	18.5	55.3	3186	181.5	188.2	12.5	14.3	18.7	7.6	20.1	98.5	60
1949	17.2	55.0	3161	181.5	188.2	12.1	14.3	17.3	5.6	20.1	98.5	60
1950	14.8	55.4	3203	181.5	188.2	12.4	14.4	14.9	9.5	20.1	98.5	60
1951	13.3	55.2	3206	181.5	188.1	12.0	14.4	13.5	9.5	20.1	98.5	60
1952	15.6	55.3	3203	181.5	188.1	12.3	14.4	15.7	8.2	20.1	98.5	60
1953	17.3	55.9	3292	181.5	188.2	12.9	14.6	17.5	7.1	20.1	98.5	60
1954	17.1	56.0	3148	181.5	188.2	12.4	14.4	17.2	9.3	20.1	98.5	60
1955	13.6	55.5	3176	181.5	189.8	12.3	14.3	13.7	7.1	20.1	98.5	60
1956	14.5	55.5	3208	181.5	190.7	12.4	14.4	14.6	8.0	20.1	98.5	60
1957	15.5	55.3	3180	181.5	190.7	12.5	14.5	15.7	4.8	20.1	98.5	60
1958	16.6	55.2	3210	181.5	190.7	12.2	14.4	16.7	7.3	20.1	98.5	60
1959	16.7	55.6	3198	181.5	190.7	12.6	14.4	16.9	7.0	20.1	98.5	60
1960	15.0	54.9	3138	181.5	190.7	11.3	14.1	15.2	7.1	20.1	98.5	60
1961	17.0	55.4	3248	181.5	190.7	12.4	14.6	17.2	8.5	20.1	98.5	60
1962	13.7	55.5	3177	181.5	190.7	12.1	14.4	13.9	9.7	20.1	98.5	60
1963	15.4	55.3	3230	181.5	190.7	12.2	14.5	15.5	8.0	20.2	98.5	59
1964	17.5	55.4	3205	181.5	190.7	12.5	14.5	17.7	5.8	20.2	98.5	59
1965	16.7	55.8	3192	181.5	190.7	12.6	14.4	16.8	8.0	20.2	98.5	59
1966	15.9	55.5	3239	181.5	190.7	13.1	14.5	16.1	6.8	20.2	98.5	59
1967	16.4	55.3	3137	181.5	190.7	12.3	14.3	16.6	6.8	20.2	98.5	59
1968	18.2	55.2	3216	181.5	190.7	12.2	14.3	18.4	4.1	20.2	98.5	59
1969	17.4	55.2	3190	181.5	190.7	12.1	14.4	17.6	5.8	20.2	98.5	60
1970	15.7	55.6	3226	181.5	190.7	12.5	14.5	15.9	8.0	20.2	98.5	60
1971	15.9	55.4	3194	181.5	190.7	12.1	14.3	16.1	7.3	20.2	98.5	60
1972	17.0	55.3	3207	181.5	190.7	12.5	14.6	17.1	8.2	20.2	98.5	60
1973	14.8	55.3	3153	181.5	190.7	11.4	14.1	14.9	6.5	20.2	98.5	60
1974	15.8	55.3	3223	181.5	190.7	12.2	14.6	15.9	5.5	20.2	98.5	60
1975	15.6	55.5	3201	181.5	190.7	12.3	14.4	15.8	6.3	20.2	98.5	60
1976	15.7	55.0	3229	181.5	190.7	12.6	14.6	15.8	7.7	20.2	98.5	60
1977	15.8	55.3	3141	181.5	190.7	11.6	14.2	16.0	8.8	20.2	98.5	60
1978	15.6	55.2	3205	181.5	190.7	11.7	14.4	15.7	7.7	20.2	98.5	60
1979	14.7	55.4	3223	181.5	190.7	12.1	14.5	14.9	8.2	20.2	98.5	60
1980	15.9	55.3	3213	181.5	190.7	12.0	14.4	16.0	7.1	20.2	98.5	60
1981	15.8	55.6	3197	181.5	190.7	11.8	14.4	16.0	7.2	20.2	98.5	60
1982	14.7	55.0	3183	181.5	190.7	11.5	14.4	14.8	5.1	20.2	98.5	60
1983	16.7	55.4	3247	181.5	190.7	12.0	14.5	16.8	8.5	20.2	98.5	60
1984	13.8	55.2	3172	181.5	190.7	11.6	14.4	13.9	7.9	20.2	98.5	60
1985	14.6	55.1	3192	181.5	190.7	11.4	14.4	14.8	7.1	20.2	98.5	60
1986			3230	181.5	190.7	11.4	14.4	15.2	4.5	20.2	98.5	60
1987	16.4	55.3	3243	181.5	190.7	11.9	14.6	16.6	8.6	20.1	98.5	60
1988	12.6	55.3	3149	181.5	190.7	10.9	14.2	12.7	5.3	20.1	98.5	60
1989	14.5	55.0	3260	181.5	190.7	11.8	14.6	14.6	8.5	20.1	98.5	60
1990	14.7	55.7	3177	181.5	190.7	11.6	14.4	14.9	6.5	20.1	98.5	60
1991	15.0	55.7	3245	181.5	190.7	11.9	14.5	15.1	6.1	20.1	98.5	60
1992	17.8	55.1	3186	181.5	190.7	11.7	14.4	17.9	5.6	20.1	98.5	60
1993	16.3	55.1	3206	181.5	190.7	11.8	14.4	16.4	5.4	20.1	98.5	61
1994	15.2	55.2	3167	181.5	190.7	11.2	14.3	15.4	5.6	20.1	98.5	61
1995	15.3	55.2	3207	181.5	190.7	11.4	14.5	15.4	6.2	20.1	98.5	61
1996	15.6	55.9	3264	181.5	190.7	12.0	14.6	15.8	6.4	20.1	98.5	61
1997	16.3	55.5	3231	181.5	190.7	12.2	14.6	16.4	7.9	20.1	98.5	61
1998	14.3	55.4	3201	181.5	190.7	12.3	14.4	14.4	5.3	20.1	98.5	61
1999	15.6	55.0	3163	181.5	190.7	11.2	14.2	15.7	5.7	20.0	98.5	61
2000	16.3	54.8	3148	181.5	190.7	11.2	14.3	16.5	7.0	20.0	98.5	61
2001	16.4	55.3	3193	181.5	190.7	11.0	14.2	16.6	7.6	20.0	98.5	61
2002	15.9	55.0	3194	181.5	190.7	11.2	14.4	16.0	5.9	20.0	98.5	61
2003	17.0	55.2	3201	181.5	190.7	11.5	14.5	17.2	7.7	20.0	98.5	61
2004	17.0	55.4	3268	181.5	190.7	12.1	14.6	17.2	7.1	20.0	98.5	61
2005	18.0	55.5	3245	181.5	190.7	12.8	14.6	18.2	5.7	20.0	98.5	61
2006	16.4	55.3	3201	181.5	190.7	11.9	14.3	16.6	5.9	20.0	98.5	61
2007	15.8	55.3	3232	181.5	190.7	12.5	14.5	15.9	8.9	20.0	98.5	61
2008	17.5	55.4	3232	181.5	190.7	13.1	14.6	17.7	8.7	20.0	98.5	61
2009	17.2	55.5	3243	181.5	190.7	12.9	14.5	17.3	8.0	20.0	98.5	61
2010	15.7	55.5	3149	181.5	190.7	12.3	14.3	15.8	4.5	20.0	98.5	61
2011	15.8	55.3	3238	181.5	190.7	12.8	14.6	15.9	9.5	20.0	98.5	61
2012	17.2	55.8	3167	181.5	190.7	12.6	14.4	17.4	7.4	20.0	98.5	61
2013	14.6	55.2	3161	181.5	190.7	12.0	14.2	14.7	6.7	20.0	98.5	61
2014	16.9	55.5	3223	181.5	190.7	12.2	14.4	17.0	5.9	20.0	98.5	61
2015	15.7	55.3	3149	181.5	190.7	11.3	14.3	15.8	6.4	20.0	98.5	61
2016	15.3	55.7	3269	181.5	190.7	12.2	14.5	15.5	7.3	20.0	98.5	61
2017	14.8	55.5	3205	181.5	190.7	12.1	14.5	14.9	8.2	20.0	98.5	61
2018	14.2	55.5	3200	181.5	190.7	12.0	14.4	14.3	5.3	20.0	98.5	61
2019	14.8	55.5	3210	181.5	190.7	11.9	14.4	14.9	6.8	20.0	98.5	61
2020	14.2	55.2	3160	181.5	190.7	11.5	14.3	14.3	6.5	20.0	98.5	61
2021	15.5	55.5	3225	181.5	190.7	11.9	14.5	15.7	5.3	20.0	98.5	61
2022	15.4	55.7	3212	181.5	190.7	12.0	14.4	15.6	8.6	20.0	98.5	61
2023	17.1	55.2	3189	181.5	190.7	11.7	14.4	17.3	8.5	20.0	98.5	61
2024	15.4	55.1	3255	181.5	190.7	12.2	14.5	15.5	5.9	20.0	98.5	61

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Turbine Power Output (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch Angle (°)	Rotor RPM	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
2025	14.7	55.4	3140	181.5	190.7	11.2	14.1	14.8	6.5	20.0	98.5	61
2026			3155	181.5	192.9	9.6	14.2	14.1	9.2	19.7	98.5	62
2027	12.9	54.9	3159	181.5	192.9	9.2	14.3	13.0	6.7	19.7	98.5	62
2028	14.3	55.4	3270	181.5	192.9	10.3	14.6	14.4	7.8	19.7	98.5	62
2029	13.5	55.2	3187	181.5	192.9	9.9	14.5	13.6	6.2	19.7	98.5	62
2030	15.0	55.6	3252	181.5	193.0	10.7	14.6	15.1	7.3	19.7	98.5	62
2031	13.7	55.1	3129	181.5	192.9	9.5	14.1	13.8	7.4	19.7	98.5	62
2032	14.4	54.8	3182	181.5	192.9	9.9	14.4	14.5	6.7	19.7	98.5	62
2033	15.2	55.2	3243	181.5	192.9	10.3	14.5	15.3	6.4	19.7	98.5	62
2034	15.2	55.8	3242	181.5	192.9	11.2	14.7	15.3	6.8	19.7	98.5	62
2035	17.4	55.7	3218	181.5	192.9	11.0	14.4	17.6	5.8	19.7	98.5	62
2036	16.9	55.3	3205	181.5	192.9	11.2	14.5	17.1	4.7	19.7	98.5	62
2037	16.5	55.2	3150	181.5	192.9	10.1	14.2	16.7	6.2	19.7	98.5	62
2038	13.5	54.9	3210	181.5	192.9	10.2	14.4	13.6	6.5	19.7	98.5	62
2039	14.8	55.3	3141	181.5	193.0	9.8	14.2	15.0	7.3	19.7	98.5	62
2040	13.6	55.4	3209	181.5	193.0	9.9	14.3	13.8	7.9	19.7	98.5	62
2041	14.7	55.2	3186	181.5	192.9	9.9	14.4	14.9	6.2	19.7	98.5	62
2042	11.3	55.3	3166	181.5	192.9	9.7	14.4	11.4	7.0	19.7	98.5	63
2043	14.6	55.4	3238	181.5	192.9	10.1	14.5	14.8	5.6	19.7	98.5	63
2044	15.7	55.5	3193	181.5	192.9	10.1	14.4	15.8	7.1	19.7	98.5	63
2045	14.3	55.2	3242	181.5	192.9	10.2	14.5	14.4	4.5	19.7	98.5	63
2046	16.1	55.6	3205	181.5	192.9	10.1	14.5	16.3	6.0	19.7	98.5	63
2047	17.3	55.6	3223	181.5	192.9	10.5	14.5	17.4	6.2	19.7	98.5	63
2048	14.2	55.8	3189	181.5	193.0	10.0	14.3	14.3	4.5	19.7	98.5	63
2049	15.3	54.9	3114	181.5	192.9	9.0	14.1	15.4	5.9	19.7	98.5	63
2050	13.0	55.1	3175	181.5	192.9	8.7	14.3	13.1	6.5	19.7	98.5	63
2051	14.2	55.5	3250	181.5	193.0	9.5	14.6	14.3	7.7	19.7	98.5	63
2052	14.4	55.0	3164	181.5	192.9	8.9	14.3	14.6	5.7	19.7	98.5	63
2053	12.7	55.6	3224	181.5	192.9	9.1	14.4	12.8	7.1	19.7	98.5	63
2054	14.3	55.3	3187	181.5	192.9	8.8	14.3	14.4	5.4	19.7	98.5	63
2055	13.9	55.6	3220	181.5	192.9	8.9	14.5	14.1	4.8	19.7	98.5	63
2056	14.2	55.4	3274	181.5	192.9	9.6	14.6	14.3	6.4	19.7	98.5	63
2057	15.1	55.6	3183	181.5	192.9	9.5	14.5	15.2	5.6	19.7	98.5	63
2058	13.6	55.1	3245	181.5	192.9	9.8	14.5	13.7	7.7	19.7	98.5	63
2059	11.0	55.3	3095	181.5	192.9	8.2	14.1	11.1	6.5	19.7	98.5	63
2060	13.5	55.4	3261	181.5	192.9	9.5	14.6	13.7	6.5	19.6	98.5	62
2061	14.3	55.1	3197	181.5	192.9	9.2	14.4	14.4	5.0	19.6	98.5	62
2062	14.0	55.0	3192	181.5	192.9	8.9	14.3	14.1	5.5	19.6	98.5	62
2063	14.7	55.0	3225	181.5	192.9	9.1	14.5	14.8	5.6	19.6	98.5	62
2064	14.0	55.0	3234	181.5	192.9	9.4	14.5	14.1	6.9	19.6	98.5	62
2065	14.2	55.1	3197	181.5	192.9	8.8	14.4	14.3	8.0	19.6	98.5	62
2066			3234	181.5	192.9	9.1	14.4	14.2	5.4	19.6	98.5	63
2067	13.5	55.1	3185	181.5	192.9	9.2	14.4	13.6	5.7	19.6	98.5	63
2068	13.8	55.4	3212	181.5	192.9	9.1	14.4	14.0	5.4	19.6	98.5	63
2069	12.5	55.0	3183	181.5	192.9	8.6	14.3	12.6	6.5	19.6	98.5	63
2070	13.8	55.2	3179	181.5	192.9	8.4	14.3	13.9	4.8	19.6	98.5	63
2071	16.3	54.8	3251	181.5	193.0	9.1	14.6	16.5	3.9	19.6	98.5	63
2072	14.1	55.2	3222	181.5	192.9	9.1	14.5	14.3	5.5	19.6	98.5	63
2073	14.9	55.0	3163	181.5	192.9	8.3	14.2	15.1	5.8	19.6	98.5	63
2074	18.0	55.7	3294	181.5	192.9	9.4	14.7	18.2	7.6	19.6	98.5	63
2075	15.0	55.5	3214	181.5	192.9	9.5	14.6	15.2	7.0	19.6	98.5	63
2076	12.6	55.6	3210	181.5	192.9	8.9	14.3	12.7	6.0	19.6	98.5	63
2077	13.8	55.1	3150	181.5	192.9	8.0	14.2	14.0	6.4	19.6	98.5	63
2078	12.4	55.2	3193	181.5	192.9	8.1	14.4	12.5	3.9	19.6	98.5	63
2079	13.0	55.6	3227	181.5	192.9	8.6	14.4	13.2	5.8	19.6	98.5	63
2080	14.1	55.2	3177	181.5	192.9	7.8	14.4	14.2	5.3	19.6	98.5	63
2081	14.8	55.7	3243	181.5	192.9	8.4	14.5	14.9	7.0	19.6	98.5	63
2082	12.5	56.0	3192	181.5	192.9	8.2	14.4	12.6	5.7	19.6	98.5	63
2083	13.1	55.8	3200	181.5	192.9	8.7	14.5	13.2	4.2	19.6	98.5	63
2084	13.5	55.3	3193	181.5	192.9	8.2	14.3	13.7	5.1	19.6	98.5	63
2085	12.9	55.3	3149	181.5	192.9	7.5	14.2	13.0	5.6	19.6	98.5	63
2086	13.3	55.4	3206	181.5	192.9	7.6	14.3	13.5	5.0	19.6	98.5	63
2087	11.7	55.2	3211	181.5	192.9	7.3	14.4	11.8	6.5	19.6	98.5	63
2088	12.0	55.4	3252	181.5	192.9	8.5	14.7	12.1	6.2	19.6	98.5	63
2089	12.8	56.1	3262	181.5	192.9	8.9	14.6	13.0	4.8	19.6	98.5	63
2090			3154	181.5	192.9	7.8	14.2	10.3	5.9	19.6	98.5	63
2091	13.3	55.9	3239	181.5	192.9	8.8	14.5	13.4	7.3	19.6	98.5	63
2092	10.8	55.6	3175	181.5	192.9	8.1	14.3	10.9	5.6	19.6	98.5	63
2093	13.6	55.3	3146	181.5	192.9	7.4	14.2	13.8	3.0	19.6	98.5	63
2094	12.2	55.6	3206	181.5	192.9	7.3	14.4	12.3	6.0	19.6	98.5	63
2095	12.0	55.7	3133	181.5	192.9	5.8	14.1	12.1	5.5	19.6	98.5	63
2096	13.4	56.1	3286	181.5	192.9	7.7	14.7	13.5	4.5	19.6	98.5	63
2097	13.0	56.0	3237	181.5	192.9	8.1	14.6	13.1	7.1	19.6	98.5	63
2098	12.7	55.6	3179	181.5	192.9	7.0	14.4	12.9	5.6	19.6	98.5	63
2099			3250	181.5	192.9	8.1	14.5	13.0	5.5	19.6	98.5	63

Table E.02 Measurement data - Background

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (dC)	Pressure (kPa)	Relative Humidity (%)
1	10.7	37.6	0.4	6.1	26	99039.1	38
2	10.5	37.4	0.3	5.9	26	99039.2	38
3	8.9	38.1	0.2	5.1	26	99039.1	37
4	8.7	37.7	0.3	4.9	26	99038.9	37
5	8.9	38.1	0.5	5.0	26	99036.0	37
6	10.0	38.2	0.5	5.7	26	99028.5	37
7	11.5	38.6	0.5	6.5	26	99029.3	37
8	12.7	45.1	0.4	7.2	26	99029.5	37
9	10.7	42.9	0.5	6.1	26	99023.5	37
10	12.6	40.1	0.4	7.1	26	99016.4	37
11	10.1	40.0	0.4	5.7	26	99016.4	37
12	11.6	39.7	0.3	6.6	26	99016.5	37
13	8.7	40.3	0.3	4.9	26	99016.4	37
14	7.8	39.8	0.3	4.4	26	99011.9	37
15	8.2	45.8	0.3	4.6	26	99003.4	37
16	8.0	42.6	0.4	4.6	26	99003.4	37
17	7.6	39.2	0.4	4.3	26	99003.2	37
18	8.7	41.2	0.4	4.9	26	99003.5	37
19	10.3	39.8	0.3	5.8	26	99003.6	37
20	10.0	40.7	0.4	5.7	26	99003.3	37
21	10.9	40.6	0.5	6.2	26	99003.7	37
22	9.8	40.3	0.5	5.5	26	99003.6	37
23	9.1	39.4	0.5	5.2	26	99003.8	37
24	8.4	43.4	0.4	4.8	26	99003.5	37
25	9.3	39.5	0.4	5.3	26	99003.8	37
26	12.4	38.9	0.4	7.0	26	99003.9	37
27	11.0	39.8	0.4	6.2	26	99004.1	38
28	10.8	39.9	0.5	6.2	26	99004.0	38
29	10.4	40.7	0.4	5.9	26	99004.1	38
30	8.5	42.6	0.5	4.8	26	99004.0	38
31	11.5	38.2	0.7	6.6	26	99004.0	38
32	11.8	45.1	0.6	6.7	26	99009.5	38
33	12.0	41.9	0.6	6.8	26	99013.9	38
34	12.6	38.2	0.6	7.1	26	99014.4	38
35	13.1	38.7	0.5	7.4	26	99014.2	38
36	13.6	42.2	0.5	7.7	26	99014.1	38
37	11.0	44.0	0.4	6.3	26	99014.2	37
38	12.6	42.3	0.4	7.1	26	99014.0	37
39	13.1	43.6	0.4	7.4	26	99014.2	37
40	9.4	43.0	0.5	5.3	26	99014.1	37
41	8.8	40.5	0.3	5.0	25	99014.1	37
42	9.4	39.2	0.3	5.3	25	99014.0	37
43	9.2	39.5	0.3	5.2	25	99013.9	37
44	8.3	41.0	0.5	4.7	25	99013.9	37
45	8.6	38.7	0.3	4.9	25	99014.1	37
46	7.9	38.2	0.2	4.5	25	99008.1	37
47	7.6	37.9	0.2	4.3	25	99001.2	38
48	8.0	37.4	0.3	4.5	25	99001.2	38
49	7.2	38.2	0.4	4.1	25	99001.2	38
50	6.3	38.0	0.4	3.6	25	99001.3	38
51	7.7	39.1	0.3	4.3	25	99001.3	38
52	9.1	38.6	0.3	5.2	25	99001.3	38
53	8.2	40.0	0.5	4.7	25	99001.2	39
54	9.9	39.6	0.5	5.6	25	99001.3	39
55	9.9	38.7	0.5	5.6	25	99001.2	39
56	9.9	39.2	0.5	5.6	25	99001.2	39
57	10.2	39.3	0.4	5.8	25	99001.3	39
58	11.1	44.3	0.4	6.3	25	98996.4	39
59	11.7	40.8	0.4	6.6	26	98987.2	38
60	11.9	45.5	0.5	6.7	26	98987.1	38
61	12.7	40.2	0.5	7.2	26	98987.2	38
62	12.8	41.2	0.4	7.3	26	98987.2	38
63	12.1	44.0	0.1	6.9	26	98987.3	38
64	12.2	42.7	0.0	6.9	26	98987.3	38
65	11.3	40.3	0.0	6.4	26	98987.0	37
66	10.5	40.6	0.3	6.0	26	98987.3	37
67	9.3	39.9	0.3	5.3	26	98987.2	37
68	9.3	38.6	0.4	5.3	26	98987.3	37
69	10.8	38.9	0.5	6.1	26	98987.2	37
70	12.7	38.7	0.5	7.2	26	98981.0	37
71	13.7	39.2	0.5	7.8	26	98973.5	37
72	12.9	39.4	0.5	7.3	26	98973.5	37
73	13.9	39.1	0.4	7.9	26	98973.5	37
74	12.8	38.4	0.4	7.3	26	98973.5	37
75	11.6	38.7	0.3	6.6	26	98973.5	37
76	11.2	39.4	0.2	6.3	25	98973.6	37
77	11.8	38.9	0.2	6.7	25	98973.5	38
78	10.7	44.6	0.3	6.1	25	98973.5	38
79	9.2	40.1	0.4	5.2	25	98973.3	38
80	8.0	38.2	0.5	4.5	25	98973.4	38
81	10.4	38.4	0.6	5.9	25	98973.6	38
82	8.2	39.1	0.5	4.7	25	98979.8	38
83	7.8	39.7	0.4	4.4	25	98987.2	39

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (dC)	Pressure (kPa)	Relative Humidity (%)
84	9.8	39.6	0.4	5.5	25	98987.3	39
85	7.7	45.9	0.3	4.4	25	98987.3	39
86	9.2	42.5	0.3	5.2	25	98987.0	39
87	8.8	41.8	0.3	5.0	25	98987.2	39
88	8.8	37.9	0.4	5.0	25	98980.9	39
89	10.2	37.8	0.4	5.8	25	98973.5	39
90	9.7	38.1	0.3	5.5	25	98973.2	39
91	7.0	39.2	0.3	4.0	25	98973.3	39
92	7.3	39.8	0.2	4.1	25	98973.0	39
93	8.4	38.6	0.2	4.8	25	98973.1	39
94	10.1	38.5	0.3	5.7	25	98973.4	39
95	10.0	38.7	0.3	5.7	25	98973.1	39
96	8.4	39.1	0.4	4.8	25	98973.4	39
97	8.6	39.0	0.4	4.9	25	98973.4	39
98	7.4	40.3	0.4	4.2	25	98973.2	39
99	9.2	39.2	0.4	5.2	25	98973.4	39
100	9.9	39.2	0.4	5.6	25	98972.2	39
101	9.7	38.8	0.4	5.5	25	98972.4	39
102	10.1	39.3	0.3	5.7	25	98972.3	39
103	11.7	45.2	0.4	6.6	25	98972.3	39
104	9.0	45.9	0.3	5.1	25	98972.2	39
105	6.2	43.1	0.5	3.5	25	98972.2	39
106	7.0	42.7	0.4	4.0	25	98973.7	39
107	6.9	44.4	0.2	3.9	25	98972.1	38
108	8.8	41.1	0.1	5.0	25	98972.2	38
109	9.2	40.1	0.2	5.2	25	98972.2	38
110	9.6	39.3	0.3	5.4	25	98972.1	38
111	10.3	38.7	0.3	5.8	25	98972.1	38
112	9.5	39.2	0.3	5.4	25	98972.0	38
113	9.6	38.9	0.3	5.5	25	98972.1	37
114	9.3	39.4	0.3	5.3	25	98972.1	37
115	7.6	40.7	0.3	4.3	25	98972.2	37
116	6.0	40.6	0.4	3.4	25	98972.0	37
117	6.2	41.3	0.4	3.5	25	98972.0	37
118	6.2	41.4	0.4	3.5	25	98972.1	38
119	10.1	43.1	0.3	5.7	25	98972.1	39
120	7.6	42.8	0.5	4.3	25	98972.1	39
121	7.9	41.9	0.3	4.5	25	98972.0	39
122	8.1	41.4	0.2	4.6	25	98972.0	39
123	8.9	41.3	0.3	5.1	25	98972.0	39
124	8.0	39.5	0.5	4.6	25	98971.9	39
125	7.2	39.8	0.4	4.1	25	98971.9	39
126	7.9	39.0	0.3	4.5	25	98972.0	39
127	7.7	39.8	0.4	4.4	25	98972.0	39
128	8.1	45.7	0.4	4.6	25	98972.0	39
129	11.0	46.4	0.3	6.2	25	98972.1	39
130	10.3	42.7	0.3	5.8	25	98972.0	39
131	12.2	44.2	0.4	6.9	25	98971.9	39
132	11.0	42.4	0.5	6.3	25	98972.0	39
133	10.9	39.5	0.4	6.2	25	98972.0	39
134	8.7	39.8	0.4	4.9	25	98972.2	39
135	7.8	40.3	0.5	4.5	25	98972.1	39
136	8.4	41.2	0.5	4.8	25	98971.9	39
137	7.3	39.1	0.5	4.1	25	98971.8	39
138	8.4	38.3	0.6	4.8	25	98971.9	39
139	9.6	39.4	0.6	5.4	25	98971.8	39
140	10.7	38.2	0.6	6.0	25	98971.9	39
141	7.6	38.5	0.5	4.3	25	98971.9	39
142	7.9	42.9	0.4	4.5	25	98972.0	40
143	10.8	44.9	0.4	6.1	25	98972.0	40
144	10.0	41.3	0.5	5.7	25	98971.9	40
145	10.6	39.4	0.4	6.0	25	98972.0	40
146	10.6	45.3	0.4	6.0	25	98971.9	40
147	7.9	41.0	0.4	4.5	25	98971.9	39
148	10.3	38.4	0.3	5.9	25	98972.0	39
149	9.2	41.3	0.5	5.2	25	98972.0	39
150	11.4	39.2	0.5	6.5	25	98971.9	39
151	10.9	38.0	0.5	6.2	25	98971.9	39
152	9.4	38.0	0.5	5.4	25	98971.8	39
153	10.8	38.2	0.4	6.1	25	98972.0	39
154	10.0	41.2	0.3	5.7	25	98971.9	38
155	9.5	40.9	0.3	5.4	25	98972.0	38
156	8.4	40.5	0.3	4.8	25	98971.9	38
157	9.0	38.7	0.3	5.1	25	98971.9	38
158	8.7	38.7	0.3	4.9	25	98971.8	38
159	6.7	38.7	0.3	3.8	25	98978.0	39
160	7.8	39.0	0.5	4.4	25	98985.7	39
161	10.0	38.3	0.4	5.7	25	98985.7	39
162	10.1	38.5	0.4	5.8	25	98985.6	39
163	9.2	38.9	0.4	5.2	25	98985.7	39
164	10.0	43.1	0.3	5.7	25	98985.6	39
165	10.6	40.2	0.3	6.0	25	98979.4	38
166	9.5	40.2	0.3	5.4	25	98971.8	38

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (dC)	Pressure (kPa)	Relative Humidity (%)
167	6.9	38.7	0.3	3.9	25	98971.8	38
168	8.7	37.7	0.3	4.9	25	98971.7	38
169	9.8	38.4	0.3	5.6	25	98971.8	38
170	6.7	38.9	0.3	3.8	25	98971.8	38
171	9.2	38.2	0.4	5.2	25	98972.0	38
172	9.7	38.7	0.4	5.5	25	98971.9	39
173	7.7	39.3	0.4	4.4	25	98971.9	39
174	10.1	39.4	0.4	5.7	25	98971.8	39
175	11.6	39.7	0.3	6.6	25	98971.9	39
176	10.5	38.6	0.4	5.9	25	98971.9	39
177	10.1	37.9	0.4	5.7	25	98971.9	38
178	10.1	40.5	0.3	5.7	25	98971.8	38
179	10.1	41.4	0.2	5.7	25	98971.8	38
180	10.9	38.1	0.3	6.2	25	98971.8	38
181	9.5	37.6	0.3	5.4	25	98971.8	38
182	8.4	37.6	0.3	4.7	25	98971.7	38
183	7.7	37.9	0.4	4.4	25	98971.7	38
184	8.7	42.8	0.3	4.9	25	98971.7	39
185	9.0	39.8	0.3	5.1	25	98971.8	39
186	8.7	38.9	0.4	4.9	25	98971.7	39
187	8.6	38.4	0.4	4.9	25	98971.9	39
188	10.3	37.8	0.4	5.9	25	98971.8	39
189	8.6	39.9	0.3	4.9	25	98971.8	39
190	6.8	40.2	0.3	3.8	25	98971.7	39
191	6.5	42.5	0.3	3.7	25	98971.7	39
192	6.2	43.2	0.4	3.5	25	98971.7	39
193	6.8	41.8	0.4	3.9	25	98971.7	39
194	7.4	39.5	0.2	4.2	25	98971.8	39
195	6.8	40.2	0.2	3.9	25	98971.7	39
196	5.6	39.1	0.3	3.2	25	98971.8	39
197	5.4	38.8	0.3	3.1	25	98971.8	39
198	4.0	38.8	0.3	2.2	25	98971.7	39
199	4.7	38.9	0.4	2.6	25	98971.7	39
200	6.5	41.5	0.3	3.7	25	98971.7	39
201	7.5	38.4	0.2	4.2	25	98971.7	39
202	7.6	38.9	0.2	4.3	25	98971.6	39
203	7.1	37.7	0.3	4.1	25	98971.6	39
204	7.4	37.7	0.2	4.2	25	98971.6	39
205	7.4	36.8	0.1	4.2	25	98971.6	39
206	9.1	36.8	0.2	5.1	25	98971.6	39
207	8.1	38.7	0.3	4.6	25	98971.7	39
208	8.4	36.9	0.3	4.8	25	98971.6	39
209	9.4	37.3	0.3	5.3	25	98971.8	39
210	9.3	37.0	0.3	5.3	25	98971.8	39
211	6.8	37.7	0.3	3.8	25	98971.7	39
212	6.9	37.2	0.3	3.9	25	98971.8	39
213	6.0	36.7	0.3	3.4	25	98971.6	39
214	6.8	37.1	0.2	3.8	25	98971.6	40
215	6.9	36.9	0.3	3.9	25	98971.7	40
216	7.5	37.7	0.2	4.2	25	98971.7	40
217	9.9	38.4	0.3	5.6	25	98971.6	40
218	7.6	37.9	0.4	4.3	25	98971.7	40
219	8.2	38.8	0.3	4.6	25	98971.6	39
220	9.8	41.3	0.3	5.5	25	98971.6	39
221	10.4	39.8	0.3	5.9	25	98971.6	39
222	10.7	42.8	0.2	6.1	25	98971.7	39
223	10.1	45.2	0.4	5.7	25	98971.6	39
224	9.2	38.9	0.3	5.2	25	98971.5	39
225	9.3	39.0	0.2	5.3	25	98971.6	38
226	10.0	39.5	0.2	5.7	25	98971.5	38
227	7.0	37.7	0.2	4.0	25	98971.5	38
228	6.4	38.0	0.3	3.6	25	98971.5	38
229	8.1	38.4	0.3	4.6	25	98971.5	38
230	7.1	37.9	0.3	4.1	25	98971.5	39
231	6.1	37.9	0.2	3.5	25	98971.4	39
232	6.4	38.4	0.3	3.7	25	98971.6	39
233	5.2	37.6	0.3	3.0	25	98971.5	39
234	8.1	37.9	0.3	4.6	25	98971.4	39
235	7.0	37.2	0.4	4.0	25	98971.5	39
236	5.5	36.6	0.4	3.1	25	98977.6	39
237	8.1	37.4	0.3	4.6	25	98985.3	39
238	5.9	38.0	0.3	3.4	25	98985.2	39
239	10.3	37.3	0.3	5.8	25	98985.3	39
240	10.8	37.2	0.3	6.1	25	98985.2	39
241	7.9	37.6	0.2	4.5	25	98985.3	39
242	7.9	39.2	0.0	4.5	25	98985.2	38
243	8.2	39.6	0.1	4.7	25	98985.1	37
244	9.4	37.5	0.3	5.3	25	98985.1	37
245	7.8	37.8	0.4	4.4	25	98985.0	37
246	8.2	38.2	0.4	4.7	25	98985.1	37
247	9.8	37.9	0.4	5.5	25	98985.0	37
248	9.0	37.6	0.2	5.1	25	98978.9	38
249	7.0	38.5	0.2	4.0	25	98971.2	39

Table E.02 Measurement data - Background

Project: Belle River Wind Power Project - Turbine T52 - IEC 61400-11 Measurement

Report ID: 17095.01.T52.RP2

Created on: 2019-01-04

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
250	9.0	40.3	0.2	5.1	25	98971.2	39
251	10.2	43.7	0.3	5.8	25	98971.2	39
252	8.4	39.1	0.4	4.8	25	98971.1	39
253	5.8	39.3	0.4	3.3	25	98971.2	39
254	5.5	40.8	0.4	3.1	25	98971.2	39
255	8.5	41.4	0.3	4.8	25	98971.2	39
256	10.6	39.4	0.3	6.0	25	98971.2	39
257	7.9	40.4	0.3	4.5	25	98971.1	39
258	8.5	40.9	0.4	4.8	25	98971.1	39
259	9.8	40.1	0.4	5.5	25	98971.1	39
260	13.1	45.7	0.4	7.5	25	98971.1	38
261	13.1	39.6	0.4	7.4	25	98971.1	38
262	13.6	41.7	0.4	7.7	25	98971.0	38
263	12.4	40.8	0.4	7.1	25	98971.0	38
264	9.1	41.1	0.3	5.1	25	98970.9	38
265	8.0	39.6	0.4	4.5	25	98971.0	38
266	8.9	39.4	0.3	5.1	25	98970.9	38
267	6.3	38.7	0.4	3.6	25	98970.8	38
268	11.0	39.5	0.3	6.3	25	98970.9	38
269	9.4	39.8	0.3	5.3	25	98970.9	38
270	9.2	41.6	0.3	5.2	25	98971.0	38
271	9.7	38.0	0.2	5.5	25	98970.9	38
272	8.8	39.0	0.3	5.0	25	98971.0	38
273	9.1	38.4	0.4	5.1	25	98970.9	39
274	9.0	36.6	0.3	5.1	25	98970.9	39
275	8.1	36.8	0.4	4.6	25	98970.8	39
276	6.6	38.5	0.4	3.7	25	98970.8	39
277	9.9	38.5	0.4	5.6	25	98970.9	39
278	9.9	38.7	0.3	5.6	25	98970.9	38
279	10.9	37.6	0.4	6.2	25	98971.0	38
280	10.1	40.1	0.3	5.7	25	98970.9	38
281	8.2	39.7	0.4	4.7	25	98970.9	38
282	6.5	39.9	0.4	3.7	25	98970.9	38
283	7.4	38.2	0.3	4.2	25	98970.9	38
284	10.0	37.3	0.2	5.6	25	98970.8	38
285	8.4	37.4	0.2	4.8	25	98970.9	38
286	8.2	36.6	0.4	4.7	25	98970.9	38
287	6.0	36.3	0.4	3.4	25	98971.0	38
288	9.3	36.1	0.5	5.3	25	98971.0	38
289	8.2	36.7	0.5	4.7	25	98971.0	38
290	5.3	36.4	0.4	3.0	25	98970.9	38
291	6.9	37.3	0.2	3.9	25	98970.9	39
292	7.4	38.1	0.2	4.2	25	98970.9	39
293	9.2	37.5	0.3	5.2	25	98971.0	39
294	10.0	38.0	0.2	5.7	25	98971.0	39
295	9.1	37.0	0.2	5.2	25	98971.0	39
296	7.2	36.5	0.2	4.1	25	98970.9	39
297	9.3	37.3	0.3	5.3	25	98971.0	38
298	10.1	37.7	0.3	5.7	25	98970.2	38
299	9.6	38.1	0.3	5.5	25	98961.7	38
300	6.6	37.7	0.3	3.8	25	98961.4	38
301	9.9	37.2	0.2	5.6	25	98962.0	38
302	10.0	37.6	0.3	5.7	25	98961.7	38
303	11.4	44.7	0.6	6.5	20	98537.6	63
304	11.9	44.6	0.6	6.8	20	98537.5	63
305	12.8	45.4	0.6	7.3	20	98537.5	63
306	10.4	45.6	0.6	5.9	20	98537.5	63
307	10.6	45.8	0.6	6.0	20	98537.4	63
308	9.3	46.2	0.6	5.3	20	98537.4	63
309	10.8	45.4	0.7	6.1	20	98537.4	63
310	11.2	45.7	0.6	6.3	20	98537.4	63
311	11.7	44.4	0.5	6.7	20	98542.4	63
312	10.0	44.3	0.6	5.7	20	98551.2	63
313	12.4	44.4	0.6	7.0	20	98551.3	63
314	12.7	44.4	0.6	7.2	20	98551.3	63
315	11.0	43.9	0.6	6.2	20	98551.3	63
316	11.3	44.4	0.7	6.4	20	98551.2	63
317	8.5	44.7	0.6	4.8	20	98551.2	63
318	10.8	44.6	0.7	6.1	20	98551.2	63
319	11.3	44.7	0.6	6.4	20	98551.2	63
320	11.8	44.0	0.6	6.7	20	98551.3	63
321	10.5	44.2	0.6	6.0	20	98551.3	63
322	10.1	44.3	0.7	5.7	20	98551.3	63
323	7.5	44.5	0.7	4.3	20	98552.7	63
324	10.9	44.6	0.8	6.2	20	98551.4	64
325	11.1	44.7	0.8	6.3	20	98551.2	64
326	12.3	44.5	0.6	7.0	20	98551.3	64
327	13.3	45.5	0.8	7.5	20	98551.3	64
328	10.6	44.9	0.8	6.0	20	98551.1	64
329	9.9	44.6	0.7	5.6	20	98551.5	64
330	9.8	45.5	0.8	5.5	20	98551.1	64
331	14.7	44.8	0.8	8.4	20	98551.2	64
332	11.1	44.1	0.9	6.3	20	98551.4	64

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
333	11.8	47.3	0.9	6.7	20	98551.2	64
334	9.5	46.7	0.7	5.4	20	98551.2	64
335	10.0	44.3	0.7	5.6	20	98551.4	64
336	10.8	43.2	0.7	6.1	20	98551.1	64
337	10.6	44.3	0.8	6.0	20	98551.2	64
338	10.2	44.1	0.8	5.8	20	98551.4	64
339	13.0	43.8	0.7	7.4	20	98551.3	64
340	12.8	43.8	0.9	7.3	20	98551.5	64
341	11.7	44.2	0.8	6.6	20	98551.3	63
342	13.9	44.7	0.9	7.9	20	98551.6	63
343	11.1	45.2	0.9	6.3	20	98551.3	63
344	10.4	45.1	0.9	5.9	20	98551.4	63
345	12.8	43.7	0.8	7.3	20	98551.5	63
346	14.5	44.9	0.8	8.2	20	98551.3	63
347	13.9	46.4	0.9	7.9	20	98546.4	63
348	11.5	46.1	0.9	6.5	20	98537.7	62
349	14.1	45.8	0.8	8.0	20	98538.1	62
350	11.4	45.1	0.8	6.5	20	98537.6	62
351	12.9	45.3	0.8	7.3	20	98537.6	62
352	9.8	45.2	0.8	5.6	20	98537.5	62
353	10.6	44.8	0.9	6.0	20	98542.6	62
354	11.1	44.2	0.9	6.3	20	98551.4	62
355	12.1	44.0	0.8	6.8	20	98551.3	62
356	13.0	43.9	0.7	7.4	20	98551.4	62
357	13.9	44.3	0.8	7.9	20	98551.6	62
358	8.8	43.7	0.6	5.0	20	98551.5	62
359	9.9	44.1	0.6	5.6	20	98551.9	62
360	10.9	43.2	0.7	6.2	20	98551.3	61
361	10.3	43.7	0.7	5.8	20	98551.4	61
362	11.5	43.7	0.7	6.5	20	98551.4	61
363	9.0	44.3	0.8	5.1	20	98551.4	61
364	9.2	44.3	0.7	5.2	20	98551.3	61
365	10.4	44.0	0.7	5.9	20	98551.1	61
366	12.1	43.0	0.8	6.8	20	98551.5	61
367	14.6	43.0	0.7	8.3	20	98551.3	61
368	14.0	43.2	0.7	8.0	20	98551.6	61
369	13.0	43.9	0.7	7.4	20	98551.3	61
370	8.7	43.1	0.7	4.9	20	98551.4	61
371	8.7	44.4	0.7	4.9	20	98551.5	61
372	11.5	43.8	0.7	6.5	20	98551.4	61
373	11.7	44.3	0.7	6.6	20	98551.3	61
374	9.4	44.2	0.7	5.3	20	98551.1	61
375	8.0	44.4	0.7	4.5	20	98551.1	61
376	10.1	44.5	0.7	5.8	20	98551.5	61
377	11.7	43.5	0.7	6.6	20	98546.2	61
378	10.5	43.1	0.7	6.0	20	98537.5	61
379	13.7	43.2	0.6	7.8	20	98537.4	61
380	12.7	43.0	0.7	7.2	20	98537.4	61
381	12.5	43.2	0.7	7.1	20	98537.4	61
382	10.9	43.8	0.6	6.2	20	98537.4	61
383	11.0	43.5	0.7	6.3	20	98537.4	61
384	9.2	44.4	0.6	5.2	20	98537.4	61
385	9.9	43.5	0.6	5.6	20	98537.4	61
386	13.3	43.2	0.8	7.5	20	98537.5	61
387	13.5	44.5	0.6	7.6	20	98537.6	61
388	8.7	44.4	0.8	5.0	20	98537.5	61
389	11.7	44.5	0.7	6.6	20	98537.4	61
390	11.9	45.5	0.7	6.7	20	98537.6	61
391	10.7	44.9	0.7	6.1	20	98537.5	61
392	10.8	43.6	0.7	6.1	20	98537.5	61
393	10.1	44.6	0.6	5.7	20	98537.6	61
394	11.4	43.9	0.6	6.5	20	98537.5	61
395	10.4	44.3	0.7	5.9	20	98537.4	61
396	8.7	45.1	0.7	4.9	20	98537.5	62
397	11.4	44.0	0.7	6.5	20	98537.5	62
398	9.9	43.8	0.7	5.6	20	98537.2	62
399	10.1	44.6	0.6	5.7	20	98537.5	62
400	9.8	44.0	0.7	5.6	20	98537.4	62
401	6.9	43.7	0.7	3.9	20	98537.7	62
402	9.7	43.8	0.6	5.5	20	98537.3	62
403	8.3	44.3	0.7	4.7	20	98537.5	62
404	9.4	45.3	0.7	5.3	20	98537.4	62
405	9.3	45.5	0.6	5.3	20	98537.4	62
406	8.5	46.0	0.7	4.8	20	98537.4	62
407	11.8	45.8	0.7	6.7	20	98528.6	61
408	12.1	46.3	0.6	6.8	20	98524.1	61
409	10.1	47.2	0.7	5.7	20	98524.4	61
410	11.0	45.8	0.7	6.2	20	98524.2	61
411	10.8	44.9	0.6	6.1	20	98524.1	61
412	7.4	45.6	0.7	4.2	20	98524.0	61
413	8.0	44.7	0.6	4.6	20	98532.9	62
414	9.7	45.4	0.6	5.5	20	98537.2	62
415	11.2	44.8	0.7	6.3	20	98537.2	62

***Blank data denotes values that were omitted in the analysis due to an extraneous event during recording

Data Point #	Standardized Wind Speed	LAeq	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (oC)	Pressure (kPa)	Relative Humidity (%)
416	10.6	44.3	0.7	6.0	20	98537.2	62
417	9.9	45.4	0.7	5.6	20	98537.4	62
418	8.0	44.6	0.6	4.6	20	98537.2	62
419	11.3	45.5	0.7	6.4	20	98528.5	62
420	10.1	44.9	0.6	5.7	20	98524.1	62
421	9.9	44.6	0.7	5.6	20	98523.9	62
422	9.0	44.3	0.8	5.1	20	98524.0	62
423	8.8	44.2	0.7	5.0	20	98524.0	62
424	9.9	44.5	0.7	5.6	20	98523.9	62
425	9.4	43.9	0.8	5.4	20	98524.0	62
426	9.6	44.4	0.7	5.4	20	98524.1	62
427	10.2	44.6	0.8	5.8	20	98523.9	62
428	13.2	45.1	0.8	7.5	20	98524.0	62
429	11.4	45.1	0.7	6.5	20	98524.0	62
430	8.3	45.3	0.8	4.7	20	98523.9	62
431	9.0	46.5	0.7	5.1	20	98524.0	62
432	8.6	45.6	0.7	4.9	20	98524.0	62
433	9.6	45.3	0.7	5.4	20	98524.0	62
434	8.7	44.9	0.7	4.9	20	98524.0	62
435	8.1	46.6	0.7	4.6	20	98524.0	62
436	9.0	49.2	0.6	5.1	20	98524.0	62
437	9.7	49.0	0.5	5.5	20	98524.1	62
438	10.9	47.5	0.6	6.2	20	98524.1	62
439	11.8	46.5	0.5	6.7	20	98524.1	62
440	9.6	46.8	0.6	5.5	20	98523.9	62
441	7.6	47.1	0.6	4.3	20	98524.1	62
442	10.0	47.0	0.6	5.7	20	98523.9	62
443	9.5	48.9	0.5	5.4	20	98523.9	62
444	8.7	47.3	0.5	4.9	20	98524.1	62
445	11.6	46.7	0.6	6.6	20	98524.1	62
446	9.5	47.2	0.5	5.4	20	98524.1	62
447	10.9	48.4	0.6	6.2	20	98524.1	62
448	10.8	47.8	0.6	6.1	20	98524.0	62
449	8.3	47.4	0.5	4.7	20	98524.0	62
450	8.3	47.9	0.6	4.7	20	98524.1	62
451	8.7	46.4	0.6	4.9	20	98524.2	62
452	9.8	47.4	0.6	5.6	20	98524.1	62
453	9.4	47.4	0.6	5.3	20	98524.0	62
454	10.8	46.8	0.6	6.1	20	98524.0	62
455	10.9	47.4	0.6	6.2	20	98524.1	62
456	10.1	47.7	0.5	5.7	20	98524.1	62
457	8.0	48.1	0.6	4.5	20	98524.2	62
458	8.0	46.6	0.5	4.5	20	98524.1	62
459	10.5	46.9	0.6	6.0	20	98524.1	62
460	11.4	46.6	0.5	6.5	20	98524.0	62
461	10.0	46.9	0.5	5.7	20	98511.2	62
462	8.5	45.2	0.5	4.8	20	98510.7	62
463	10.2	44.4	0.6	5.8	20	98510.7	62
464	12.2	45.6	0.6	6.9	20	98510.7	62
465	10.8	44.6	0.5	6.1	20	98510.5	62

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix F
Supplementary Information for the Regulator

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix F.01
Calibration Certificates

SIEMENS

ISO17025

As Found RECALIBRATION CERTIFICATE

Sales Region:	NA
Account:	Aercoustics Engineering Limited
Instrument:	LMS SCADAS
Manufacturer:	Siemens Industry Software B.V.
Type:	SCR202
Serial number(s):	22163146
Calibration method:	Two calibrated external standards (DC voltage and frequency) are used to calibrate the internal LMS SCADAS references: time/frequency accuracy of the internal system clock and amplitude accuracy of the internal signal sources. All input channels are calibrated against the internal references.
Ambient conditions:	The calibrations have been carried out in a controlled environment, at an ambient temperature of 23.4°C ± 0.3°C and a relative humidity of 19% ± 5%.
Calibration date:	February 27, 2018
Results:	The calibration results, together with their associated uncertainties, are included in this calibration certificate. *Calibration results within specification.*
Uncertainty:	The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with publication EA-4/02.
Traceability:	The measurements have been executed using methods for which the traceability to international standards has been demonstrated towards the Raad voor Accreditatie.

Breda, February 27 2018

Calibration performed by:

Hans Dam, Customer Service Engineer

Certificate approved by:

Frank Lemmens, Production Manager

Siemens Industry Software B.V.
Weidehek 53
4824 AT Breda
The Netherlands
Phone: +31 76 573 6363

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

MICROPHONE UNIT

Manufactured by:	BRUEL & KJAER
Model No:	4189-A-021
Serial No:	2622169
Calibration Recall No:	28016

Submitted By:

Customer:

Company: Aercoustics Engineering LTD.

Address:

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 4189-A-021 BRUE

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by: FC

Felix Christopher (QA Mgr.)

Calibration Date: 05-Sep-17

Certificate No: 28016 - 1

ISO/IEC 17025:2005

ACCREDITED

Calibration Lab. Cert. # 1533.01

uncompromised calibration West Caldwell Calibration Laboratories, Inc.
1575 State Route 96, Victor, NY 14564, U.S.A.

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor NY 14564

ISO/IEC 17025: 2005
ACCREDITED
Calibration Lab. Cert. # 1533.01

REPORT OF CALIBRATION

for

Brüel & Kjær Microphone Unit

Model No.: 4189-A-021 Serial No.: 2622169
Mic. Model No.: 4189 Serial No.: 2625417
Preamp. Model No.: 2671 Serial No.: 2614900
Company: Aercoustics Engineering LTD. I. D. No.: XXXX

Calibration results:

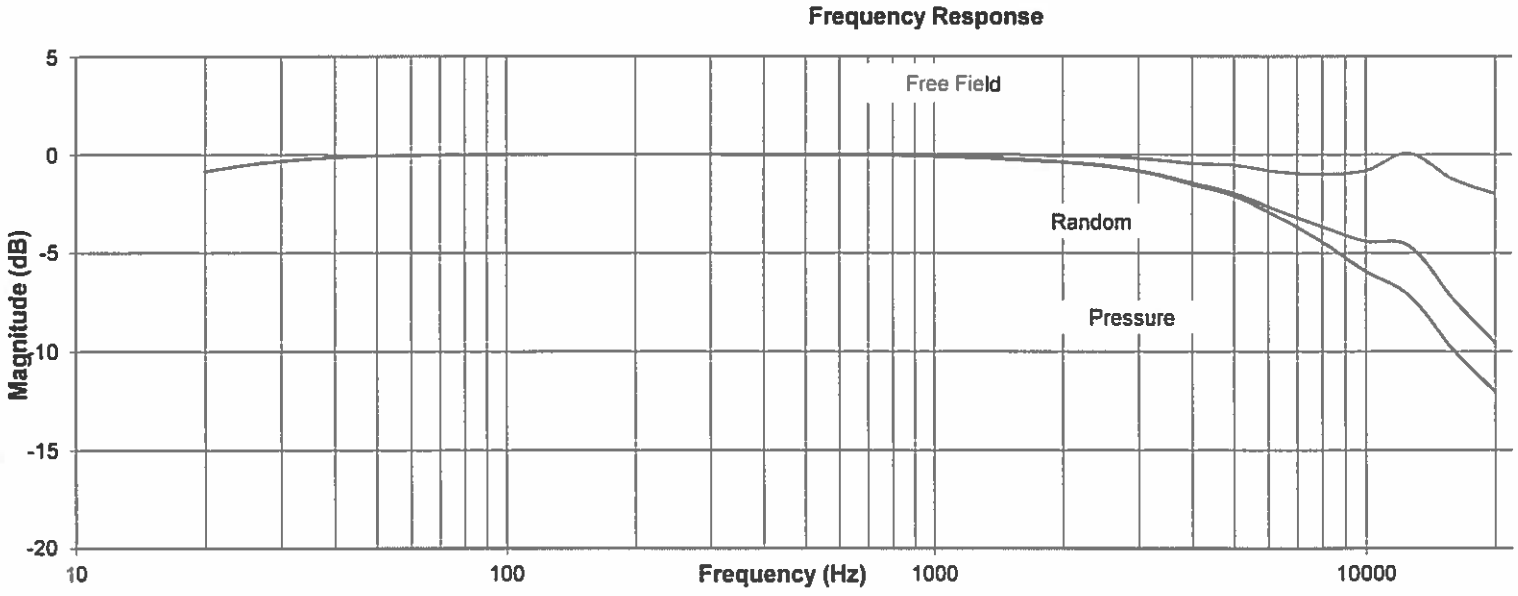
Before & after data same: ...X...

Combined Sensitivity @	250	Hz	and pressure of	98.432	kPa	
(Sens. with mic. and preamp.)	0	Volts Polarization voltage (External):				
	-26.54	dB re.1V/Pascal				
	47.10	mV/Pascal				
	0.54	Ko (- dB re 50 mV/Pascal)				
Sensitivity:	Pass					
Freq. Response:	Pass					
All tests:	Pass					

Ambient Temperature:	21.8	°C
Ambient Humidity:	56.4	% RH
Ambient Pressure:	98.432	kPa
Calibration Date:	5-Sep-2017	
Calibration Due:	5-Sep-2018	
Report Number:	28016	-1
Control Number:	28016	

The above listed instrument meets or exceeds the tested manufacturer's specifications.
The IEC 651:1979 & 1993 Type 1 specification passed.
This Calibration is traceable through NIST test numbers: 683/284413-14
The expanded uncertainty of calibration: 0.079dB at 95% confidence level with a coverage factor of k=2.

The pressure response recorded with electroacoustic method.



The above listed instrument was checked using calibration procedure documented in West Caldwell Calibration Laboratories Inc. procedure : **Rev. 7.0 Jan. 24, 2014 Doc. # 1038 P4189A021B&K**

Calibration was performed by West Caldwell Calibration Laboratories Inc. under Operating Procedures intended to implement the requirements of ISO10012-1, IEC Guide 25, ANSI/NCSL Z540-1, (MIL-STD-45662A) and ISO 9001:2008, ISO 17025

Measurements performed by: .....
James Zhu

Calibrated on WCCL system type 9700

West Caldwell Calibration Laboratories Inc.
1575 State Route 96, Victor NY 14564
Tel. (585) 586-3900 FAX (585) 586-4327

Calibration Data Record

for

Brüel & Kjær Microphone Unit **Model No.: 4189-A-021** **Serial No.: 2622169**
Company: Aercoustics Engineering LTD. **I. D. No.: XXXX**

Frequency Response (Reference = 0 dB @ 250Hz)

Frequency [Hz]	Pressure [dB]	Free Field (dB)	Random (dB)
19.95	-0.85	-0.85	-0.85
25.12	-0.51	-0.51	-0.51
31.62	-0.28	-0.28	-0.28
39.81	-0.14	-0.14	-0.14
50.12	-0.06	-0.06	-0.06
63.10	-0.02	-0.02	-0.02
79.43	-0.01	-0.01	-0.01
100.00	0.00	0.00	0.00
125.89	0.00	0.00	0.00
158.49	0.00	0.00	0.00
199.53	0.01	0.01	0.01
251.19	0.00	0.00	0.00
316.23	0.00	0.00	0.00
398.11	-0.01	0.00	-0.01
501.19	-0.01	0.01	-0.01
630.96	-0.02	0.01	-0.02
794.33	-0.05	0.02	-0.05
1000.00	-0.09	0.01	-0.11
1258.93	-0.14	0.01	-0.17
1584.89	-0.23	-0.01	-0.29
1995.26	-0.39	-0.06	-0.39
2511.89	-0.59	-0.11	-0.55
3162.28	-0.94	-0.23	-0.91
3981.07	-1.51	-0.45	-1.42
5011.87	-2.11	-0.53	-1.97
6309.57	-3.15	-0.87	-2.83
7943.28	-4.38	-1.00	-3.63
10000.00	-5.92	-0.80	-4.39
12589.25	-7.13	0.07	-4.62
15848.93	-9.80	-1.21	-7.22
19952.62	-12.02	-1.97	-9.54

Freq. response: Expanded Uncertainty (dB) with coverage factor K = 2
20 to 63Hz 0.1dB, 63 to 12.5kHz 0.094dB, 12.5k to 16kHz 0.10dB, 16k to 20kHz 0.5dB.

Instruments used for calibration:			Date of Cal.	Traceability No.	Re-cal. Due Date
Brüel & Kjær	4226	S/N 1445428	3-Nov-2016	683/284413-14	3-Nov-2017
Brüel & Kjær	3560	S/N 2202374	3-Nov-2016	683/284413-14	3-Nov-2017
HP	33120A	S/N 36043716	1-Oct-2016	,287708	1-Oct-2017
HP	34401A	S/N 36064102	1-Oct-2016	,287708	1-Oct-2017

Cal. Date: 5-Sep-2017 **Tested by: James Zhu**

Calibrated on WCCL system type 9700

Rev. 7.0 Jan. 24, 2014 Doc. # 1038 P4189A021B&K

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

ACOUSTICAL CALIBRATOR

Manufactured by:	**BRUEL & KJAER**
Model No:	**4231**
Serial No:	**3012380**
Calibration Recall No:	**28460**

Submitted By:

Customer:

Company: **Aercoustics Engineering Ltd.**
Address:

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **4231** **BRUE**

Upon receipt for Calibration, the instrument was found to be:

Within **(X)**

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above.
West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by: FC

Calibration Date: **30-Jan-18**

Felix Christopher (QA Mgr.)

Certificate No: **28460 - 2**

ISO/IEC 17025:2005

ACCREDITED

Calibration Lab. Cert. # 1533.01

uncompromised calibration **West Caldwell Calibration Laboratories, Inc.**
1575 State Route 96, Victor, NY 14564, U.S.A.

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor NY 14564

ISO/IEC 17025: 2005
ACCREDITED
Calibration Lab. Cert. # 1533.01

REPORT OF CALIBRATION

for

Brüel & Kjær Acoustical Calibrator **Model No.: 4231** **Serial No.: 3012380**
Company: Aercoustics Engineering Ltd. **ID No.: XXXX**

Calibration results:

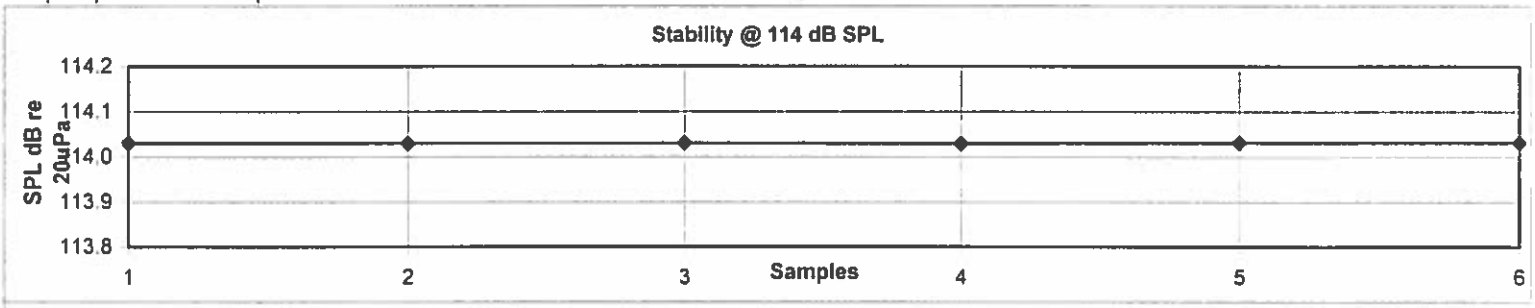
Before data: ..... After data: .....
Before & after data same: ...X...
Sound Pressure Level at 1000.0 Hz and pressure of 1013 hPa (mbar)
was 114.03 dB re 20 µPa
(Calibrator tested with ½" adaptor UC 0210)
IEC 1094-4 Type WS 2 P Microphone was used for measurement.

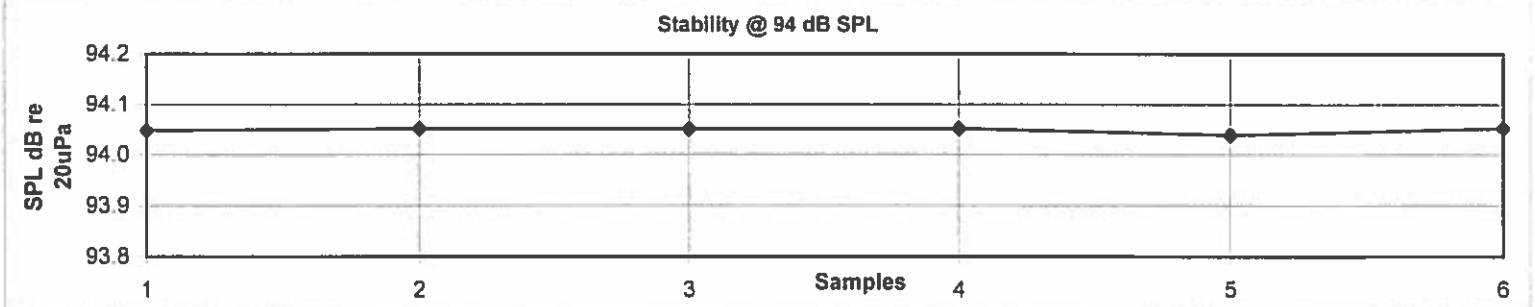
	114 dB	94 dB
Sound Pressure Level:	Pass	Pass
Frequency:	Pass	Pass
Distortion:	Pass	Pass
Stability:	Pass	Pass
All tested parameters:		Pass

The above listed instrument meets or exceeds the tested manufacturer's specifications
The IEC 942:1988 Class 1 specifications, passed.
The ANSI S1.4-1984 specifications, passed.
This Calibration is traceable through NIST test numbers: 822/275722-14
The expanded uncertainty of calibration: 0.11 dB at 95% confidence level with a coverage factor of k=2.

Laboratory Environment:		
Ambient Temperature:	22.0	°C
Ambient Humidity:	30.9	% RH
Ambient Pressure:	99.768	kPa
Calibration Date:	30-Jan-2018	
Calibration Due:	30-Jan-2019	
Report Number:	28460 -2	
Control Number:	28460	

Graph represents six samples of Sound Pressure Level measured at 5 sec. interval.





The above listed instrument was checked using calibration procedure documented in West Caldwell Calibration Laboratories Inc. procedure : **Rev. 7.0 Jan. 24, 2014 Doc. # 1038 4231B&K**

Calibration was performed by West Caldwell Calibration Laboratories Inc. under Operating Procedures intended to implement the requirements of ISO10012-1, IEC Guide 25, ANSI/NCSL Z540-1, (MIL-STD-45662A) and ISO 9001:2008, ISO 17025

Cal. Date: 30-Jan-2018

Measurements performed by: .....
James Zhu

Calibrated on WCCL system type 9700

Rev. 7.0 Jan. 24, 2014 Doc. # 1038 4231B&K

West Caldwell Calibration Laboratories Inc.
1575 State Route 96, Victor NY 14564
Tel. (585) 586-3900 FAX (585) 586-4327

Calibration Data Record

for

Brüel & Kjær Acoustical Calibrator **Model No.: 4231** **Serial No.: 3012380**
Company: Aercoustics Engineering Ltd.

All tested parameters: Pass

Measured Sound Pressure Level (Six samples measured at 5 sec. interval)

Sample	1	114.03 dB re 20 µPa	94.05 dB re 20 µPa	
	2	114.03	94.05	
	3	114.03	94.05	
	4	114.03	94.05	
	5	114.03	94.04	
	6	114.03	94.05	
	Average	**114.03** Spec. 114dB ± 0.2dB	**94.05**	Spec. 94 dB ± 0.2 dB

Frequency measured (Three samples at 30 sec. Interval)

Sample	1	999.99 Hz	999.99 Hz	
	2	999.99	999.99	
	3	999.99	999.98	
	Average	**999.99**	**999.99**	Spec. 1000 Hz ±0.1%

The Frequency expanded uncertainty of calibration:45 µHz/Hz at 95% confidence level with a coverage factor of k=2.

Distortion measured	-56.2 dB	-54.9 dB	Spec. ≤-40 dB

Instruments used for calibration:			Date of Cal.	Traceability No.	Re-cal. Due Date
Brüel & Kjær	4231	S/N 2308998	1-Aug-2017	822/275722-14	1-Aug-2018
Brüel & Kjær	4134	S/N 854464	1-Aug-2017	822/275722-14	1-Aug-2018
Brüel & Kjær	2669	S/N 2148476	1-Aug-2017	683/281764-14	1-Aug-2018
HP	34401A	S/N US360980	1-Aug-2017	,205342	1-Aug-2018
Brüel & Kjær	2636	S/N 1323964	1-Aug-2017	822/275722-14	1-Aug-2018
HP	33120A	S/N US360458	1-Aug-2017	,205342	1-Aug-2018

Cal. Date: 30-Jan-2018 **Tested by: James Zhu**

Calibrated on WCCL system type 9700

SOH Wind Engineering LLC
141 Leroy Road · Williston, VT 05495 · USA
Tel 802.316.4368 · Fax 802.735.9106 · www.sohwind.com

CERTIFICATE FOR CALIBRATION OF SONIC ANEMOMETER

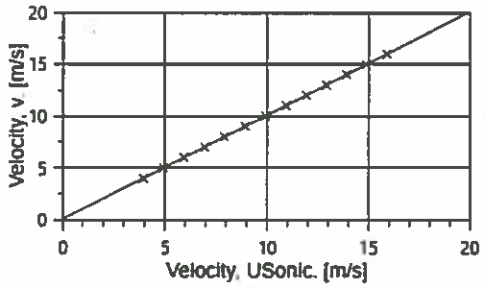
Certificate number: 17.US1.10370 **Date of issue:** November 16, 2017
Type: Vaisala Weather Transmitter, WXT520 **Serial number:** G4420002
Manufacturer: Vaisala, Oyj, Pl 26, FIN-00421 Helsinki, Finland
Client: Aercoustics Engineering Ltd., 1004 Middlegate RD, Suite 1100, S.Tower, Mississauga, ON L4Y 1M4, Canada

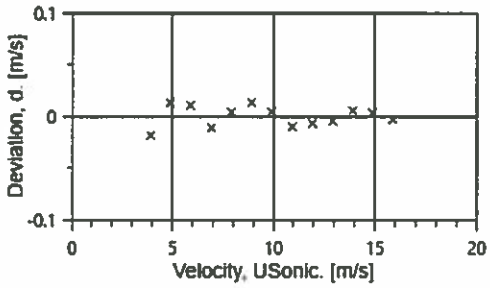
Anemometer received: November 15, 2017 **Anemometer calibrated:** November 15, 2017
Calibrated by: MEJ **Procedure:** MEASNET, IEC 61400-12-1:2017 Annex F
Certificate prepared by: EJF **Approved by:** Calibration engineer, EJF

Calibration equation obtained: $v\,[m/s] = 1.00118 \cdot f\,[m/s] + 0.06286$

Standard uncertainty, slope: 0.00077 **Standard uncertainty, offset:** 0.13048
Covariance: -0.0000059 $(m/s)^2/m/s$ **Coefficient of correlation:** $\rho = 0.999997$
Absolute maximum deviation: -0.019 m/s at 3.969 m/s
Barometric pressure: 1011.5 hPa **Relative humidity:** 21.9%

Succession	Velocity pressure, q. [Pa]	Temperature in wind tunnel [°C]	Temperature in d.p. box [°C]	Wind velocity, v. [m/s]	Anemometer Output, f. [m/s]	Deviation, d. [m/s]	Uncertainty u_c (k=2) [m/s]
2	9.39	22.0	26.0	3.969	3.9200	-0.019	0.024
4	14.85	22.0	26.0	4.992	4.9103	0.013	0.025
6	21.38	22.0	26.0	5.990	5.9100	0.011	0.027
8	29.13	22.1	26.0	6.993	6.9333	-0.011	0.029
10	38.09	22.1	26.0	7.996	7.9200	0.004	0.032
12	48.35	22.1	26.0	9.010	8.9233	0.013	0.035
13-last	59.50	22.1	26.0	9.996	9.9172	0.004	0.038
11	72.14	22.0	26.0	11.006	10.9400	-0.010	0.041
9	85.76	22.0	26.0	12.000	11.9300	-0.007	0.044
7	100.55	22.0	26.0	12.993	12.9200	-0.005	0.047
5	116.73	22.0	26.0	14.000	13.9150	0.006	0.050
3	133.56	22.0	26.0	14.974	14.8900	0.004	0.053
1-first	152.12	21.9	26.0	15.979	15.9000	-0.003	0.057





AC-1746

EQUIPMENT USED

Serial Number	Description
Njord1	Wind tunnel, blockage factor = 1.0035
2254	Control cup anemometer
-	Mounting tube, D = 19 mm
TT003	Summit Electronics, 1XPT100, 0-10V Output, wind tunnel temp.
TP001	PR Electronics 5102, 0-10V Output, differential pressure box temp.
DP004	Setra Model 239, 0-1inWC, differential pressure transducer
HY002	Dwyer RHP-2D20, 0-10V Output, humidity transmitter
BP001	Setra Model 278, barometer
PL8	Pitot tube
XB002	Computer Board. 16 bit A/D data acquisition board
9PRZRW1	PC dedicated to data acquisition

Traceable calibrations of the equipment are carried out by external accredited institutions: Atlantic Scale, Essco Calibration Labs & Furness Controls. A real-time analysis module within the data acquisition software detects pulse frequency.

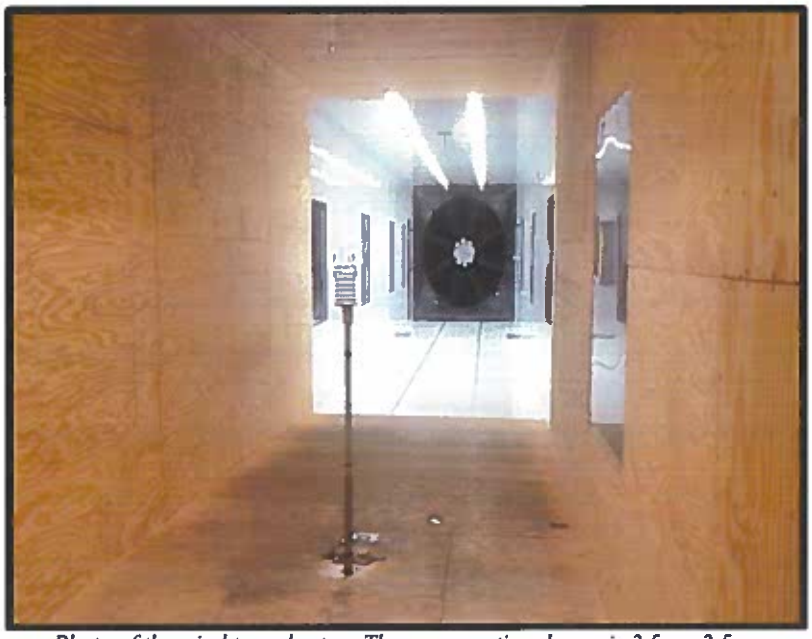


Photo of the wind tunnel setup. The cross-sectional area is 2.5m x 2.5m.

UNCERTAINTIES

The documented uncertainty is the total combined uncertainty at 95% confidence level (k=2) in accordance with EA-4/02. The uncertainty at 10 m/s comply with the requirements in the IEC 61400-12-1:2005 procedure. See Document US.12.01.004 for further details.

COMMENTS

This sensor was calibrated at 0° for this certificate.

Certificate number: 17.US1.10370

SOH Wind Engineering LLC
141 Leroy Road · Williston, VT 05495 · USA
Tel 802.316.4368 · Fax 802.735.9106 · www.sohwind.com

CERTIFICATE FOR CALIBRATION OF SONIC ANEMOMETER

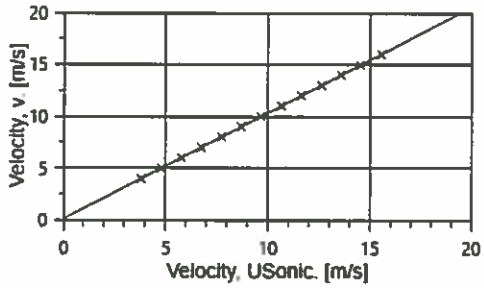
Certificate number: 17.US1.10369 **Date of issue:** November 16, 2017
Type: Vaisala Weather Transmitter, WXT520 **Serial number:** G4420002
Manufacturer: Vaisala, Oyj, Pl 26, FIN-00421 Helsinki, Finland
Client: Aercoustics Engineering Ltd., 1004 Middlegate RD, Suite 1100, S.Tower, Mississauga, ON L4Y 1M4, Canada

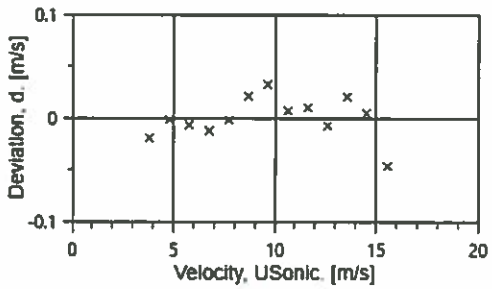
Anemometer received: November 15, 2017 **Anemometer calibrated:** November 15, 2017
Calibrated by: MEJ **Procedure:** MEASNET, IEC 61400-12-1:2017 Annex F
Certificate prepared by: EJF **Approved by:** Calibration engineer, EJF

Calibration equation obtained: v [m/s] = 1.02399 · f [m/s] + 0.09265

Standard uncertainty, slope: 0.00156 **Standard uncertainty, offset:** 0.17838
Covariance: -0.0000247 (m/s)²/m/s **Coefficient of correlation:** ρ = 0.999987
Absolute maximum deviation: -0.046 m/s at 15.979 m/s
Barometric pressure: 1011.1 hPa **Relative humidity:** 22.0%

Succession	Velocity pressure, q. [Pa]	Temperature in wind tunnel [°C]	d.p. box [°C]	Wind velocity, v. [m/s]	Anemometer Output, f. [m/s]	Deviation, d. [m/s]	Uncertainty u_c (k=2) [m/s]
2	9.41	22.0	26.0	3.975	3.8100	-0.019	0.024
4	14.86	22.0	26.0	4.996	4.7897	-0.002	0.025
6	21.40	22.1	26.0	5.994	5.7700	-0.007	0.027
8	29.14	22.1	26.0	6.996	6.7533	-0.012	0.029
10	38.16	22.1	26.0	8.006	7.7300	-0.002	0.032
12	48.35	22.1	26.0	9.012	8.6900	0.021	0.035
13-last	59.54	22.1	26.0	10.001	9.6448	0.032	0.038
11	72.13	22.1	26.0	11.009	10.6533	0.007	0.041
9	85.87	22.1	26.0	12.012	11.6300	0.010	0.044
7	100.56	22.1	26.0	12.998	12.6100	-0.008	0.047
5	116.94	22.0	26.0	14.015	13.5767	0.020	0.050
3	133.53	22.0	26.0	14.976	14.5300	0.005	0.053
1-first	152.03	22.0	26.0	15.979	15.5600	-0.046	0.057





AC-1746

EQUIPMENT USED

Serial Number	Description
Njord1	Wind tunnel, blockage factor = 1.0035
2254	Control cup anemometer
-	Mounting tube, D = 19 mm
TT003	Summit Electronics, 1XPT100, 0-10V Output, wind tunnel temp.
TP001	PR Electronics 5102, 0-10V Output, differential pressure box temp.
DP004	Setra Model 239, 0-1inWC, differential pressure transducer
HY002	Dwyer RHP-2D20, 0-10V Output, humidity transmitter
BP001	Setra Model 278, barometer
PL8	Pitot tube
XB002	Computer Board. 16 bit A/D data acquisition board
9PRZRW1	PC dedicated to data acquisition

Traceable calibrations of the equipment are carried out by external accredited institutions: Atlantic Scale, Essco Calibration Labs & Furness Controls. A real-time analysis module within the data acquisition software detects pulse frequency.

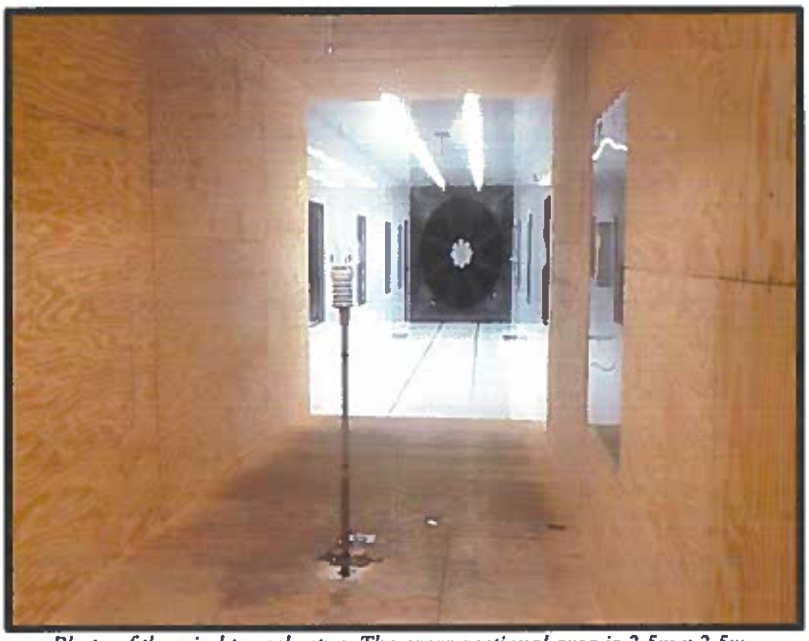


Photo of the wind tunnel setup. The cross-sectional area is 2.5m x 2.5m.

UNCERTAINTIES

The documented uncertainty is the total combined uncertainty at 95% confidence level (k=2) in accordance with EA-4/02. The uncertainty at 10 m/s comply with the requirements in the IEC 61400-12-1:2005 procedure. See Document US.12.01.004 for further details.

COMMENTS

This sensor was calibrated at 90° for this certificate.

Certificate number: 17.US1.10369

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS NRC·CNRC CLAS CLAS 2016-02

ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

Manufacturer: Nokeval
Model Number: 7470
Description: Serial to Analog Converter
Serial Number: A159784
ID: NONE

As-Found: In Tolerance
As-Left: In Tolerance

Calibration Date: Feb 20, 2018
Due Date: Feb 20, 2020

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC58014-0

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000 Revision 1.0, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2008, ANSI/NCSL Z540.1-1994 (R2002). Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed below.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN — SCC Lab No 827
CLAS CLAS 2016-02
ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
DC Current % Source - 4-20mA Ch #1										
4 - 20mA	0%	±(0.1% Span)	3.984	4.016	3.996 mA		1.6e-004	1.9e-003	mA	100.0 : 1
	25%	±(0.1% Span)	7.984	8.016	7.995 mA		2.7e-004	1.9e-003	mA	59.3 : 1
	50%	±(0.1% Span)	11.984	12.016	12.000 mA		1.1e-003	2.2e-003	mA	14.5 : 1
	75%	±(0.1% Span)	15.984	16.016	15.999 mA		1.3e-003	2.3e-003	mA	12.3 : 1
	100%	±(0.1% Span)	19.984	20.016	19.998 mA		1.4e-003	2.3e-003	mA	11.4 : 1
DC Current % Source - 4-20mA Ch #2										
4 - 20mA	0%	±(0.1% Span)	3.984	4.016	3.996 mA		1.6e-004	1.9e-003	mA	100.0 : 1
	25%	±(0.1% Span)	7.984	8.016	7.999 mA		2.7e-004	1.9e-003	mA	59.3 : 1
	50%	±(0.1% Span)	11.984	12.016	11.997 mA		1.1e-003	2.2e-003	mA	14.5 : 1
	75%	±(0.1% Span)	15.984	16.016	16.002 mA		1.3e-003	2.3e-003	mA	12.3 : 1
	100%	±(0.1% Span)	19.984	20.016	19.999 mA		1.4e-003	2.3e-003	mA	11.4 : 1
DC Current % Source - 4-20mA Ch #3										
4 - 20mA	0%	±(0.1% Span)	3.984	4.016	3.996 mA		1.6e-004	1.9e-003	mA	100.0 : 1
	25%	±(0.1% Span)	7.984	8.016	7.996 mA		2.7e-004	1.9e-003	mA	59.3 : 1
	50%	±(0.1% Span)	11.984	12.016	11.996 mA		1.1e-003	2.2e-003	mA	14.5 : 1
	75%	±(0.1% Span)	15.984	16.016	16.002 mA		1.3e-003	2.3e-003	mA	12.3 : 1
	100%	±(0.1% Span)	19.984	20.016	20.002 mA		1.4e-003	2.3e-003	mA	11.4 : 1
DC Current % Source - 4-20mA Ch #4										
4 - 20mA	0%	±(0.1% Span)	3.984	4.016	3.997 mA		1.6e-004	1.9e-003	mA	100.0 : 1
	25%	±(0.1% Span)	7.984	8.016	7.995 mA		2.7e-004	1.9e-003	mA	59.3 : 1
	50%	±(0.1% Span)	11.984	12.016	11.999 mA		1.1e-003	2.2e-003	mA	14.5 : 1
	75%	±(0.1% Span)	15.984	16.016	15.997 mA		1.3e-003	2.3e-003	mA	12.3 : 1
	100%	±(0.1% Span)	19.984	20.016	20.001 mA		1.4e-003	2.3e-003	mA	11.4 : 1

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS ARC·CNRC CLAS CLAS 2016-02

ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
DC Current % Source - 0-20mA Ch #1										
0 - 20mA	0%	±(0.1% Span)	-0.020	0.020	0.000 mA		9.2e-007	2.3e-003	mA	100.0 : 1
	25%	±(0.1% Span)	4.980	5.020	4.997 mA		1.9e-004	2.3e-003	mA	100.0 : 1
	50%	±(0.1% Span)	9.980	10.020	9.997 mA		3.2e-004	2.3e-003	mA	62.5 : 1
	75%	±(0.1% Span)	14.980	15.020	14.998 mA		1.2e-003	2.6e-003	mA	16.7 : 1
	100%	±(0.1% Span)	19.980	20.020	19.998 mA		1.4e-003	2.7e-003	mA	14.3 : 1
DC Current % Source - 0-20mA Ch #2										
0 - 20mA	0%	±(0.1% Span)	-0.020	0.020	0.002 mA		9.2e-007	2.3e-003	mA	100.0 : 1
	25%	±(0.1% Span)	4.980	5.020	4.996 mA		1.9e-004	2.3e-003	mA	100.0 : 1
	50%	±(0.1% Span)	9.980	10.020	10.000 mA		3.2e-004	2.3e-003	mA	62.5 : 1
	75%	±(0.1% Span)	14.980	15.020	15.000 mA		1.2e-003	2.6e-003	mA	16.7 : 1
	100%	±(0.1% Span)	19.980	20.020	19.999 mA		1.4e-003	2.7e-003	mA	14.3 : 1
DC Current % Source - 0-20mA Ch #3										
0 - 20mA	0%	±(0.1% Span)	-0.020	0.020	0.001 mA		9.2e-007	2.3e-003	mA	100.0 : 1
	25%	±(0.1% Span)	4.980	5.020	4.996 mA		1.9e-004	2.3e-003	mA	100.0 : 1
	50%	±(0.1% Span)	9.980	10.020	9.996 mA		3.2e-004	2.3e-003	mA	62.5 : 1
	75%	±(0.1% Span)	14.980	15.020	14.996 mA		1.2e-003	2.6e-003	mA	16.7 : 1
	100%	±(0.1% Span)	19.980	20.020	20.001 mA		1.4e-003	2.7e-003	mA	14.3 : 1
DC Current % Source - 0-20mA Ch #4										
0 - 20mA	0%	±(0.1% Span)	-0.020	0.020	0.001 mA		9.2e-007	2.3e-003	mA	100.0 : 1
	25%	±(0.1% Span)	4.980	5.020	4.992 mA		1.9e-004	2.3e-003	mA	100.0 : 1
	50%	±(0.1% Span)	9.980	10.020	9.997 mA		3.2e-004	2.3e-003	mA	62.5 : 1
	75%	±(0.1% Span)	14.980	15.020	14.996 mA		1.2e-003	2.6e-003	mA	16.7 : 1
	100%	±(0.1% Span)	19.980	20.020	20.001 mA		1.4e-003	2.7e-003	mA	14.3 : 1

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS NRC·CNRC CLAS CLAS 2016-02

ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
DC Voltage % Source - 0-5V Ch#1										
0 -5V	0%	±(0.1% Span)	-0.0050	0.0050	0.0009 V		5.0e-007	5.8e-004	V	100.0 : 1
	20%	±(0.1% Span)	0.9950	1.0050	1.0010 V		5.5e-006	5.8e-004	V	100.0 : 1
	40%	±(0.1% Span)	1.9950	2.0050	2.0001 V		1.1e-005	5.8e-004	V	100.0 : 1
	60%	±(0.1% Span)	2.9950	3.0050	2.9984 V		1.6e-005	5.8e-004	V	100.0 : 1
	80%	±(0.1% Span)	3.9950	4.0050	4.0001 V		2.1e-005	5.8e-004	V	100.0 : 1
	100%	±(0.1% Span)	4.9950	5.0050	4.9988 V		2.6e-005	5.8e-004	V	100.0 : 1
DC Voltage % Source - 0-5V Ch#2										
0 -5V	0%	±(0.1% Span)	-0.0050	0.0050	0.0002 V		5.0e-007	5.8e-004	V	100.0 : 1
	20%	±(0.1% Span)	0.9950	1.0050	1.0000 V		5.5e-006	5.8e-004	V	100.0 : 1
	40%	±(0.1% Span)	1.9950	2.0050	2.0010 V		1.1e-005	5.8e-004	V	100.0 : 1
	60%	±(0.1% Span)	2.9950	3.0050	2.9990 V		1.6e-005	5.8e-004	V	100.0 : 1
	80%	±(0.1% Span)	3.9950	4.0050	3.9980 V		2.1e-005	5.8e-004	V	100.0 : 1
	100%	±(0.1% Span)	4.9950	5.0050	5.0000 V		2.6e-005	5.8e-004	V	100.0 : 1
DC Voltage % Source - 0-5V Ch#3										
0 -5V	0%	±(0.1% Span)	-0.0050	0.0050	0.0001 V		5.0e-007	5.8e-004	V	100.0 : 1
	20%	±(0.1% Span)	0.9950	1.0050	0.9995 V		5.5e-006	5.8e-004	V	100.0 : 1
	40%	±(0.1% Span)	1.9950	2.0050	1.9991 V		1.1e-005	5.8e-004	V	100.0 : 1
	60%	±(0.1% Span)	2.9950	3.0050	2.9982 V		1.6e-005	5.8e-004	V	100.0 : 1
	80%	±(0.1% Span)	3.9950	4.0050	4.0008 V		2.1e-005	5.8e-004	V	100.0 : 1
	100%	±(0.1% Span)	4.9950	5.0050	5.0015 V		2.6e-005	5.8e-004	V	100.0 : 1

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS NRC·CNRC CLAS CLAS 2016-02

ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
DC Voltage % Source - 0-5V Ch#4										
0 -5V	0%	±(0.1% Span)	-0.0050	0.0050	0.0001 V		5.0e-007	5.8e-004	V	100.0 : 1
	20%	±(0.1% Span)	0.9950	1.0050	1.0006 V		5.5e-006	5.8e-004	V	100.0 : 1
	40%	±(0.1% Span)	1.9950	2.0050	1.9991 V		1.1e-005	5.8e-004	V	100.0 : 1
	60%	±(0.1% Span)	2.9950	3.0050	2.9999 V		1.6e-005	5.8e-004	V	100.0 : 1
	80%	±(0.1% Span)	3.9950	4.0050	3.9984 V		2.1e-005	5.8e-004	V	100.0 : 1
	100%	±(0.1% Span)	4.9950	5.0050	4.9996 V		2.6e-005	5.8e-004	V	100.0 : 1
DC Voltage % Source - 0-10V Ch#1										
0 - 10V	0%	±(0.1% Span)	-0.010	0.010	0.001 V		5.0e-007	1.2e-003	V	100.0 : 1
	20%	±(0.1% Span)	1.990	2.010	2.000 V		1.1e-005	1.2e-003	V	100.0 : 1
	40%	±(0.1% Span)	3.990	4.010	4.000 V		2.1e-005	1.2e-003	V	100.0 : 1
	60%	±(0.1% Span)	5.990	6.010	6.000 V		3.1e-005	1.2e-003	V	100.0 : 1
	80%	±(0.1% Span)	7.990	8.010	7.997 V		4.1e-005	1.2e-003	V	100.0 : 1
	100%	±(0.1% Span)	9.990	10.010	9.997 V		5.2e-005	1.2e-003	V	100.0 : 1
DC Voltage % Source - 0-10V Ch#2										
0 - 10V	0%	±(0.1% Span)	-0.010	0.010	0.002 V		5.0e-007	1.2e-003	V	100.0 : 1
	20%	±(0.1% Span)	1.990	2.010	2.001 V		1.1e-005	1.2e-003	V	100.0 : 1
	40%	±(0.1% Span)	3.990	4.010	3.998 V		2.1e-005	1.2e-003	V	100.0 : 1
	60%	±(0.1% Span)	5.990	6.010	5.998 V		3.1e-005	1.2e-003	V	100.0 : 1
	80%	±(0.1% Span)	7.990	8.010	7.998 V		4.1e-005	1.2e-003	V	100.0 : 1
	100%	±(0.1% Span)	9.990	10.010	9.997 V		5.2e-005	1.2e-003	V	100.0 : 1

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS NRC·CNRC CLAS CLAS 2016-02

ilac-MRA

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
DC Voltage % Source - 0-10V Ch#3										
0 - 10V	0%	±(0.1% Span)	-0.010	0.010	0.000 V		5.0e-007	1.2e-003	V	100.0 : 1
	20%	±(0.1% Span)	1.990	2.010	1.999 V		1.1e-005	1.2e-003	V	100.0 : 1
	40%	±(0.1% Span)	3.990	4.010	4.001 V		2.1e-005	1.2e-003	V	100.0 : 1
	60%	±(0.1% Span)	5.990	6.010	6.000 V		3.1e-005	1.2e-003	V	100.0 : 1
	80%	±(0.1% Span)	7.990	8.010	7.999 V		4.1e-005	1.2e-003	V	100.0 : 1
	100%	±(0.1% Span)	9.990	10.010	9.998 V		5.2e-005	1.2e-003	V	100.0 : 1
DC Voltage % Source - 0-10V Ch#4										
0 - 10V	0%	±(0.1% Span)	-0.010	0.010	0.001 V		5.0e-007	1.2e-003	V	100.0 : 1
	20%	±(0.1% Span)	1.990	2.010	1.999 V		1.1e-005	1.2e-003	V	100.0 : 1
	40%	±(0.1% Span)	3.990	4.010	3.998 V		2.1e-005	1.2e-003	V	100.0 : 1
	60%	±(0.1% Span)	5.990	6.010	6.000 V		3.1e-005	1.2e-003	V	100.0 : 1
	80%	±(0.1% Span)	7.990	8.010	8.000 V		4.1e-005	1.2e-003	V	100.0 : 1
	100%	±(0.1% Span)	9.990	10.010	9.998 V		5.2e-005	1.2e-003	V	100.0 : 1

TRANSCAT CANADA
Trust in every measure

CERTIFICATE OF CALIBRATION

SCC Accredited LAB — LAB Accrédité CCN
SCC Lab No 827

CLAS NRC·CNRC CLAS CLAS 2016-02

ilac-MRA

Customer: AEROCOUSTICS ENGINEERING LTD
1004 MIDDLEGATE ROAD
SUITE 1100
MISSISSAUGA, ON L4Y 1M4
PO Number: TR2018.02.14

Certificate/SO Number: 33-Q0W0C-20-1 Revision 0

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
N0150	Fluke Corporation	5700A	Calibrator	23-Jun-17	31-May-18	5-&N0150-14-1	AF
N0436	Agilent Technologies	3458A Opt 002	Digital Multimeter, 8.5 Digit	19-Apr-17	30-Apr-18	5-&N0436-14-1	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset
71.35°F /21.86°C	33.50%	N0457

Calibrated At:
4043 Carling Avenue
Ottawa, ON K2K 2A4

Facility Responsible:
4043 Carling Avenue
Ottawa, ON K2K 2A4
800-828-1470

Calibrated By:
Electronically Signed By:
Mark King

Mark King	Feb 20, 2018
Calibration Technician	15:08:17 -05:00

Reviewed By:
Electronically Signed By:
Francis Kane

Francis Kane	Feb 20, 2018
Lab Manager	15:24:41 -05:00

Unit Barcode: 901B0150195

Date Received: February 15, 2018
Service Level : R9

Customer Number: 9-322110-000

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix F.02
Summary of Measurement Results

Summary of Measurement Results

1.1 Sound Power Levels

From Table 12 of IEC test report 17095.01.T52.RP1:

Wind Speed (m/s)	Apparent L_{WA}, (dBA)	Maximum Sound Power Level (dBA)* REA # 2765-A4ER2P
8	103.6	106.5
8.5	105.1	106.5
9	105.8	106.5
9.5	105.8	106.5
10	105.7	106.5
10.5	105.6	106.5
11	105.5	106.5
11.5	105.4	106.5
12	105.3	106.5
12.5	105.2	106.5
13	105.1	106.5

*Includes +0.5 dB, per Section E3.1 of the MOECC Compliance Protocol for Wind Turbine Noise

1.2 Tonal Audibility Values

From Table 14 of IEC test report 17095.01.T52.RP1:

Wind Speed (m/s)	Frequency (Hz)	Tonal audibility, ΔL_a (dB)	Tonal Audibility from AAR* (dB)
8	73	-1.8	3
10	78	-2.5	3
10.5	78	-0.8	3
11	78	0.2	3
11.5	78	0.5	3
12	78	1.9	3
12.5	78	2.0	3
13	78	2.0	3

*Belle River Wind Project Noise Impact Assessment Report (November 27, 2015)

1.3 Statement of Compliance

Based on the results in Table 12 of the IEC 61400-11 test report to which this statement is attached, the maximum apparent sound power level of the test turbine complies with the sound level in REA # 2765-A4ER2P and Section E3.1 of the MOECC Compliance Protocol for Wind Turbine Noise.

Based on the results in Table 14 of the IEC 61400-11 to which this statement is attached, the tonal audibility of the test turbine complies with the maximum tonal audibility of 3 dB as indicated in the statement from the manufacturer dated July 15, 2015, found in Appendix E of the Noise Impact Assessment Report dated November 27, 2015.

aercoustics

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

Appendix F.03
E-Audit Checklist

Appendix F.03 - (2017 Compliance Protocol Appendix F6): E-Audit checklist for IEC 61400-11:2013

Wind Energy Project – Screening Document – Acoustic Audit Report – Emission IEC61400-11:2013 Standard

Information Required in the Acoustic Audit Report – Emission

Item #	Description	Complete?	Comment
1	Characterization of the wind turbine Items 1 to 26; IEC61400-11:2013, Section 10.2	✓	Report Section 2.1
2	Physical environment Items 27 to 33; IEC61400-11:2013, Section 10.3, Physical Environment	✓	Report Section 2.2, 3.2, 4.2, Appendix A
3	Measurement instrumentation Items 34 to 39; IEC61400-11:2013, Section 10.4, Instrumentation	✓	Report Section 3, Appendix F.01
4	Acoustic data Items 40 to 52; IEC61400-11:2013, Section 10.5, Acoustic Data	✓	Report Section 4, 3.3, Appendix C, Appendix D,
5	Non-acoustic data Items 50 to 53, and 56; IEC61400-11:2003 Section 10.6, Non-Acoustic Data Items 59 and 60; NPC-233, Section 12.3, Acoustic Audit – Acoustical Data, bullet point number 8, All necessary and supporting calculations	✓	Report Section 3, Appendix E
6	Uncertainty the apparent sound power level at integer wind speeds one-third octave band spectrum of the noise at the reference position at each integer wind speed the Tonality of the sound emissions of the wind turbine measured at the reference position	✓	Report Section 4, Appendix C
7	Additional information Item 60; NPC-233, Section 10, Report Format, bullet point number 4, Conclusions and Recommendations Item 61; NPC-233, Section 12.3, Acoustic Audit – Acoustical Data, bullet point number 8, All necessary and supporting calculations Item 62; NPC-233, Section 12.3, Acoustic Audit – Acoustical Data, bullet point number 3, Details of measurement procedure	✓	Report Section 3, Appendix F, data in Excel provided separately
8	Items 68 to 72; IEC61400-11:2013, Section 10.5, Acoustic Data	⦸	Optional information, not provided in this report
9	Non-acoustic data Items 73 to 74 are from IEC61400-11:2013, Section 10.6, Non-Acoustic Data	⦸	Optional information, not provided in this report

Aercoustics Engineering Ltd.
1004 Middlegate Road, Suite 1100
Mississauga, ON L4Y 0G1

Tel: 416-249-3361
Fax 416-249-3613
aercoustics.com

End of Report