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REPORT ID: **15427.00.T06.RP3**

East Durham Wind Energy Centre – Turbine T06
IEC 61400-11 Edition 3.0 Measurement Report

Prepared for:

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2 July 2019 – Revision #3

Revision History

Revision Number	Description	Date
1	Issued Edition 2.1 test report	November 28, 2016
2	Issued Edition 3.0 test report	November 07, 2017
3	Correction to Table 2 Rotor Diameter	July 02, 2019

This report in its entirety, including appendices contains 99 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.

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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.

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1 Introduction

Aercoustics Engineering Limited (Aercoustics) was retained by East Durham Wind LP ("East Durham") to conduct an acoustic measurement of turbine T06 at the East Durham Wind Energy Centre. 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 T06.

2 Wind Turbine Information

2.1 Wind turbine equipment specific information

Wind turbine specific equipment information for turbine T06 was provided by East Durham Wind LP and is summarized in Tables 1 – 5.

Table 1 - Wind Turbine Details

Wind Turbine Details	
Manufacturer	GE
Model Number	1.6 ESS
Turbine ID	16133864

Table 2 - Operating Details

Operating Details	
Vertical or Horizontal axis wind turbine	HORIZONTAL
Upwind or downwind rotor	UPWIND
Hub height	80m
Horizontal distance from rotor centre to tower axis	4100mm
Diameter of rotor	100m
Tower type (lattice or tube)	TUBE
Passive stall, active stall, or pitch controlled turbine	PITCH CONTROLLED
Constant or variable speed	VARIABLE
Power curve	See Figure B.01
Rotational speed at each integer standardised wind speed	See Figure B.02
Rated power output	1.34 MWs
Control software version	44.75

Table 3 - Rotor Details

Rotor Details	
Rotor control devices	ADVANCED LOAD CONTROL
Presence of vortex generators, stall strips, serrated trailing edges	NO VORTEX STRIPS, DOES HAVE SERRATED TRAILING EDGES
Blade type	LM WIND POWER BLADES ND INC 48.7P
Serial number	90, 91, 93
Number of blades	3

Table 4 - Gearbox Details

Gearbox Details	
Manufacturer	WINERGY
Model number	PEAB 4431
Serial number	4852940-110-2

Table 5 - Generator Details

Generator Details	
Manufacturer	Hitachi America
Model number	HIG-3669J00
Serial number	530439-5

2.2 Wind Turbine Location

Turbine T06 is located in the municipality of West Grey, Ontario and is located approximately 290m east of Grey Road 23 and 650m north of Grey Road 4. The area surrounding T06 consists of undulating farmland and tree lots. A tree lot is located approximately 140m North of T06.

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 T06 is summarized in Table 6.

Table 6 - Acoustic Measurement Equipment

Equipment	Manufacturer Name & Model	Serial Number
Acoustic Data acquisition system	LMS SCADA Mobile	53103922
Microphone	B&K 4189	2625416, 2622169
Pre-amplifier	B&K 2671	2369794,2614900
Acoustic calibrator	B&K 4231	1807640

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 yaw position from turbine T06. 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	K4250007
Serial to Analog Converter	NOKEVAL 7470	165164

3.2 Measurement Setup

3.2.1 Microphone Placement

The measurement microphone was setup 117m 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 T06. 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.

At the time of the acoustic test of T06, the surrounding lands were cleared farmland. The location of the microphone board was cleared and leveled out prior to board placement. The influence from reflecting surfaces was also considered to be negligible as there were no nearby reflecting surfaces (houses, barns etc.) in the vicinity of the microphone.

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
November 1, 2016	Turbine ON	12:37pm	1:28pm
	Background	1:30pm	2:30pm
	Turbine ON	2:30pm	3:20pm
	Turbine ON	3:28pm	3:54pm
	Turbine ON	4:04pm	4:41pm
November 18, 2016	Turbine ON	3:15pm	4:18pm
	Background	4:20pm	5:01pm
	Turbine ON	5:25pm	5:58pm
	Turbine ON	6:02pm	7:03pm
	Turbine ON	7:33pm	8:33pm
	Turbine ON	8:42pm	9:37pm
	Turbine ON	9:47pm	9:52pm

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 T06's power curve (as per the standard), while wind direction was provided by T06's yaw position. Background data was obtained from an anemometer located 10m above ground level near T06.

Temperature and pressure readings during the measurement period were provided by the 10m anemometer, located near turbine T06 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

Originally, the test contract required measurements in accordance to edition 2.1 of the standard (61400-11) which requires the anemometer to be placed upwind of the turbine. This test report is a reprocessing of the originally acquired data and as such during the test, the anemometer position was erected in an upwind (Ed 2.1), rather than crosswind (Ed 3.0) position relative to the test turbine.

The acoustic signal to noise ratio for the noise levels is >7.8dB. Additionally, the ambient noise levels are steady across the entire wind speed range, with a slope of 0.09dB per integer wind speed. This deviation is therefore considered to be negligible to the assessment of the maximum sound power of this turbine for this test. This method is in accordance with recommendations made by the convenor of IEC 61400-11 working group and detailed in Note N6.023.17 and provided in Appendix F.

4.2 Special Notes & Considerations

Nearby turbine T07 was parked for the duration of the test.

4.3 Analysis Details

The following section outlines analysis of the measurement data acquired for T06. 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 0.05m, 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).

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 9, while detailed information (including data in 1/3 octave) is provided in Appendix C.

Table 9 - 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 10. 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 10 - 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	
6	49.5	38	43.5	37	48.3
6.5	51.3	50	44.2	44	50.3
7	52.1	34	44.1	63	51.4
7.5	52.3	74	43.8	54	51.7
8	52.5	165	44.1	70	51.8
8.5	52.5	191	44.7	59	51.7
9	52.6	205	44.3	44	51.9
9.5	52.6	178	44.4	37	51.9
10	52.7	135	44.2	25	51.9

4.6 Sound Power Level of Turbine

The calculated sound power level of the turbine T06 (as per IEC 61400-11) is summarized in Table 11 (hub height) and Table 12 (10m height). Detailed 1/3 Octave band spectrum data and respective uncertainties are provided in Appendix C.

Table 11 - $L_{WA,\,K}$ at each integer wind speed

Wind Speed (m/s)	Apparent L_{WA}, (dBA)	Uncertainty (dB)
6	96.5	1.0
6.5	98.5	0.9
7	99.6	0.8
7.5	99.9	0.8
8	100.0	0.8
8.5	100.0	0.9
9	100.1	0.9
9.5	100.1	0.8
10	100.1	0.8

Table 12 - $L_{WA\ 10m,\,K}$ at each integer wind speed

Wind Speed (m/s)	Apparent L_{WA}, (dBA)	Uncertainty (dB)
4	95.2*	1.3
5	99.3	0.9
6	100.0	0.8
7	100.1	0.8
8	100.1	0.8

Values marked with an asterisk * denote 3 to 6 dB difference between Turbine ON and Background

4.7 Tonality Analysis

The tonality analysis for Turbine T06 is summarized in Table 13, 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 13 - 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 (%)
6	98	-3.4	-1.4	34	38	89%
	207	-2.9	-0.9	27	38	71%
6.5	108	-4.2	-2.2	28	50	56%
	221	-2.1	0.0	39	50	78%
	461	-4.6	-2.4	33	50	66%
7	109	0.1	2.1	17	34	50%
	229	-2.3	-0.2	22	34	65%
	475	-3.1	-0.8	30	34	88%
7.5	110	-5.0	-3.0	23	74	31%
	234	-3.7	-1.7	29	74	39%
8	235	-3.5	-1.5	67	165	41%
	483	-4.6	-2.3	99	165	60%
8.5	235	-3.4	-1.3	66	191	35%
	487	-1.4	0.9	85	191	45%
9	235	-3.4	-1.4	75	205	37%
	487	-1.3	0.9	117	205	57%
9.5	235	-3.3	-1.3	68	178	38%
	488	-1.6	0.6	94	178	53%
10	235	-3.3	-1.3	50	135	37%
	485	-1.5	0.8	90	135	67%

5 Closure

Measurements and analysis as per International IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques" were carried on Turbine T06 of the East Durham Wind Energy Centre on November 1st and 18th 2016.

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

6 References

1. International Standard IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques".

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Appendix A
Site Details

aercoustics	15427.00.T06.RP3 Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	**Project Name** East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0 **Figure Title** Site Plan

Figure A.01

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15427.00.T06.RP3

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Reviewed by: PA
Date: Sept 25, 2017
Revision: 1

Project Name

East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0

Figure Title

Site Photos

Figure A.02

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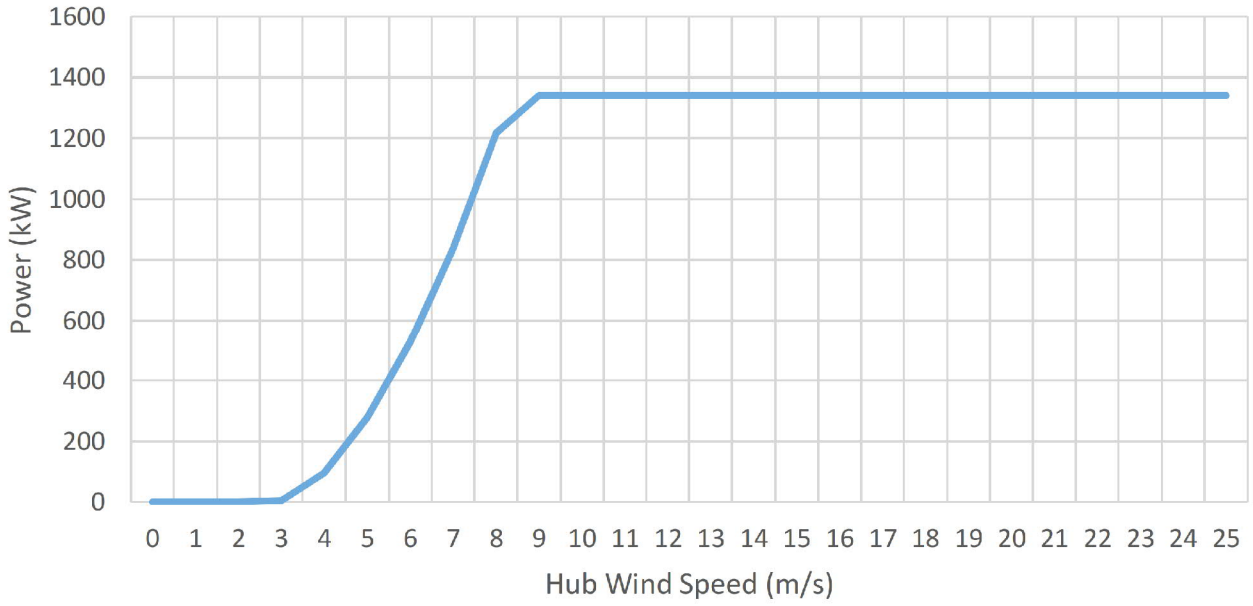
Appendix B
Turbine Information



Power Curve	
Hub Wind Speed (m/s)	Power [kW]
0	0
1	0
2	0
3	4
4	97
5	280
6	526
7	835
8	1216
9	1340
10	1340
11	1340
12	1340
13	1340
14	1340
15	1340
16	1340
17	1340
18	1340
19	1340
20	1340
21	1340
22	1340
23	1340
24	1340
25	1340

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Date: Sept 27, 2017
Revision: 1

Project Name

East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0

Figure Title

Power Curve

Figure B.01

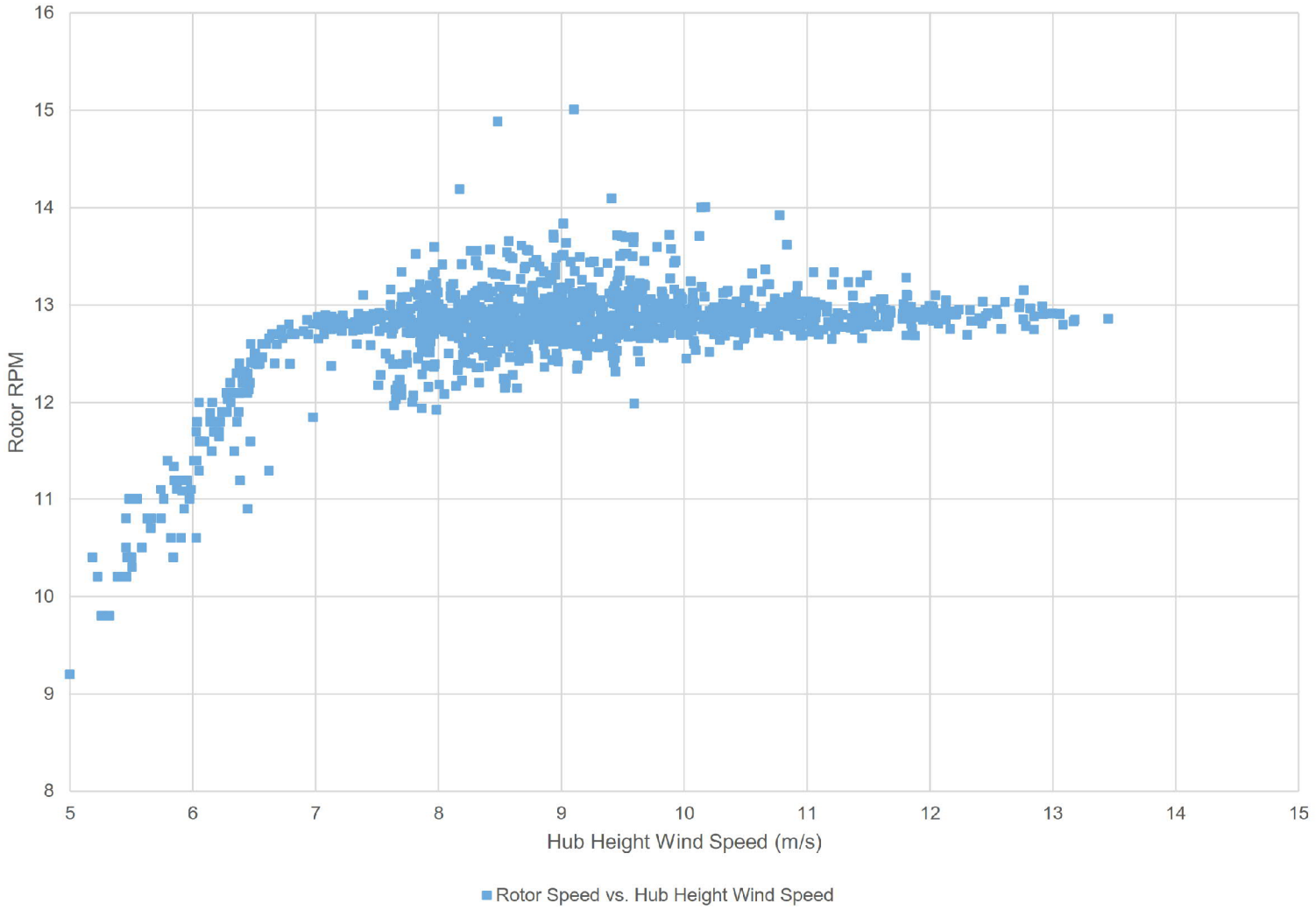

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Figure B.02

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Appendix C
Apparent Sound Power Level

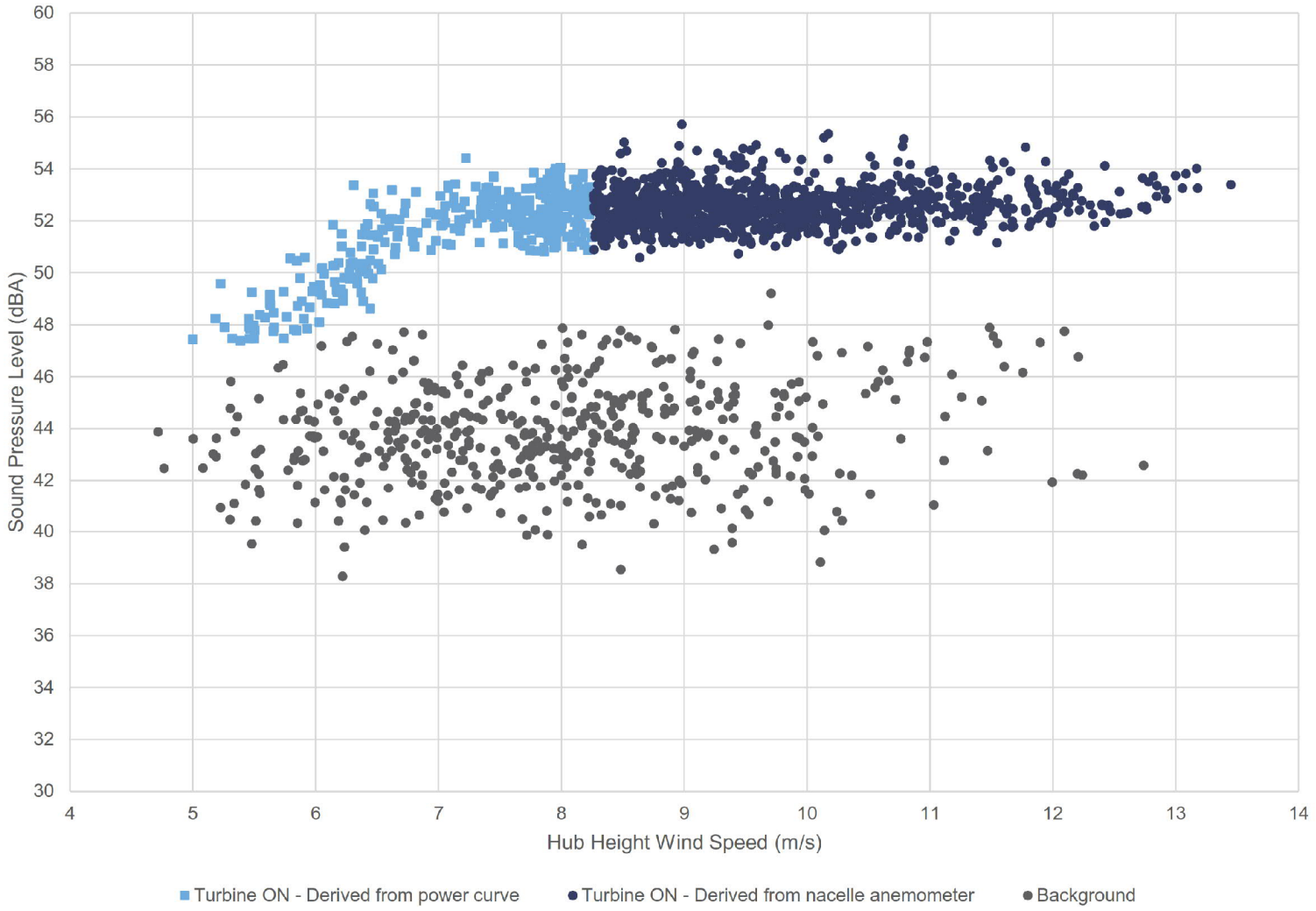

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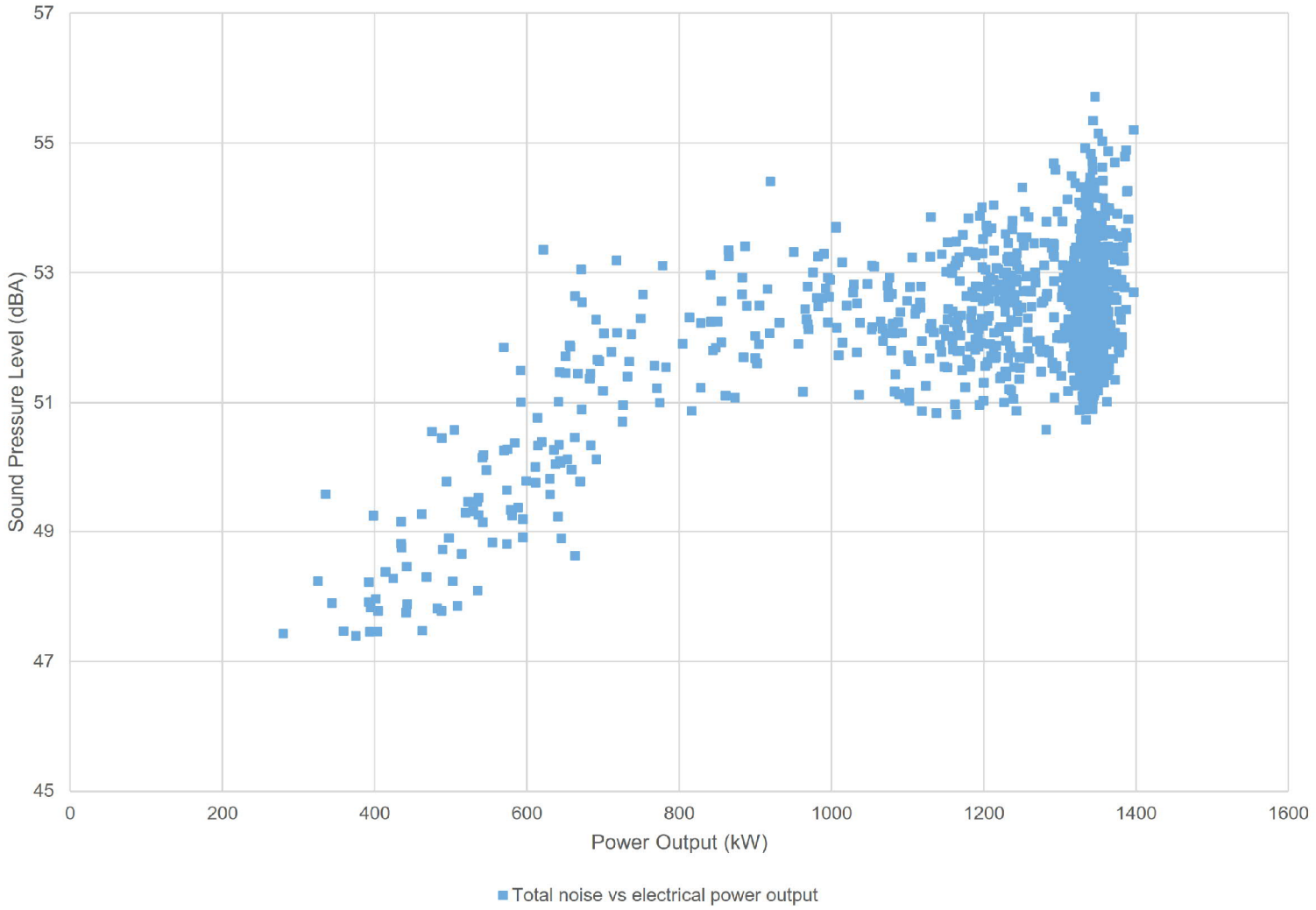
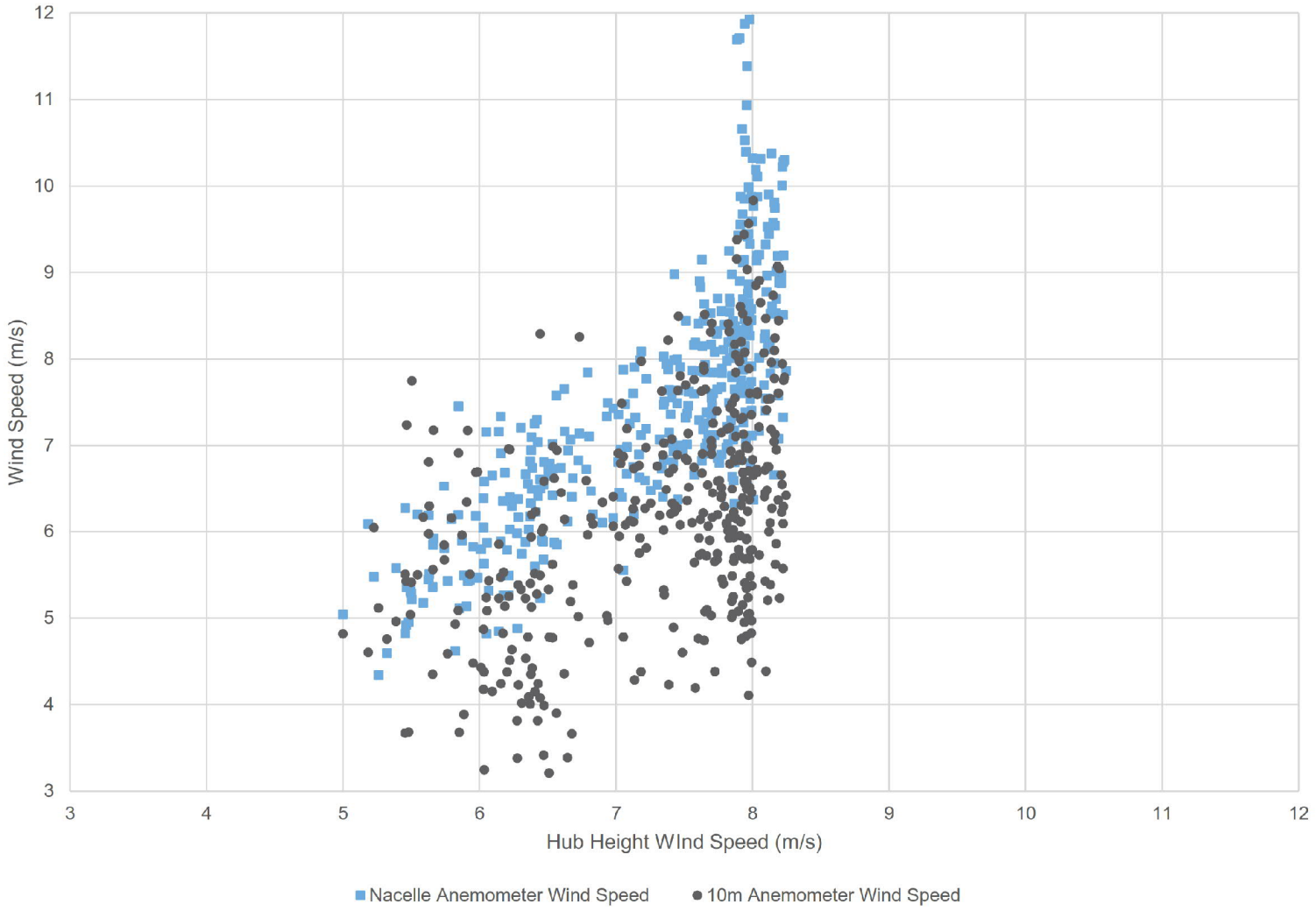
Figure C.01



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of measured total noise vs electrical power output
		Figure C.02



aercoustics	15427.00.T06.RP3 Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	**Project Name** East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0 **Figure Title** Plot of power curve relative to nacelle anemometer and 10m anemometer

Figure C.03

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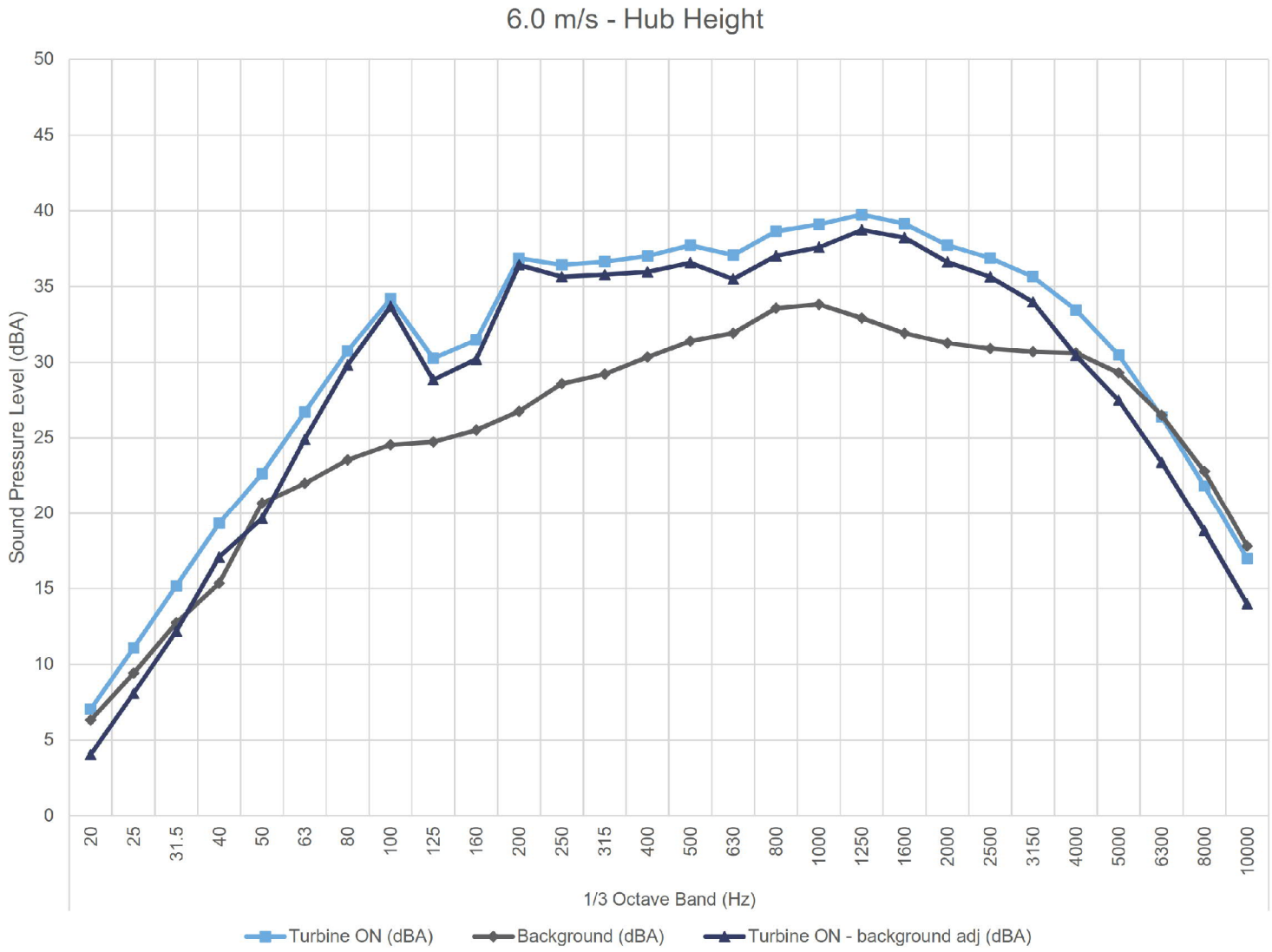
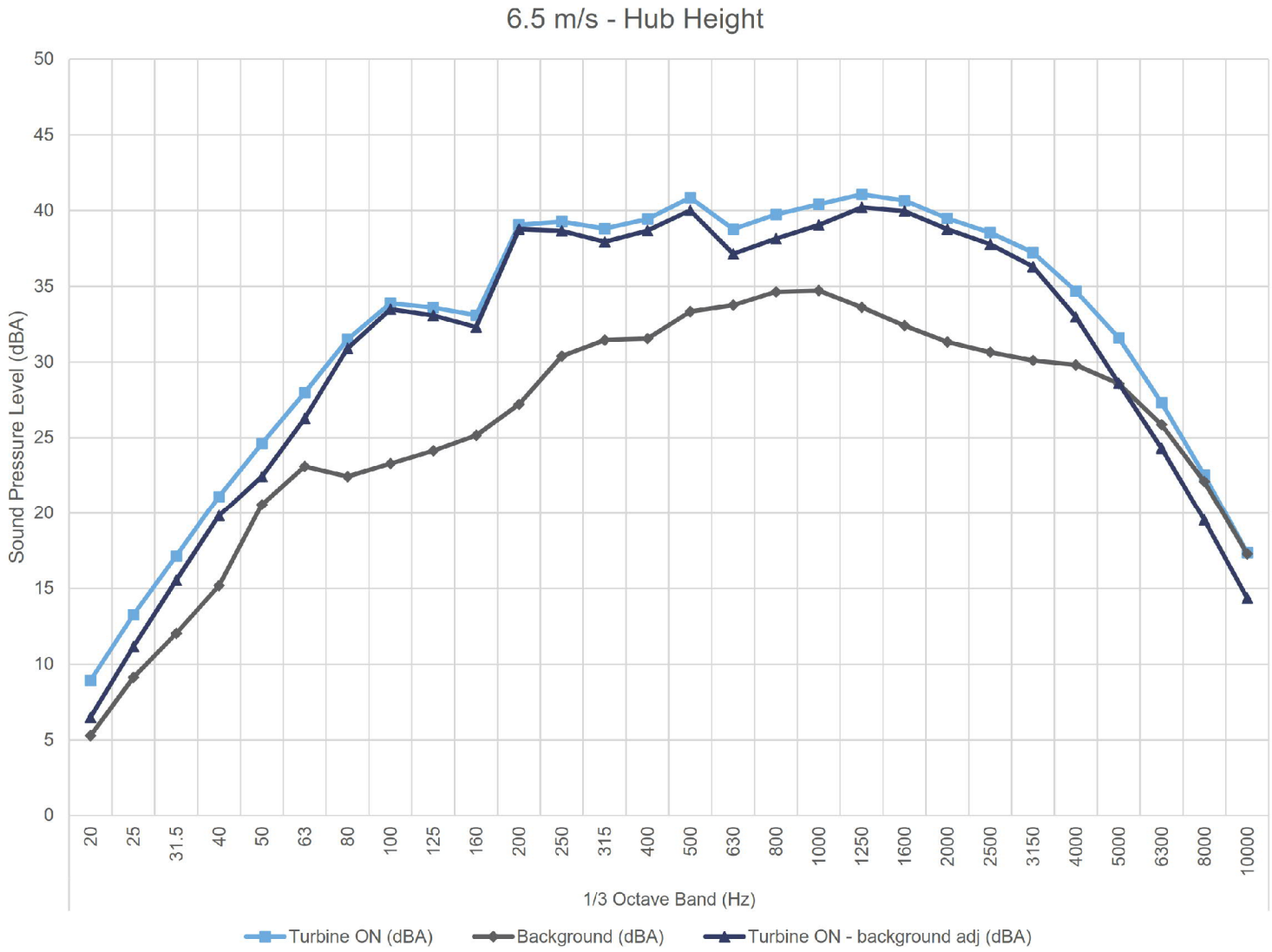
Figure C.04



aercoustics	15427.00.T06.RP3 Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 21, 2017 Revision: 1	**Project Name** East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0 **Figure Title** Plot of sound pressure spectrum in 1/3 Octave at 6 m/s

Figure C.05



aercoustics	15427.00.T06.RP3 Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 21, 2017 Revision: 1	**Project Name** East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0 **Figure Title** Plot of sound pressure spectrum in 1/3 Octave at 6.5 m/s

Figure C.06

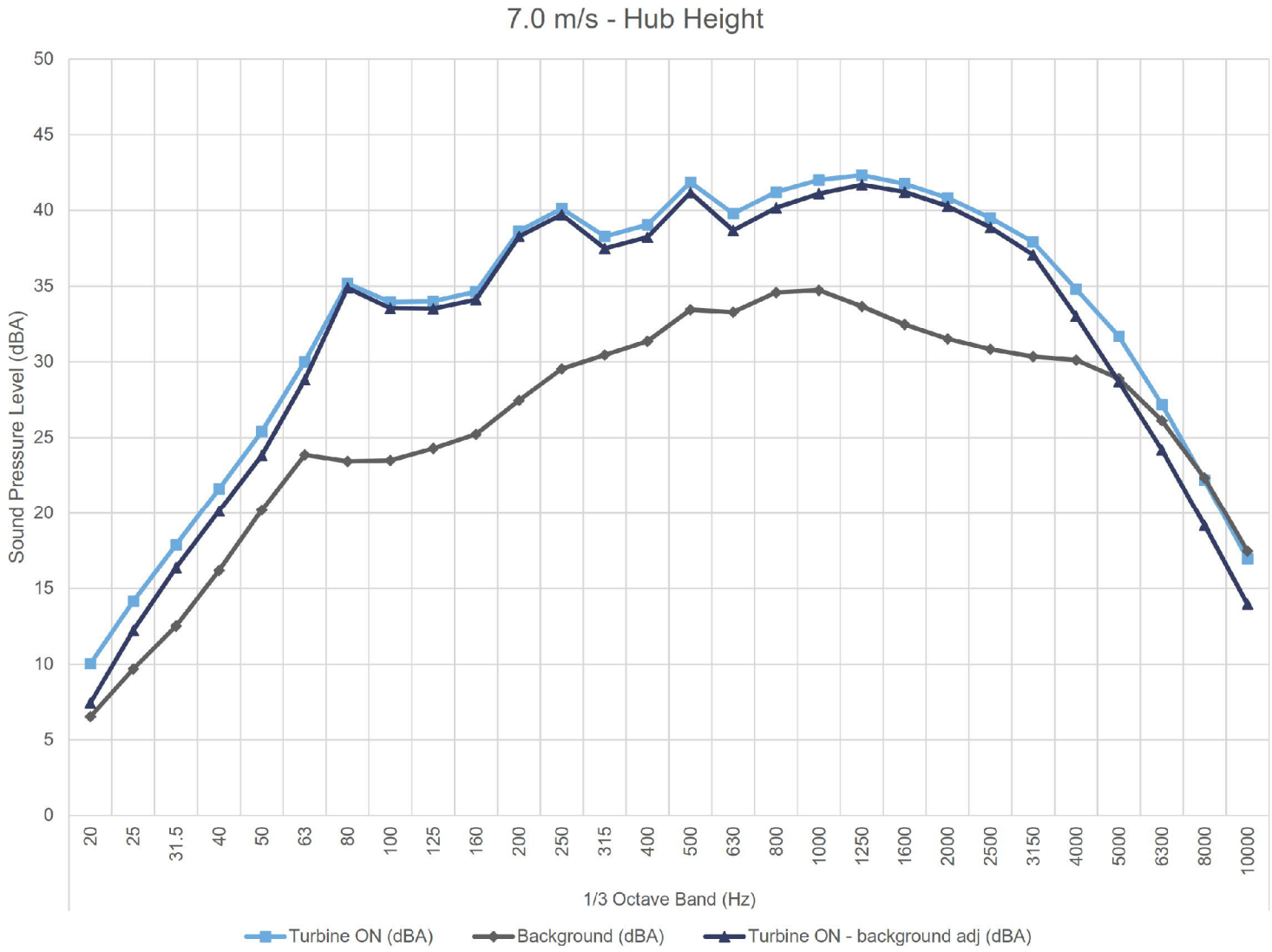


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Figure C.07

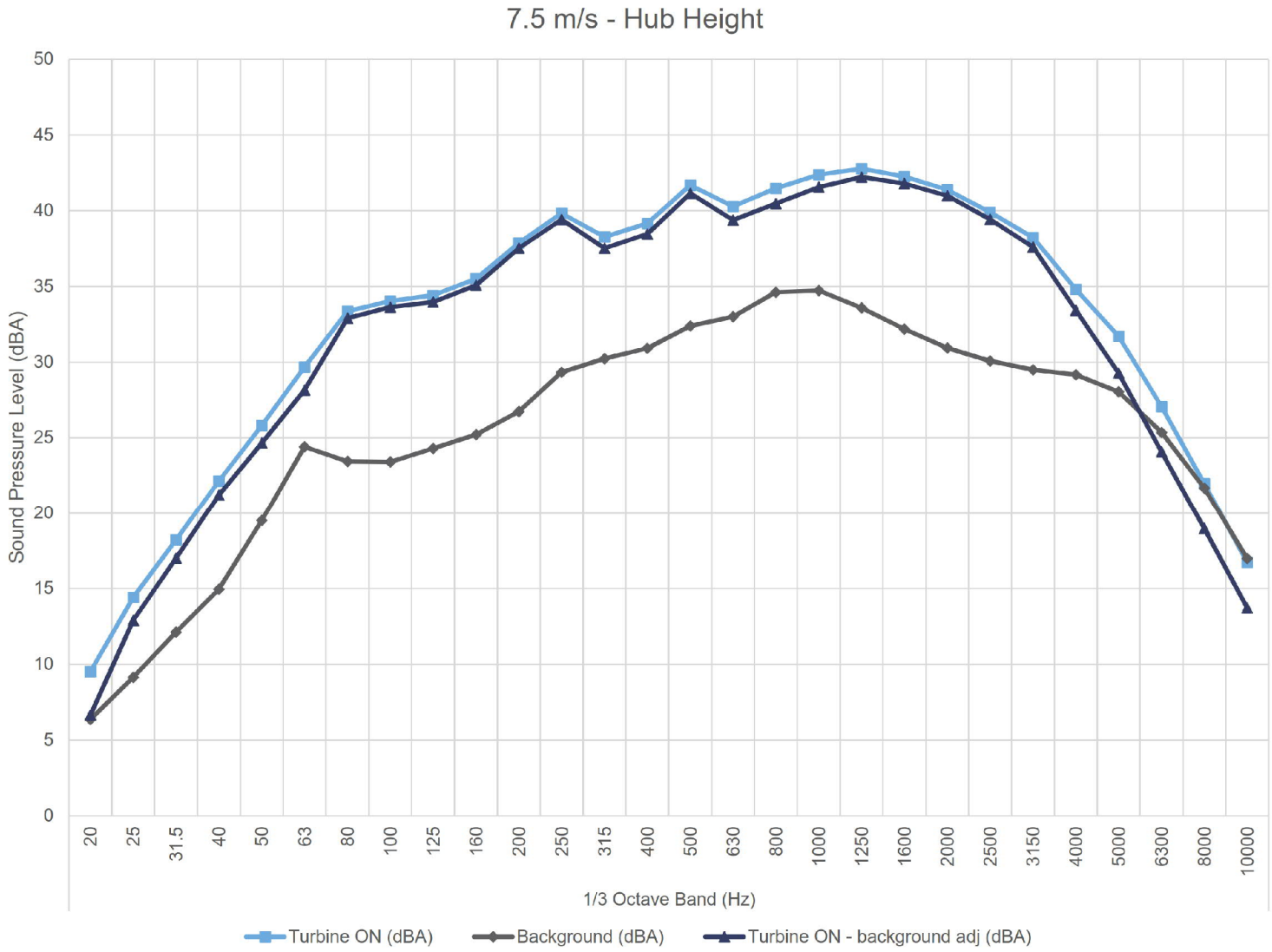

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Figure C.08

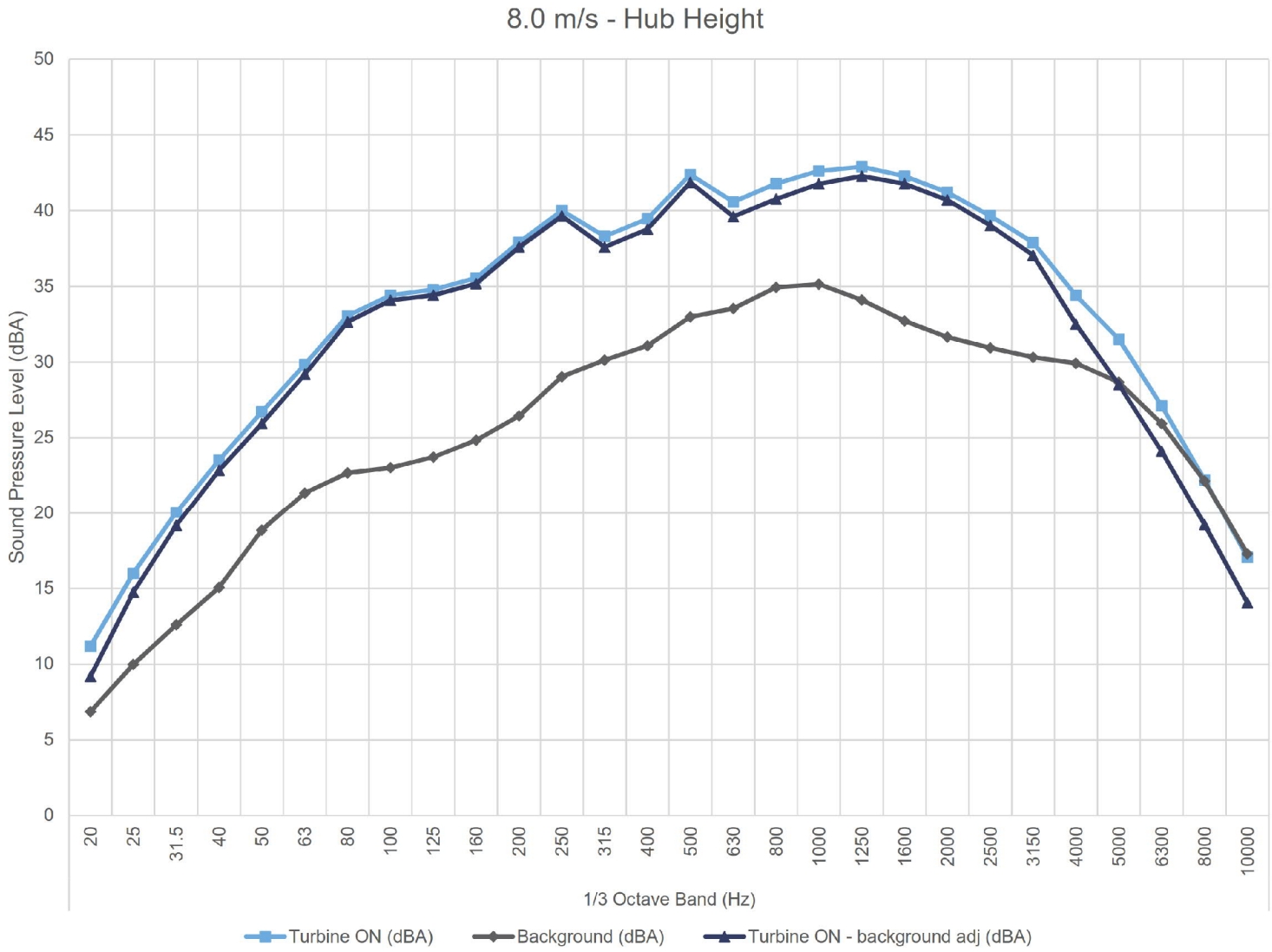

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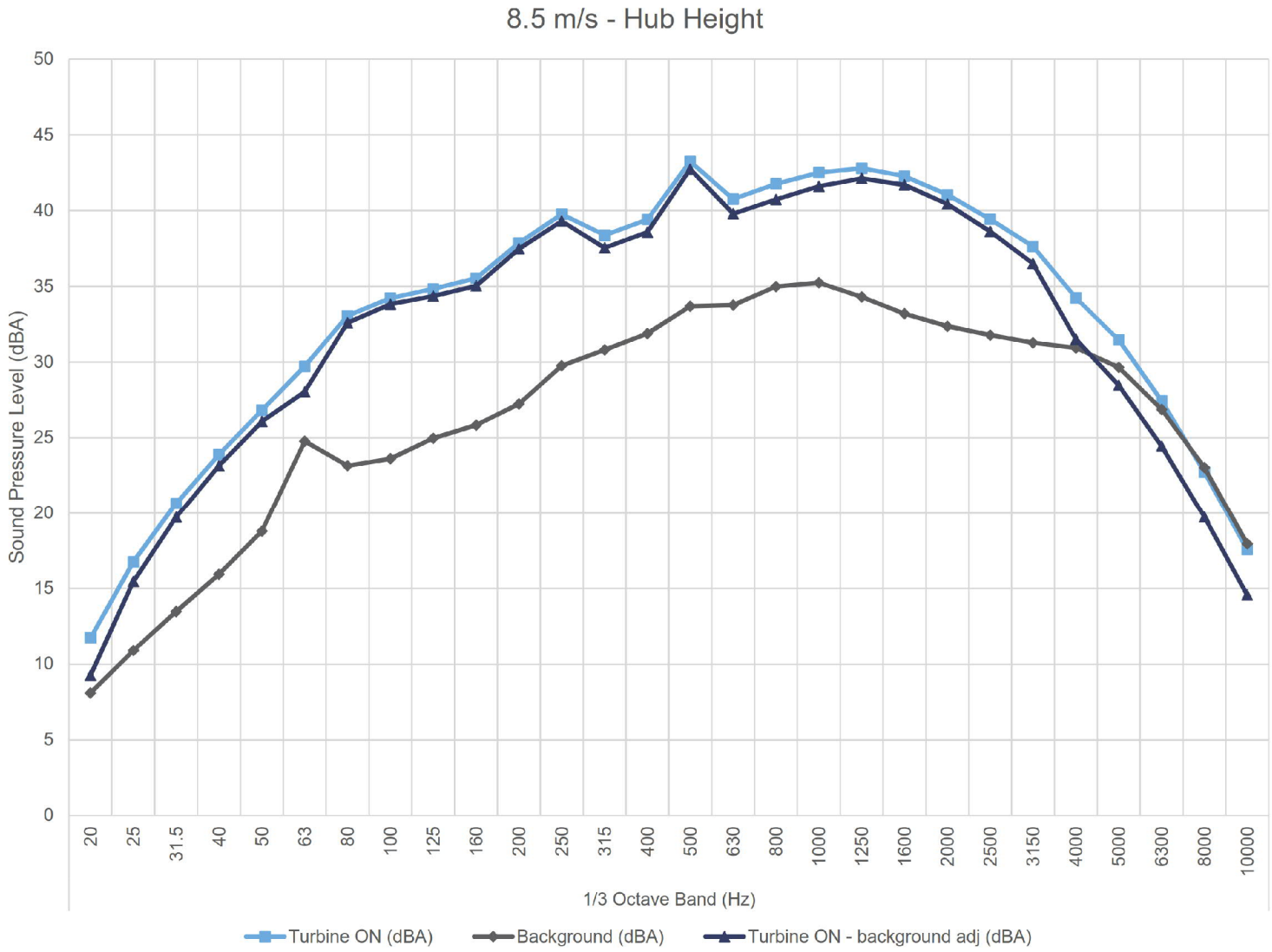
Figure C.09



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Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
	Figure Title Plot of sound pressure spectrum in 1/3 Octave at 8.5 m/s

Figure C.10

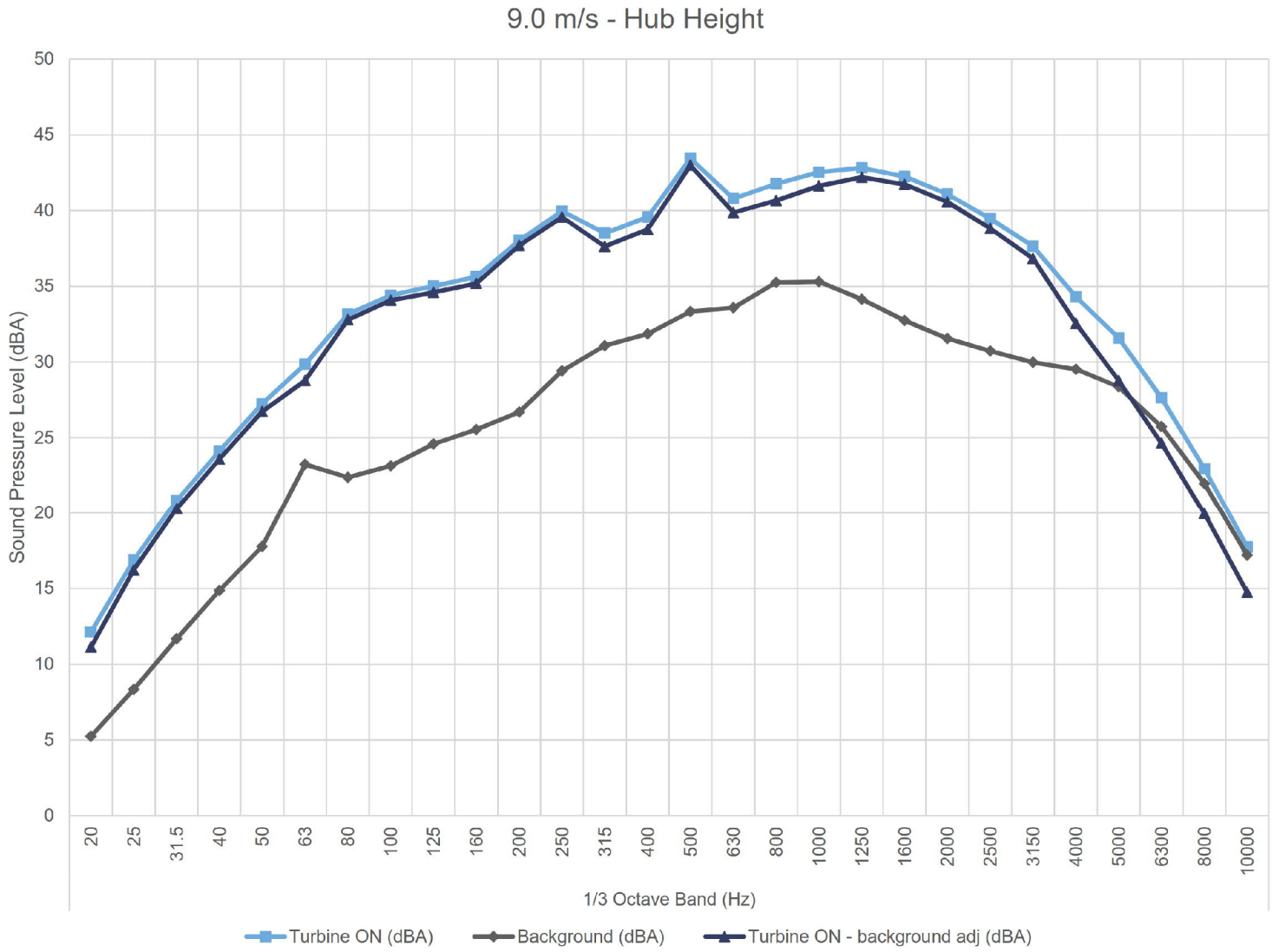

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Figure C.11

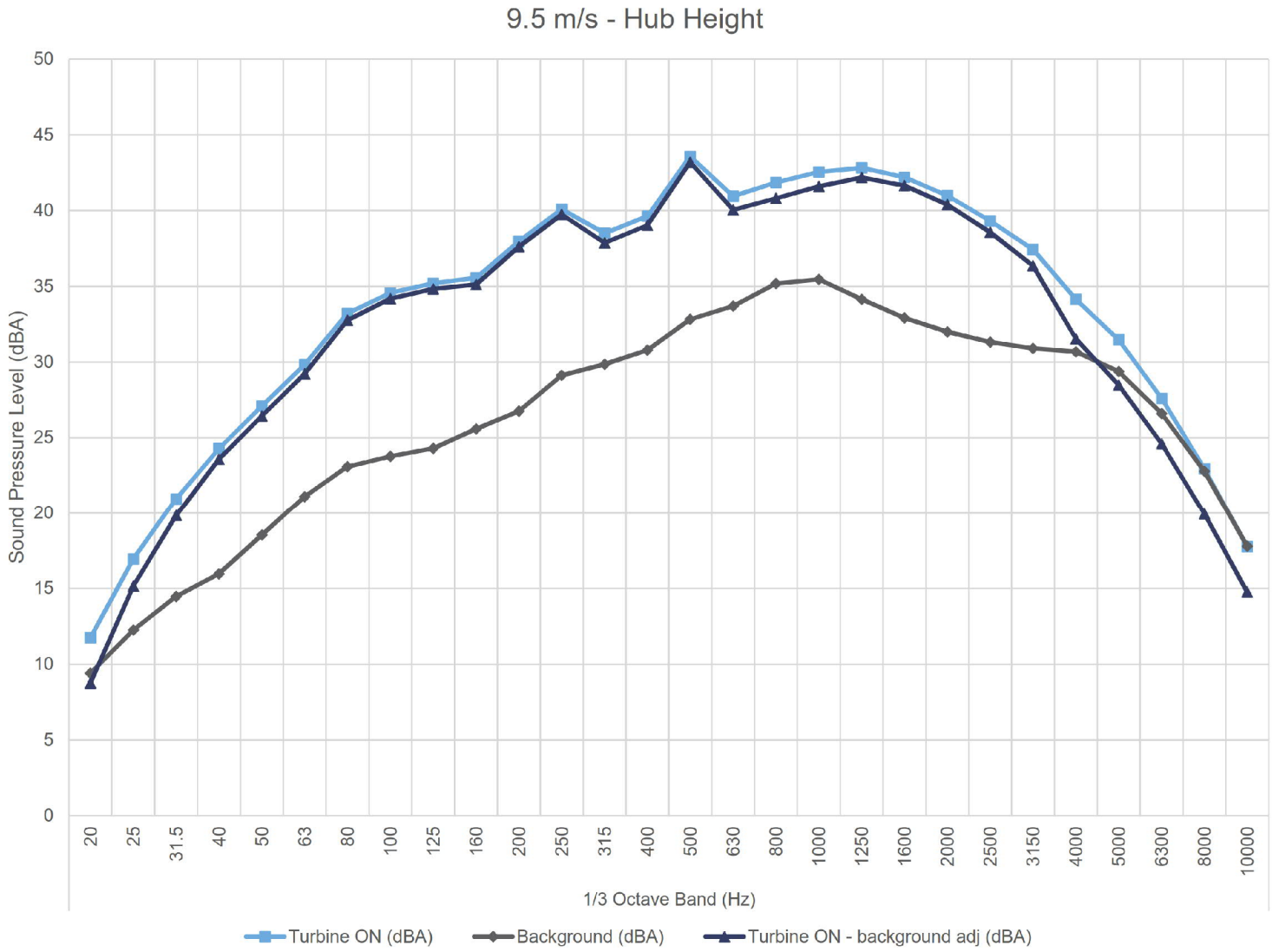

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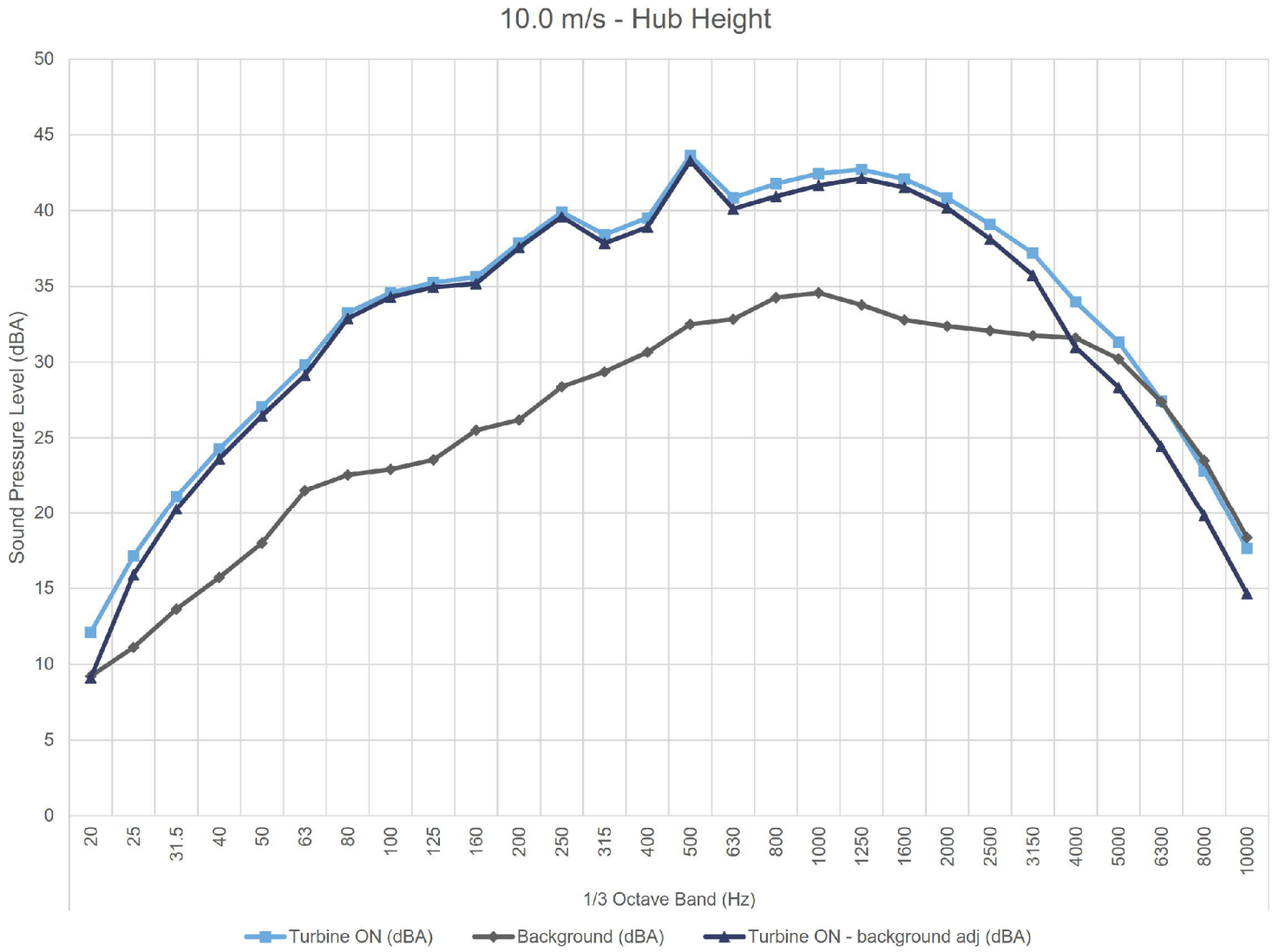
Figure C.12



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15427.00.T06.RP3	**Project Name**
Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
	Figure Title Plot of sound pressure spectrum in 1/3 Octave at 10 m/s

Figure C.13

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

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP2

Created on: 9/22/2017

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	
6.0	Turbine ON (dBA)	7.0	11.1	15.2	19.3	22.6	26.7	30.7	34.2	30.3	31.5	36.9	36.4	36.6	37.0	37.7	37.1	38.6	39.1	39.7	39.1	37.7	36.9	35.7	33.5	30.5	26.4	21.8	17.0	49.5
	Background (dBA)	6.3	9.4	12.7	15.3	20.7	22.0	23.6	24.5	24.7	25.5	26.8	28.6	29.2	30.3	31.4	31.9	33.6	33.8	32.9	31.9	31.3	30.9	30.7	30.6	29.3	26.5	22.8	17.8	43.5
	Turbine ON - background adj (dBA)	4.0	8.1	12.2	17.1	19.6	24.9	29.8	33.7	28.8	30.2	36.4	35.6	35.8	36.0	36.6	35.5	37.0	37.6	38.7	38.2	36.6	35.6	34.0	30.5	27.5	23.4	18.8	14.0	48.3
	Signal to noise (dB)	0.7	1.7	2.4	4.0	2.0	4.7	7.2	9.6	5.5	6.0	10.1	7.8	7.4	6.7	6.3	5.2	5.1	5.3	6.8	7.2	6.5	6.0	5.0	2.8	1.2	-0.1	-1.0	-0.8	6.0
	Uncertainty (dB)	2.4	2.3	1.8	1.4	1.8	1.3	1.0	0.9	1.1	1.1	0.8	0.9	0.8	0.9	0.9	1.0	1.0	1.0	0.8	0.8	0.9	1.1	1.2	1.8	1.8	1.8	1.8	3.1	1.0
	PWL (dBA)	52.3	56.3	60.4	65.3	67.9	73.1	78.0	81.9	77.1	78.4	84.7	83.9	84.0	84.2	84.8	83.7	85.2	85.8	87.0	86.5	84.8	83.9	82.2	78.7	75.7	71.6	67.1	62.2	96.5
6.5	Turbine ON (dBA)	8.9	13.3	17.1	21.1	24.6	28.0	31.5	33.9	33.6	33.1	39.1	39.3	38.8	39.4	40.9	38.8	39.7	40.4	41.1	40.7	39.5	38.5	37.2	34.7	31.6	27.3	22.5	17.4	51.3
	Background (dBA)	5.3	9.1	12.0	15.2	20.6	23.1	22.4	23.3	24.1	25.2	27.2	30.4	31.5	31.6	33.3	33.8	34.6	34.7	33.6	32.4	31.3	30.6	30.1	29.8	28.6	25.9	22.1	17.3	44.2
	Turbine ON - background adj (dBA)	6.5	11.2	15.5	19.8	22.4	26.3	30.9	33.5	33.1	32.3	38.8	38.7	37.9	38.7	40.0	37.1	38.1	39.0	40.2	40.0	38.8	37.8	36.3	33.0	28.6	24.3	19.5	14.4	50.3
	Signal to noise (dB)	3.7	4.1	5.1	5.9	4.1	4.9	9.0	10.6	9.5	7.9	11.9	8.9	7.4	7.9	7.5	5.0	5.1	5.7	7.5	8.3	8.2	7.9	7.1	4.9	3.0	1.4	0.4	0.1	7.1
	Uncertainty (dB)	1.9	1.7	1.2	1.1	1.4	1.2	0.9	0.8	1.0	0.9	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.8	0.8	0.8	0.9	1.0	1.2	1.8	1.8	1.8	3.1	0.9
	PWL (dBA)	54.7	59.4	63.8	68.0	70.7	74.5	79.1	81.7	81.3	80.6	87.0	86.9	86.2	86.9	88.2	85.4	86.4	87.3	88.4	88.2	87.0	86.0	84.5	81.2	76.8	72.5	67.8	62.6	98.5
7.0	Turbine ON (dBA)	10.0	14.2	17.9	21.6	25.4	30.0	35.2	34.0	34.0	34.6	38.6	40.1	38.3	39.1	41.9	39.8	41.2	42.0	42.3	41.8	40.8	39.5	37.9	34.8	31.7	27.2	22.2	17.0	52.1
	Background (dBA)	6.5	9.7	12.5	16.2	20.2	23.9	23.4	23.5	24.3	25.2	27.5	29.5	30.5	31.4	33.5	33.3	34.6	34.7	33.7	32.5	31.5	30.8	30.4	30.1	28.9	26.1	22.3	17.5	44.1
	Turbine ON - background adj (dBA)	7.4	12.2	16.4	20.1	23.8	28.8	34.9	33.5	33.5	34.1	38.3	39.7	37.5	38.2	41.2	38.7	40.2	41.1	41.7	41.2	40.3	38.9	37.1	33.0	28.7	24.2	19.2	14.0	51.4
	Signal to noise (dB)	3.5	4.5	5.4	5.4	5.2	6.2	11.8	10.5	9.7	9.4	11.2	10.6	7.8	7.7	8.4	6.5	6.6	7.3	8.7	9.3	9.3	8.7	7.6	4.7	2.8	1.1	-0.2	-0.5	8.0
	Uncertainty (dB)	2.1	1.6	1.1	1.1	1.2	1.2	1.1	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.7	0.7	0.9	0.9	1.3	1.8	1.8	1.8	3.1	0.8
	PWL (dBA)	55.7	60.5	64.6	68.4	72.1	77.1	83.1	81.8	81.7	82.3	86.5	88.0	85.7	86.5	89.4	86.9	88.4	89.3	89.9	89.5	88.5	87.1	85.3	81.2	76.9	72.4	67.4	62.2	99.6
7.5	Turbine ON (dBA)	9.5	14.4	18.2	22.1	25.8	29.7	33.4	34.0	34.4	35.5	37.9	39.8	38.3	39.2	41.7	40.3	41.5	42.4	42.8	42.3	41.4	39.9	38.2	34.8	31.7	27.1	22.0	16.7	52.3
	Background (dBA)	6.4	9.1	12.1	14.9	19.5	24.4	23.4	23.4	24.3	25.2	26.7	29.3	30.2	30.9	32.4	33.0	34.6	34.7	33.6	32.2	30.9	30.1	29.5	29.2	28.0	25.4	21.7	17.0	43.8
	Turbine ON - background adj (dBA)	6.6	12.9	17.0	21.2	24.7	28.2	32.9	33.6	34.0	35.1	37.5	39.4	37.5	38.5	41.1	39.4	40.5	41.6	42.2	41.8	41.0	39.4	37.6	33.4	29.3	[24.1]	[19]	[13.7]	51.7
	Signal to noise (dB)	3.2	5.3	6.1	7.2	6.3	5.3	9.9	10.6	10.1	10.3	11.1	10.5	8.0	8.3	9.3	7.3	6.9	7.7	9.2	10.1	10.5	9.8	8.7	5.6	3.7	1.7	0.3	-0.2	8.6
	Uncertainty (dB)	2.1	1.4	1.0	0.9	1.0	1.1	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	1.1	1.4	1.7	1.7	3.0	0.8
	PWL (dBA)	54.9	61.1	65.2	69.4	72.9	76.4	81.1	81.9	82.2	83.3	85.7	87.6	85.8	86.7	89.4	87.6	88.7	89.8	90.5	90.0	89.2	87.7	85.8	81.7	77.5	[72.3]	[67.2]	[62]	99.9
8.0	Turbine ON (dBA)	11.2	16.0	20.0	23.5	26.7	29.8	33.1	34.4	34.8	35.6	37.9	40.0	38.3	39.5	42.4	40.6	41.8	42.6	42.9	42.3	41.2	39.6	37.9	34.4	31.5	27.1	22.2	17.1	52.5
	Background (dBA)	6.9	10.0	12.6	15.1	18.9	21.3	22.7	23.0	23.7	24.8	26.4	29.0	30.1	31.1	33.0	33.5	34.9	35.1	34.1	32.7	31.6	30.9	30.3	29.9	28.7	25.9	22.1	17.3	44.1
	Turbine ON - background adj (dBA)	9.2	14.7	19.2	22.9	25.9	29.2	32.7	34.1	34.4	35.2	37.6	39.6	37.6	38.8	41.8	39.6	40.8	41.8	42.3	41.8	40.7	39.0	37.0	32.5	[28.5]	[24.1]	[19.2]	[14.1]	51.8
	Signal to noise (dB)	4.3	6.0	7.4	8.5	7.9	8.5	10.4	11.4	11.0	10.7	11.5	11.0	8.2	8.4	9.4	7.0	6.8	7.5	8.8	9.6	9.6	8.7	7.6	4.5	2.8	1.2	0.1	-0.2	8.3
	Uncertainty (dB)	1.7	1.4	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.3	1.8	1.8	1.8	3.2	0.8
	PWL (dBA)	57.4	63.0	67.4	71.1	74.2	77.4	80.9	82.3	82.6	83.4	85.8	87.9	85.8	87.0	90.1	87.8	89.0	90.0	90.5	90.0	88.9	87.2	85.3	80.7	[76.7]	[72.3]	[67.4]	[62.3]	100.0
8.5	Turbine ON (dBA)	11.7	16.8	20.6	23.9	26.8	29.7	33.0	34.2	34.8	35.5	37.9	39.8	38.4	39.4	43.2	40.8	41.8	42.5	42.8	42.3	41.1	39.4	37.6	34.2	31.5	27.4	22.7	17.6	52.5
	Background (dBA)	8.1	10.9	13.5	15.9	18.8	24.8	23.2	23.6	25.0	25.8	27.2	29.8	30.8	31.9	33.7	33.8	35.0	35.2	34.3	33.2	32.4	31.8	31.3	30.9	29.6	26.9	23.0	18.0	44.7
	Turbine ON - background adj (dBA)	9.3	15.5	19.7	23.1	26.1	28.0	32.6	33.8	34.4	35.0	37.5	39.3	37.5	38.6	42.7	39.8	40.7	41.6	42.1	41.7	40.4	38.6	36.5	31.5	[28.5]	[24.4]	[19.7]	[14.6]	51.7
	Signal to noise (dB)	3.6	5.9	7.2	8.0	8.0	4.9	9.9	10.6	9.9	9.7	10.6	10.0	7.6	7.5	9.6	7.0	6.8	7.3	8.5	9.1	8.7	7.7	6.4	3.3	1.8	0.6	-0.3	-0.4	7.8
	Uncertainty (dB)	2.0	1.4	1.0	1.0	1.0	1.3	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.8	0.9	0.9	0.9	0.8	0.8	0.8	1.0	1.1	1.7	1.8	1.8	1.8	3.2	0.9
	PWL (dBA)	57.5	63.7	67.9	71.4	74.3	76.3	80.8	82.1	82.6	83.3	85.7	87.5	85.8	86.8	91.0	88.0	89.0	89.8	90.4	89.9	88.6	86.8	84.7	79.7	[76.7]	[72.7]	[68]	[62.8]	100.0
9.0	Turbine ON (dBA)	12.1	16.9	20.8	24.1	27.2	29.9	33.2	34.4	35.0	35.6	38.0	40.0	38.5	39.6	43.4	40.8	41.8	42.5	42.8	42.2	41.1	39.5	37.7	34.3	31.6	27.6	23.0	17.7	52.6
	Background (dBA)	5.2	8.3	11.7	14.9	17.8	23.2	22.4	23.1	24.6	25.6	26.7	29.4	31.1	31.9	33.3	33.6	35.2	35.3	34.1	32.7	31.6	30.7	30.0	29.5	28.4	25.7	22.0	17.2	44.3
	Turbine ON - background adj (dBA)	11.1	16.2	20.3	23.6	26.7	28.8	32.8	34.1	34.6	35.2	37.7	39.6	37.6	38.8	43.0	39.9	40.7	41.6	42.2	41.7	40.6	38.8	36.8	32.6	28.8	[24.6]	[20]	[14.7]	51.9
	Signal to noise (dB)	6.9	8.5	9.2	9.3	9.5	6.6	10.8	11.3	10.4	10.1	11.3	10.6	7.4	7.7	10.1	7.2	6.5	7.2	8.7	9.5	9.5	8.7	7.7	4.8	3.2	1.9	1.0	0.5	8.3
	Uncertainty (dB)	1.3	1.2	0.9	0.9	0.9	1.1	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.9	1.0	1.3	1.8	1.9	1.9	3.2	0.9
	PWL (dBA)	59.3	64.4	68.5	71.8	75.0	77.0	81.0	82.3	82.8	83.4	85.9	87.8	85.9	87.0	91.2	88.1	88.9	89.9	90.4	90.0	88.8	87.1	85.1	80.8	77.0	[72.9]	[68.2]	[63]	100.1
9.5	Turbine ON (dBA)	11.8	17.0	21.0	24.3	27.1	29.8	33.2	34.6	35.2	35.6	38.0	40.1	38.5	39.6	43.6	41.0	41.9	42.6	42.8	42.2	41.0	39.3	37.4	34.1	31.5	27.6	22.9	17.8	52.6
	Background (dBA)	9.4	12.2	14.5	16.0	18.5	21.1	23.1	23.8	24.3	25.6	26.8	29.1	29.9	30.8	32.8	33.7	35.2	35.5	34.1	32.9	32.0	31.3	30.9	30.7	29.4	26.6	22.8	17.8	44.4
	Turbine ON - background adj (dBA)	[8.8]	15.2	19.8	23.6	26.4	29.2	32.8	34.2	34.8	35.1	37.6	39.7	37.9	39.0	43.2	40.0	40.8	41.6	42.2	41.7	40.4	38.6	36.4	31.5	[28.5]	[24.6]	[19.9]	[14.8]	51.9
	Signal to noise (dB)	2.3	4.7	6.5	8.3	8.6	8.7	10.1	10.8	10.9	10.0	11.2	11.0	8.6	8.8	10.8	7.3	6.7	7.1	8.7	9.3	9.0	8.0	6.5	3.5	2.1	1.0	0.2	0.0	8.2
	Uncertainty (dB)	2.5	1.7	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	1.0	1.1	1.7	1.9	1.9	1.9	3.2	0.8
	PWL (dBA)	[57]	63.4	68.1	71.8	74.7	77.5	81.0	82.4	83.1	83.3	85.8	88.0	86.1	87.3	91.4	88.3	89.0	89.8	90.4	89.9	88.6	86.8	84.6	79.8	[76.7]	[72.8]	[68.2]	[63]	100.1

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

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

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	
10.0	Turbine ON (dBA)	12.1	17.2	21.1	24.3	27.0	29.8	33.3	34.6	35.2	35.6	37.9	39.9	38.4	39.5	43.6	40.9	41.8	42.4	42.7	42.1	40.8	39.1	37.2	34.0	31.3	27.4	22.8	17.7	52.5
	Background (dBA)	9.2	11.1	13.6	15.7	18.0	21.5	22.6	22.9	23.6	25.5	26.2	28.4	29.4	30.7	32.5	32.8	34.3	34.6	33.8	32.8	32.4	32.1	31.8	31.6	30.2	27.4	23.5	18.4	44.2
	Turbine ON - background adj (dBA)	[9.1]	15.9	20.3	23.6	26.5	29.1	32.9	34.3	34.9	35.2	37.6	39.6	37.8	38.9	43.3	40.1	40.9	41.7	42.1	41.5	40.2	38.1	35.7	[31]	[28.3]	[24.4]	[19.8]	[14.7]	51.9
	Signal to noise (dB)	2.9	6.0	7.5	8.5	9.0	8.3	10.7	11.7	11.7	10.1	11.7	11.5	9.1	8.9	11.1	8.0	7.5	7.9	9.0	9.3	8.5	7.0	5.4	2.4	1.1	0.1	-0.7	-0.7	8.4
	Uncertainty (dB)	2.5	1.4	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	1.0	1.2	1.9	1.9	1.9	1.9	3.2	0.8
	PWL (dBA)	[57.3]	64.1	68.5	71.8	74.7	77.4	81.1	82.5	83.2	83.4	85.8	87.8	86.1	87.2	91.5	88.3	89.2	89.9	90.4	89.8	88.4	86.4	84.0	[79.2]	[76.6]	[72.7]	[68]	[62.9]	100.1

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

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

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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	
4.0	Turbine ON (dBA)	6.7	10.4	14.5	18.5	21.7	25.8	31.0	34.0	29.0	31.2	35.8	35.0	35.7	36.0	36.3	35.9	37.7	38.0	38.9	38.2	36.6	35.8	34.7	32.7	29.9	25.9	21.6	16.9	48.5
	Background (dBA)	6.1	9.2	12.5	15.3	22.4	22.0	24.7	24.6	24.7	25.5	26.6	28.4	29.0	30.0	31.3	31.7	33.4	33.7	32.9	32.1	31.6	31.4	31.1	31.0	29.7	26.8	23.0	18.0	43.5
	Turbine ON - background adj (dBA)	[3.7]	[7.4]	[11.5]	15.7	[18.7]	23.4	29.9	33.4	27.1	29.8	35.3	34.0	34.7	34.8	34.6	33.9	35.7	36.1	37.6	36.9	34.9	33.8	32.1	[29.7]	[26.9]	[22.9]	[18.6]	[13.9]	46.9*
	Signal to noise (dB)	0.6	1.2	2.0	3.2	-0.8	3.8	6.3	9.4	4.4	5.7	9.2	6.6	6.8	6.0	5.0	4.2	4.3	4.4	6.0	6.1	5.0	4.4	3.5	1.7	0.2	-0.9	-1.4	-1.1	5.0
	Uncertainty (dB)	2.9	2.9	2.3	2.0	2.2	1.8	1.3	1.1	1.6	1.4	1.0	1.2	1.1	1.2	1.3	1.4	1.4	1.4	1.2	1.2	1.4	1.7	2.0	2.2	2.2	2.2	2.2	3.8	1.3
	PWL (dBA)	[51.9]	[55.6]	[59.8]	63.9	[66.9]	71.7	78.1	81.7	75.3	78.1	83.5	82.2	82.9	83.0	82.8	82.1	83.9	84.3	85.9	85.2	83.2	82.1	80.3	[78]	[75.1]	[71.2]	[66.8]	[62.2]	95.2*
5.0	Turbine ON (dBA)	9.4	13.9	17.7	21.6	25.2	29.2	33.3	34.1	34.0	34.5	38.5	39.6	38.5	39.2	41.3	39.6	40.8	41.6	42.1	41.6	40.6	39.3	37.8	34.7	31.7	27.2	22.2	17.0	51.9
	Background (dBA)	6.2	9.4	12.3	15.6	20.2	24.1	23.0	23.4	24.2	25.2	27.3	29.9	30.9	31.4	33.3	33.5	34.7	34.8	33.7	32.4	31.2	30.5	29.9	29.6	28.4	25.7	22.0	17.2	44.1
	Turbine ON - background adj (dBA)	6.5	11.9	16.2	20.4	23.6	27.6	32.9	33.7	33.5	34.0	38.1	39.2	37.6	38.4	40.6	38.4	39.6	40.6	41.4	41.0	40.1	38.7	37.0	33.2	28.9	[24.2]	[19.2]	[14]	51.1
	Signal to noise (dB)	3.1	4.4	5.4	6.0	5.0	5.1	10.3	10.7	9.7	9.3	11.2	9.8	7.6	7.8	8.1	6.2	6.1	6.8	8.4	9.2	9.3	8.9	7.9	5.1	3.2	1.5	0.3	-0.1	7.8
	Uncertainty (dB)	2.2	1.6	1.1	1.1	1.2	1.2	0.9	0.9	0.9	0.9	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.2	1.7	1.8	1.8	3.1	0.9
	PWL (dBA)	54.7	60.2	64.4	68.6	71.8	75.8	81.1	81.9	81.7	82.2	86.3	87.4	85.9	86.7	88.8	86.7	87.8	88.8	89.6	89.2	88.3	86.9	85.2	81.4	77.1	[72.4]	[67.5]	[62.3]	99.3
6.0	Turbine ON (dBA)	11.5	16.3	20.3	23.7	26.8	29.8	33.1	34.3	34.8	35.6	38.0	39.9	38.4	39.5	42.9	40.6	41.7	42.5	42.8	42.2	41.1	39.5	37.8	34.3	31.5	27.3	22.5	17.4	52.5
	Background (dBA)	7.1	10.0	12.8	15.4	18.6	23.3	23.0	23.3	24.3	25.3	26.7	29.3	30.5	31.5	33.2	33.5	34.9	35.1	34.1	32.8	31.9	31.2	30.7	30.3	29.0	26.3	22.5	17.5	44.3
	Turbine ON - background adj (dBA)	9.5	15.2	19.5	23.0	26.1	28.7	32.6	33.9	34.4	35.1	37.6	39.5	37.6	38.7	42.4	39.7	40.7	41.6	42.2	41.7	40.6	38.8	36.8	32.2	[28.5]	[24.3]	[19.5]	[14.4]	51.8
	Signal to noise (dB)	4.4	6.3	7.5	8.3	8.2	6.4	10.1	11.0	10.5	10.2	11.3	10.7	7.9	8.0	9.7	7.1	6.8	7.4	8.7	9.4	9.2	8.3	7.1	4.0	2.5	1.0	0.0	-0.2	8.2
	Uncertainty (dB)	1.7	1.3	1.0	0.9	0.9	1.0	0.9	0.8	0.9	0.9	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.4	1.7	1.7	1.7	3.1	0.8
	PWL (dBA)	57.8	63.4	67.7	71.2	74.4	76.9	80.9	82.2	82.6	83.3	85.9	87.8	85.9	86.9	90.6	87.9	88.9	89.9	90.4	89.9	88.8	87.0	85.0	80.4	[76.7]	[72.6]	[67.8]	[62.6]	100.0
7.0	Turbine ON (dBA)	12.0	17.1	21.1	24.3	27.1	29.8	33.2	34.6	35.2	35.6	37.9	39.9	38.5	39.6	43.6	40.9	41.8	42.5	42.8	42.2	40.9	39.2	37.4	34.1	31.5	27.6	23.0	17.8	52.6
	Background (dBA)	8.5	11.2	13.7	15.5	18.3	21.2	22.7	23.4	24.3	25.5	26.7	29.1	30.0	30.9	32.8	33.4	34.8	35.1	34.0	32.8	32.0	31.4	30.9	30.7	29.4	26.6	22.8	17.8	44.2
	Turbine ON - background adj (dBA)	9.4	15.8	20.2	23.7	26.5	29.2	32.8	34.2	34.8	35.1	37.5	39.6	37.8	38.9	43.2	40.1	40.9	41.7	42.2	41.6	40.3	38.4	36.2	31.5	[28.5]	[24.6]	[20]	[14.8]	51.9
	Signal to noise (dB)	3.4	5.9	7.4	8.8	8.8	8.6	10.5	11.2	10.9	10.1	11.2	10.8	8.4	8.7	10.8	7.5	7.0	7.4	8.8	9.4	9.0	7.8	6.4	3.4	2.1	1.0	0.2	0.0	8.3
	Uncertainty (dB)	2.1	1.4	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.8	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.7	1.7	1.7	1.7	3.1	0.8
	PWL (dBA)	57.6	64.0	68.4	71.9	74.7	77.4	81.1	82.4	83.1	83.4	85.8	87.8	86.0	87.2	91.5	88.3	89.1	89.9	90.4	89.9	88.6	86.7	84.5	79.7	[76.7]	[72.9]	[68.2]	[63]	100.1
8.0	Turbine ON (dBA)	12.8	17.7	21.5	24.7	27.4	30.0	33.5	34.8	35.5	35.8	38.1	40.2	38.8	40.0	43.9	41.3	42.2	42.8	43.0	42.3	41.0	39.2	37.3	34.4	31.9	28.2	23.6	18.3	52.8
	Background (dBA)	11.0	13.3	15.2	18.0	19.9	22.3	23.8	24.0	24.8	25.3	27.1	29.2	30.5	31.8	33.7	34.3	36.2	36.1	35.4	34.7	34.5	34.3	33.9	33.6	32.1	29.2	25.2	19.8	45.8
	Turbine ON - background adj (dBA)	[9.8]	15.8	20.4	23.7	26.6	29.2	33.0	34.5	35.1	35.3	37.7	39.9	38.1	39.3	43.5	40.4	40.9	41.7	42.1	41.4	39.9	37.5	34.7	[31.4]	[28.9]	[25.2]	[20.6]	[15.3]	51.9
	Signal to noise (dB)	1.9	4.4	6.3	6.7	7.5	7.7	9.7	10.9	10.7	10.5	11.0	11.0	8.4	8.2	10.2	7.0	6.0	6.7	7.6	7.5	6.5	4.9	3.4	0.7	-0.2	-1.1	-1.7	-1.5	7.0
	Uncertainty (dB)	2.3	1.6	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.8	0.9	0.8	0.8	0.8	0.8	1.2	1.5	1.7	1.7	1.7	1.7	3.0	0.8
	PWL (dBA)	[58]	64.0	68.6	71.9	74.8	77.4	81.2	82.7	83.4	83.6	85.9	88.1	86.4	87.5	91.7	88.6	89.1	90.0	90.4	89.7	88.1	85.8	82.9	[79.6]	[77.2]	[73.4]	[68.8]	[63.5]	100.1

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	1 dB
25	0.8 dB	1 dB
31.5	0.5 dB	0.8 dB
40	0.5 dB	0.8 dB
50	0.5 dB	0.8 dB
63	0.5 dB	0.8 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	0.7 dB
1250	0.3 dB	0.7 dB
1600	0.3 dB	0.7 dB
2000	0.3 dB	0.7 dB
2500	0.5 dB	0.8 dB
3150	0.5 dB	0.8 dB
4000	0.5 dB	0.8 dB
5000	0.5 dB	0.8 dB
6300	0.5 dB	0.8 dB
8000	0.5 dB	0.8 dB
10000	1.3 dB	1.4 dB

Table C.04 Detailed measurement uncertainty at hub height

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 11/6/2017

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	
6.0	Turbine ON	6.04	38	Average (dBA)	7.1	11.1	15.2	19.4	22.7	26.8	30.6	34.2	30.3	31.5	37.0	36.6	36.8	37.1	37.9	37.2	38.7	39.2	39.8	39.2	37.8	37.0	35.8	33.6	30.6	26.5	21.9	17.0	49.6
				Uncertainty A (dB)	0.4	0.3	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.1	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	1.5		
	Background	6.03	37	Average (dBA)	6.3	9.4	12.8	15.3	20.4	22.0	23.4	24.5	24.8	25.6	26.8	28.6	29.3	30.4	31.4	31.9	33.6	33.9	32.9	31.9	31.2	30.8	30.6	30.6	29.2	26.5	22.7	17.8	43.5
				Uncertainty A (dB)	0.9	0.7	0.6	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.5	0.4	0.3		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.4	1.2	1.0	0.9	1.0	0.9	0.9	0.9	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.0	1.0	0.9	0.9	1.5		
6.5	Turbine ON	6.47	50	Average (dBA)	8.9	13.2	17.1	21.1	24.6	27.9	31.2	33.9	33.6	33.0	39.1	39.2	38.8	39.5	40.8	38.7	39.6	40.3	41.0	40.6	39.4	38.5	37.2	34.7	31.6	27.3	22.6	17.4	51.2
				Uncertainty A (dB)	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.4	0.2	0.3	0.4	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	1.5		
	Background	6.54	44	Average (dBA)	5.2	9.1	12.0	15.2	20.6	23.2	22.4	23.2	24.1	25.1	27.2	30.6	31.7	31.7	33.5	33.9	34.7	34.8	33.7	32.4	31.3	30.6	30.1	29.7	28.5	25.8	22.1	17.2	44.2
				Uncertainty A (dB)	0.6	0.6	0.4	0.3	0.6	0.6	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.5	0.5	0.4	0.3		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.2	1.2	0.9	0.9	1.0	1.0	0.8	0.8	0.9	0.9	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.9	1.0	1.0	1.0	0.9	0.9	1.5		
7.0	Turbine ON	7.05	34	Average (dBA)	10.1	14.2	17.9	21.7	25.5	30.2	35.5	34.0	34.0	34.8	38.6	40.2	38.2	39.0	41.9	39.9	41.4	42.2	42.4	41.9	41.0	39.6	38.0	34.8	31.7	27.2	22.2	16.9	52.2
				Uncertainty A (dB)	0.4	0.3	0.2	0.1	0.2	0.5	0.7	0.3	0.3	0.2	0.3	0.4	0.1	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.1	1.1	0.8	0.8	0.8	0.9	1.1	0.8	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	0.8	0.8	0.8	0.8	0.8	0.9	1.5		
	Background	7.00	63	Average (dBA)	6.5	9.7	12.5	16.2	20.2	23.9	23.4	23.5	24.3	25.2	27.5	29.5	30.5	31.4	33.5	33.3	34.6	34.7	33.7	32.5	31.5	30.8	30.4	30.1	28.9	26.1	22.3	17.5	44.1
				Uncertainty A (dB)	0.7	0.5	0.4	0.4	0.4	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.5	0.4	0.4	0.3		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.2	1.1	0.9	0.9	0.9	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	1.0	0.9	0.9	0.9	1.5		
7.5	Turbine ON	7.55	74	Average (dBA)	9.5	14.5	18.3	22.2	25.9	29.6	33.1	34.0	34.5	35.6	37.8	39.8	38.3	39.2	41.7	40.3	41.5	42.4	42.8	42.3	41.4	39.9	38.3	34.8	31.7	27.1	22.0	16.7	52.4
				Uncertainty A (dB)	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.3	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	0.2	0.1		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	7.52	54	Average (dBA)	6.4	9.1	12.1	14.9	19.5	24.4	23.4	23.4	24.3	25.2	26.7	29.3	30.2	30.9	32.4	33.0	34.6	34.7	33.6	32.2	30.9	30.0	29.5	29.1	28.0	25.3	21.7	17.0	43.8
				Uncertainty A (dB)	0.7	0.5	0.4	0.3	0.4	0.7	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.2	
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.2	1.1	0.9	0.8	0.9	1.1	0.9	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.5		
8.0	Turbine ON	7.98	165	Average (dBA)	11.2	16.0	20.0	23.5	26.7	29.8	33.1	34.4	34.8	35.6	37.9	40.0	38.3	39.5	42.4	40.6	41.8	42.6	42.9	42.3	41.2	39.7	37.9	34.4	31.5	27.1	22.2	17.0	52.5
				Uncertainty A (dB)	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	8.01	70	Average (dBA)	6.9	10.0	12.6	15.1	18.8	21.3	22.7	23.0	23.7	24.8	26.4	29.0	30.1	31.1	33.0	33.5	34.9	35.1	34.1	32.7	31.7	31.0	30.3	29.9	28.7	25.9	22.2	17.3	44.1
				Uncertainty A (dB)	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.5	0.4	0.3	0.2		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.2	1.1	0.9	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.5		
8.5	Turbine ON	8.51	191	Average (dBA)	11.7	16.8	20.6	23.9	26.8	29.7	33.0	34.2	34.8	35.5	37.9	39.8	38.4	39.4	43.3	40.8	41.8	42.5	42.8	42.3	41.1	39.4	37.6	34.2	31.5	27.5	22.7	17.6	52.5
				Uncertainty A (dB)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	8.48	59	Average (dBA)	8.2	11.0	13.6	16.0	18.8	24.8	23.2	23.6	25.0	25.9	27.3	29.8	30.8	31.9	33.7	33.8	35.0	35.2	34.3	33.2	32.4	31.8	31.3	31.0	29.7	26.9	23.1	18.0	44.7
				Uncertainty A (dB)	0.9	0.7	0.5	0.4	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.5	0.5	0.4	0.3		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.3	1.2	1.0	0.9	0.9	1.0	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.9	1.0	1.0	1.0	0.9	0.9	1.5		
9.0	Turbine ON	9.00	205	Average (dBA)	12.1	16.9	20.8	24.1	27.2	29.9	33.2	34.4	35.0	35.6	38.0	40.0	38.5	39.6	43.4	40.8	41.8	42.5	42.8	42.2	41.1	39.5	37.7	34.3	31.6	27.6	23.0	17.7	52.6
				Uncertainty A (dB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	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)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	9.00	44	Average (dBA)	5.2	8.3	11.6	14.9	17.8	23.3	22.4	23.1	24.6	25.6	26.7	29.4	31.1	31.9	33.3	33.6	35.2	35.3	34.1	32.7	31.6	30.7	30.0	29.5	28.4	25.7	22.0	17.2	44.3
				Uncertainty A (dB)	0.6	0.4	0.3	0.3	0.3	0.6	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.5	0.4	0.3		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.2	1.1	0.9	0.9	0.9	1.0	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	0.9	0.9	1.5		

Table C.04 Detailed measurement uncertainty at hub height

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 11/6/2017

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	
9.5	Turbine ON	9.51	178	Average (dBA)	11.7	17.0	21.0	24.3	27.1	29.8	33.2	34.6	35.2	35.6	38.0	40.1	38.5	39.6	43.6	41.0	41.9	42.6	42.8	42.2	41.0	39.3	37.4	34.1	31.5	27.6	22.9	17.8	52.6
				Uncertainty A (dB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	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)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	9.50	37	Average (dBA)	9.4	12.3	14.5	16.0	18.5	21.1	23.1	23.8	24.3	25.6	26.8	29.1	29.9	30.8	32.8	33.7	35.2	35.5	34.1	32.9	32.0	31.3	30.9	30.7	29.4	26.6	22.8	17.8	44.4
				Uncertainty A (dB)	1.2	1.0	0.7	0.4	0.4	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.6	0.7	0.7	0.6	0.6	0.5	0.4		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.5	1.4	1.1	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.0	1.1	1.0	1.0	0.9	1.5		
10.0	Turbine ON	9.99	135	Average (dBA)	12.1	17.2	21.1	24.3	27.0	29.8	33.3	34.6	35.2	35.6	37.9	39.9	38.4	39.5	43.6	40.9	41.8	42.4	42.7	42.1	40.8	39.1	37.2	34.0	31.3	27.4	22.8	17.7	52.5
				Uncertainty A (dB)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
	Background	9.98	25	Average (dBA)	9.2	11.1	13.6	15.7	17.9	21.5	22.5	22.9	23.5	25.5	26.2	28.4	29.3	30.6	32.5	32.8	34.2	34.6	33.7	32.8	32.3	32.0	31.7	31.6	30.2	27.3	23.5	18.3	44.1
				Uncertainty A (dB)	1.1	0.8	0.7	0.5	0.3	0.4	0.3	0.3	0.3	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.7	0.7	0.6	0.4		
				Uncertainty B (dB)	1.0	1.0	0.8	0.8	0.8	0.8	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	0.8	0.8	0.8	0.8	0.8	1.4		
				Combined Uncertainty (dB)	1.5	1.3	1.0	0.9	0.8	0.9	0.8	0.8	0.9	1.0	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.1	1.1	1.1	1.0	1.0	1.5		

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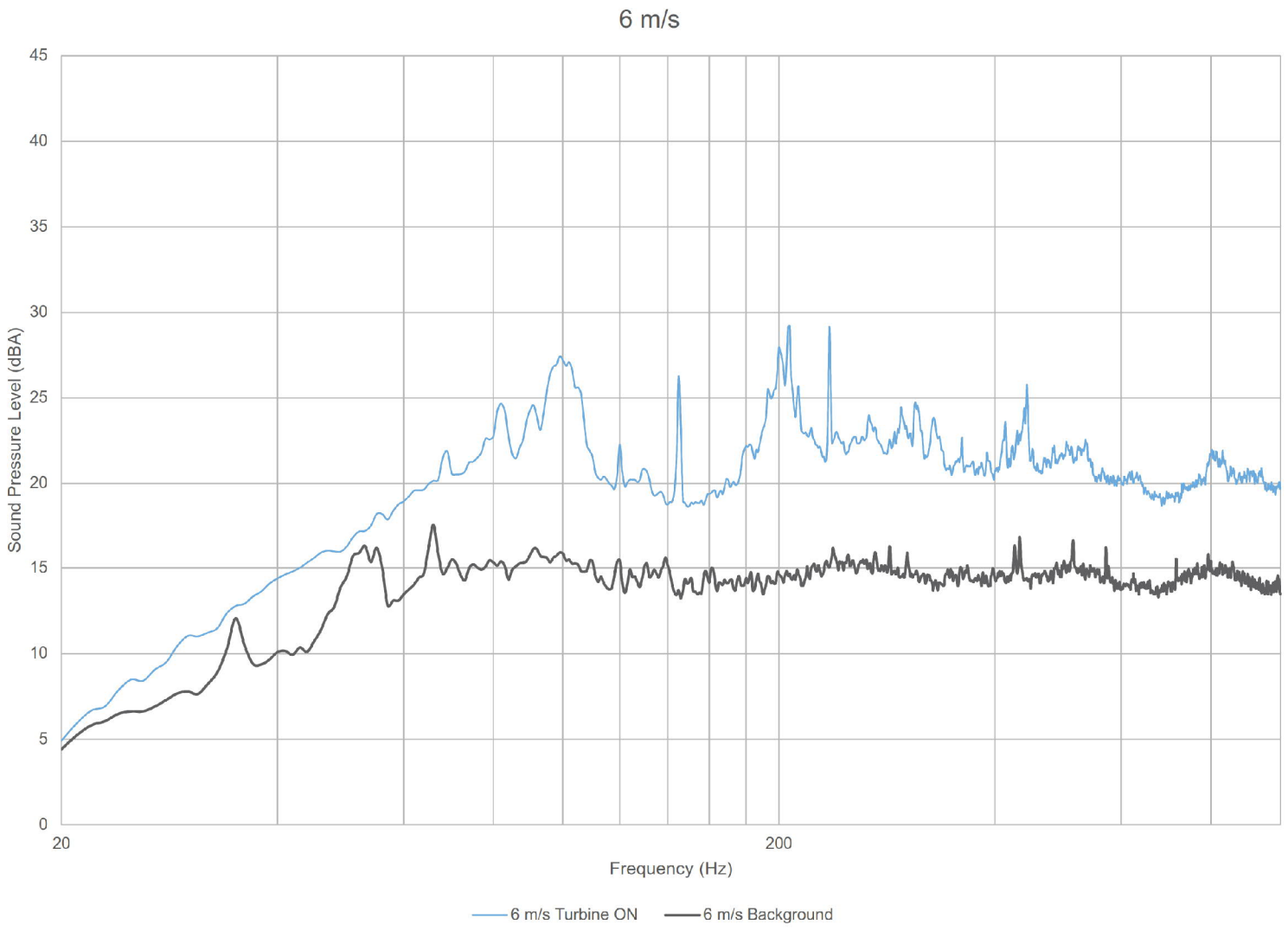
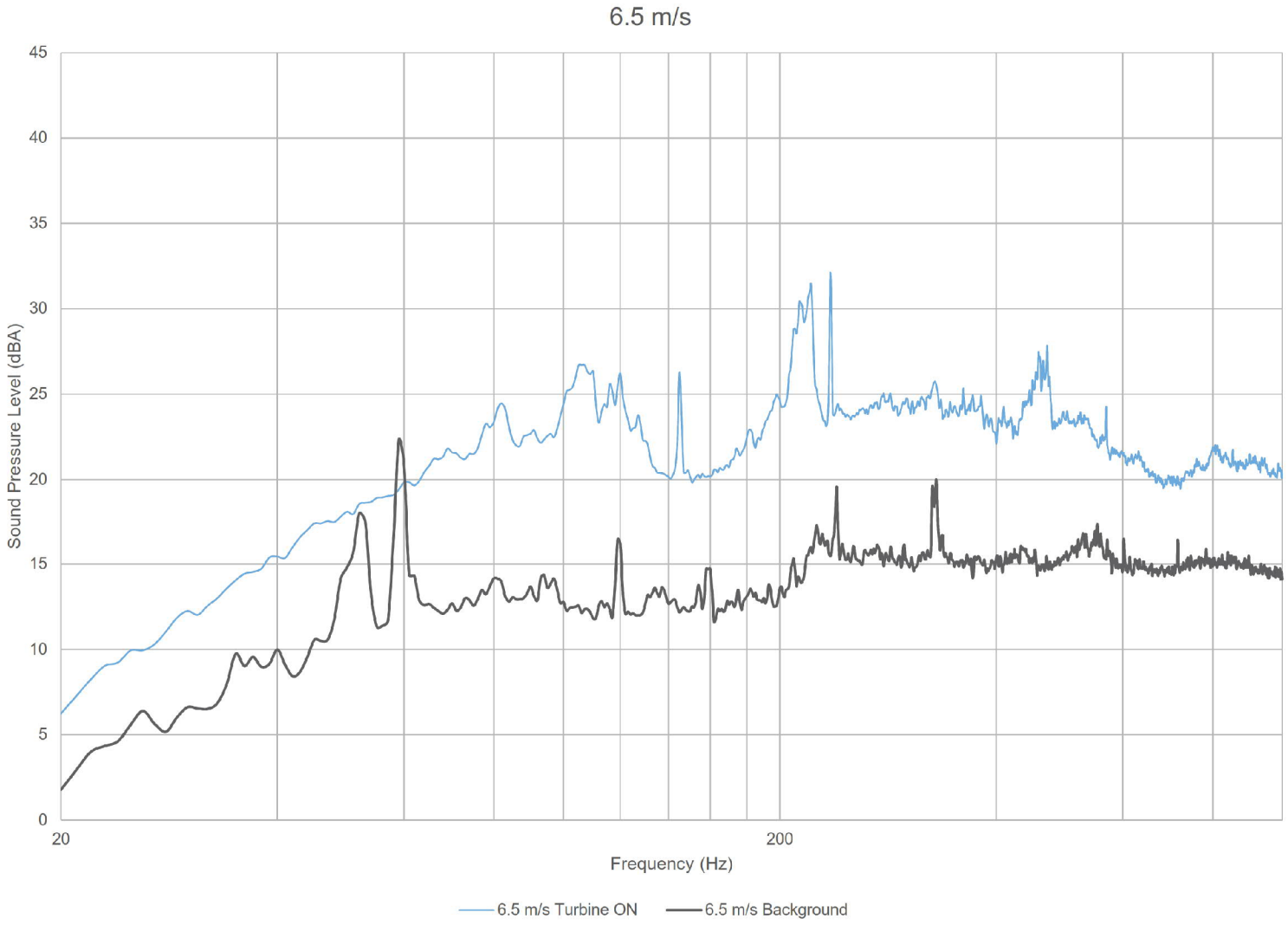
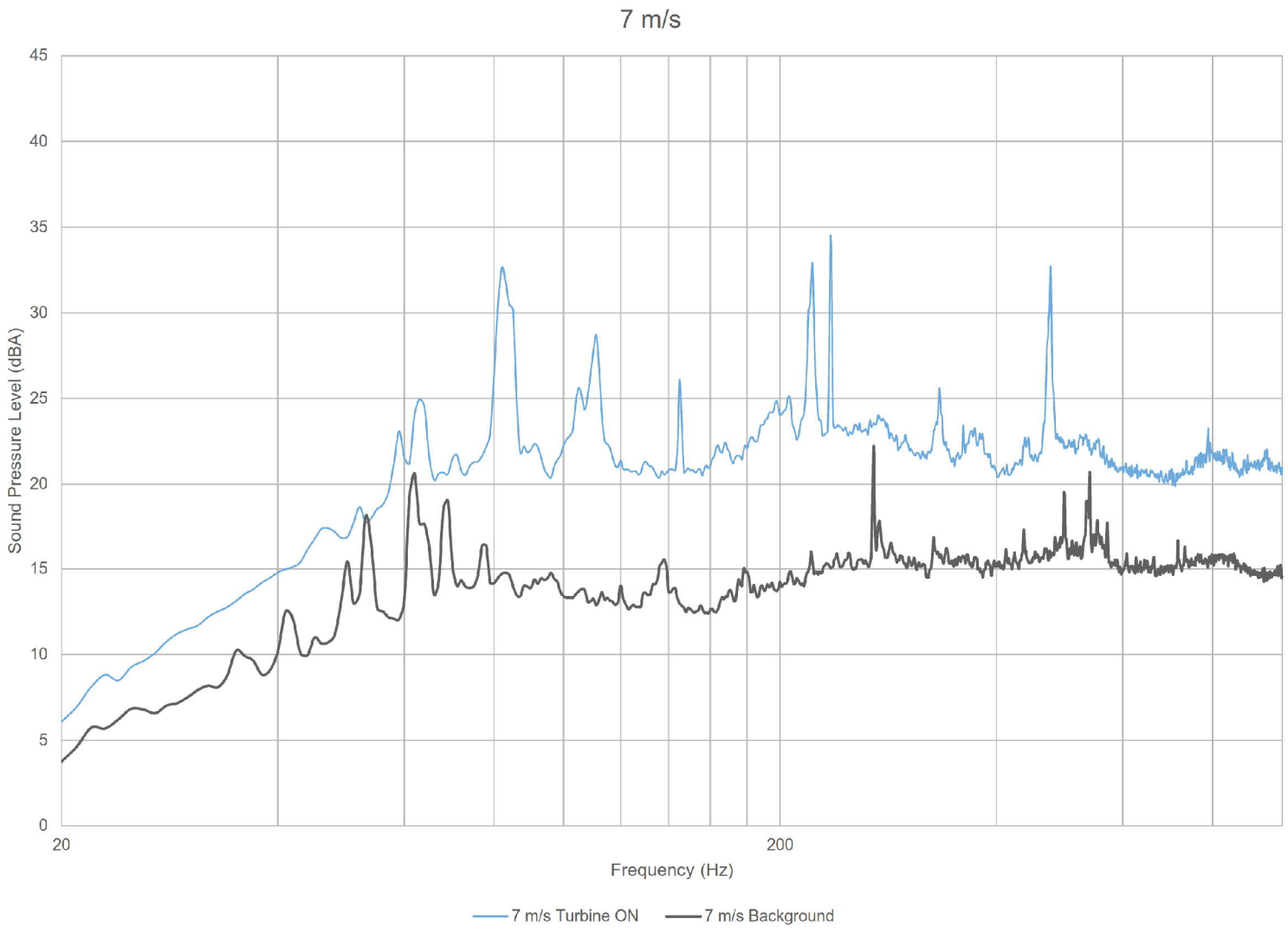
Appendix D
Tonality Assessment



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 6 m/s
		Figure D.01



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 6.5 m/s
		Figure D.02



aercoustics	15427.00.T06.RP3	**Project Name**
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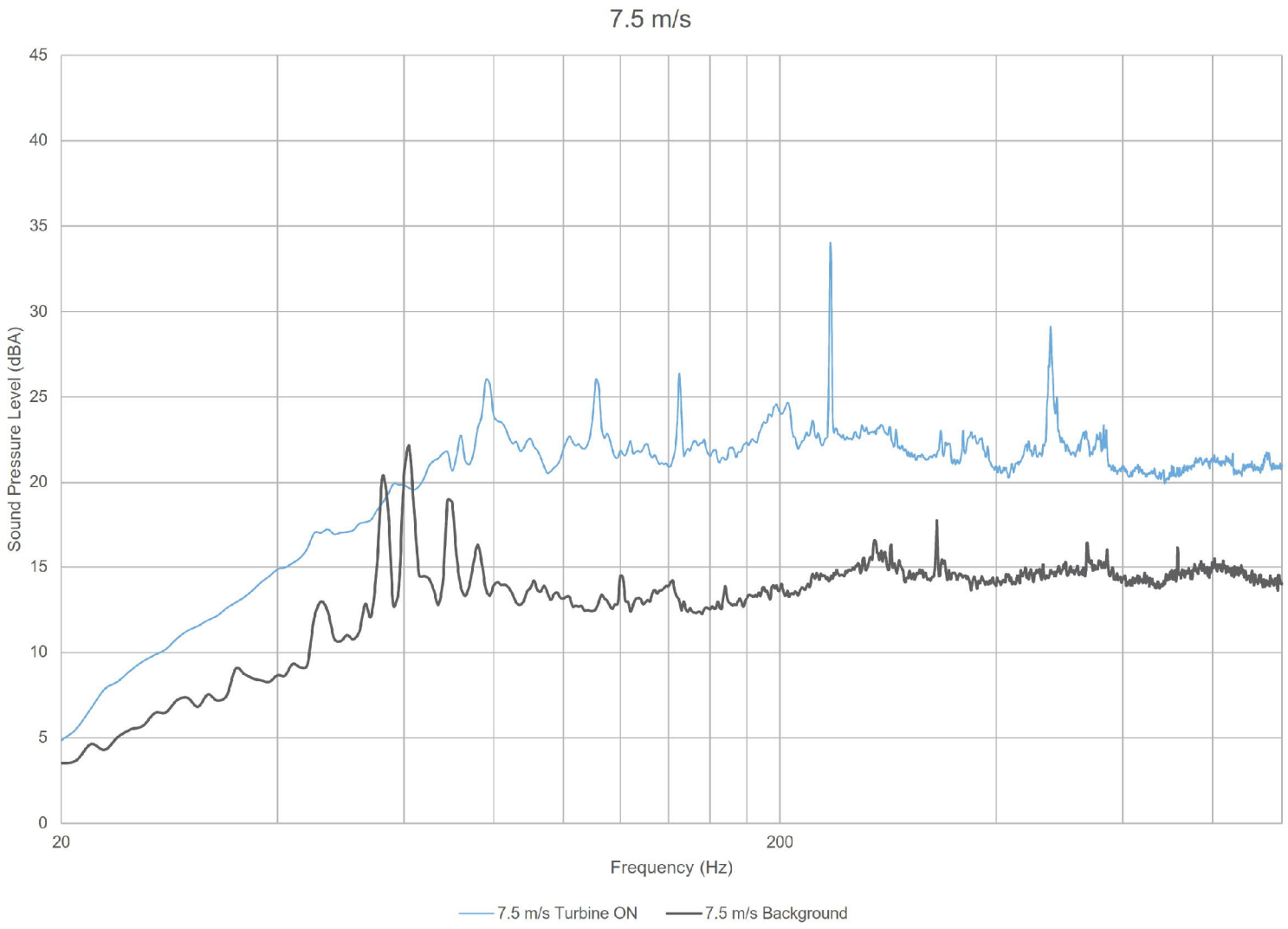
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 7 m/s
		Figure D.03



aercoustics	15427.00.T06.RP3	**Project Name**
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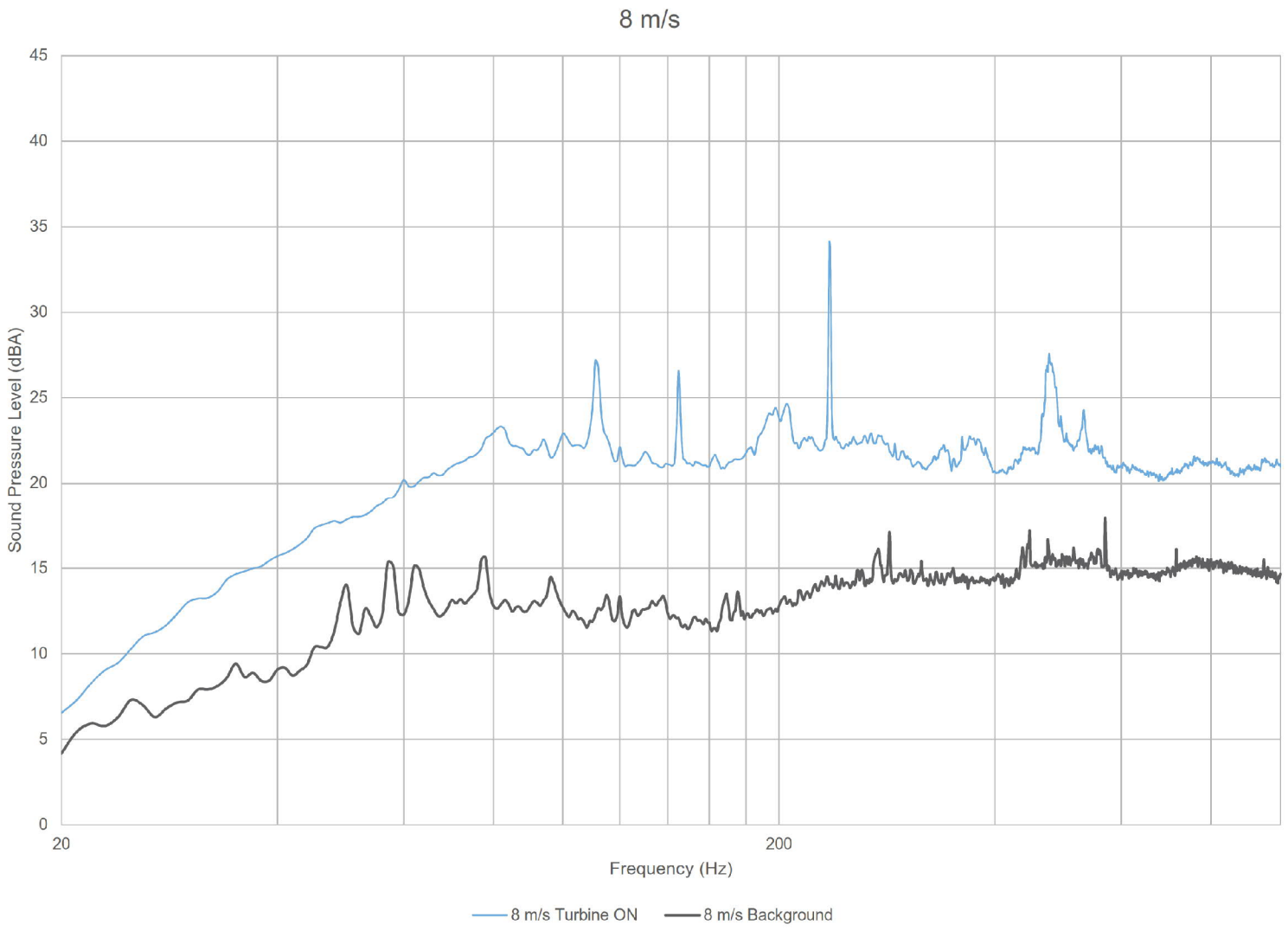
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 7.5 m/s
		Figure D.04



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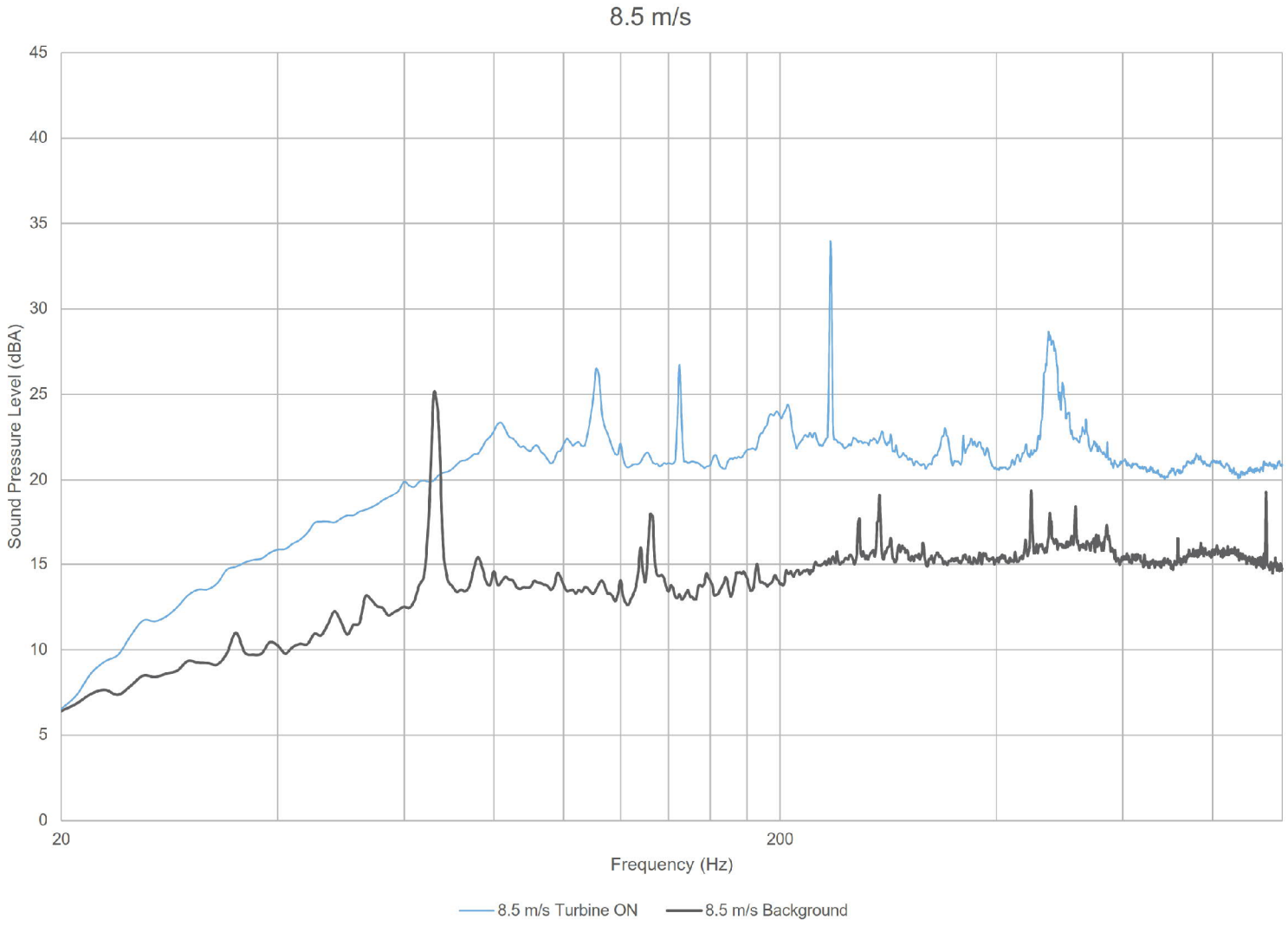
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 8 m/s
		Figure D.05



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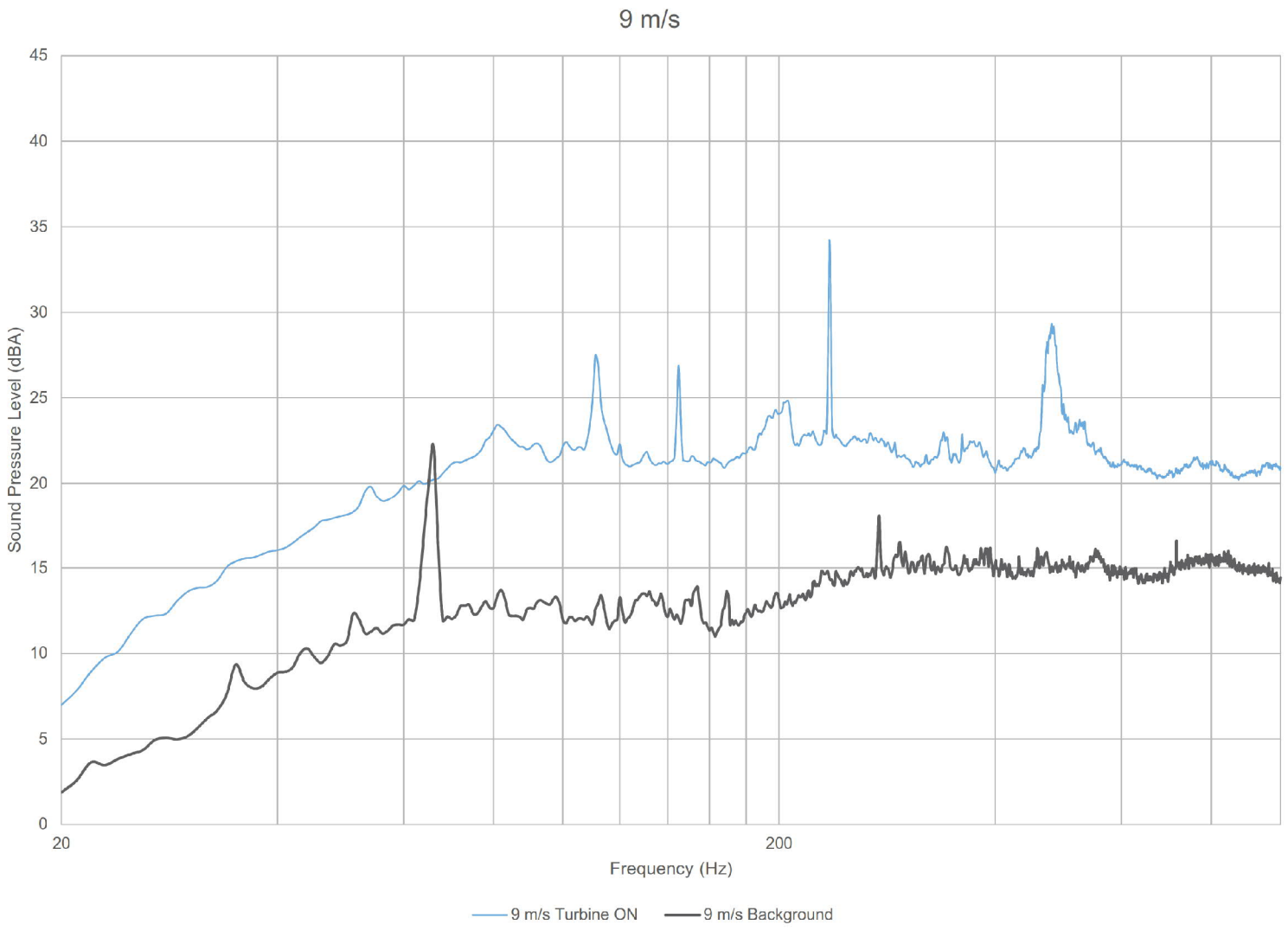
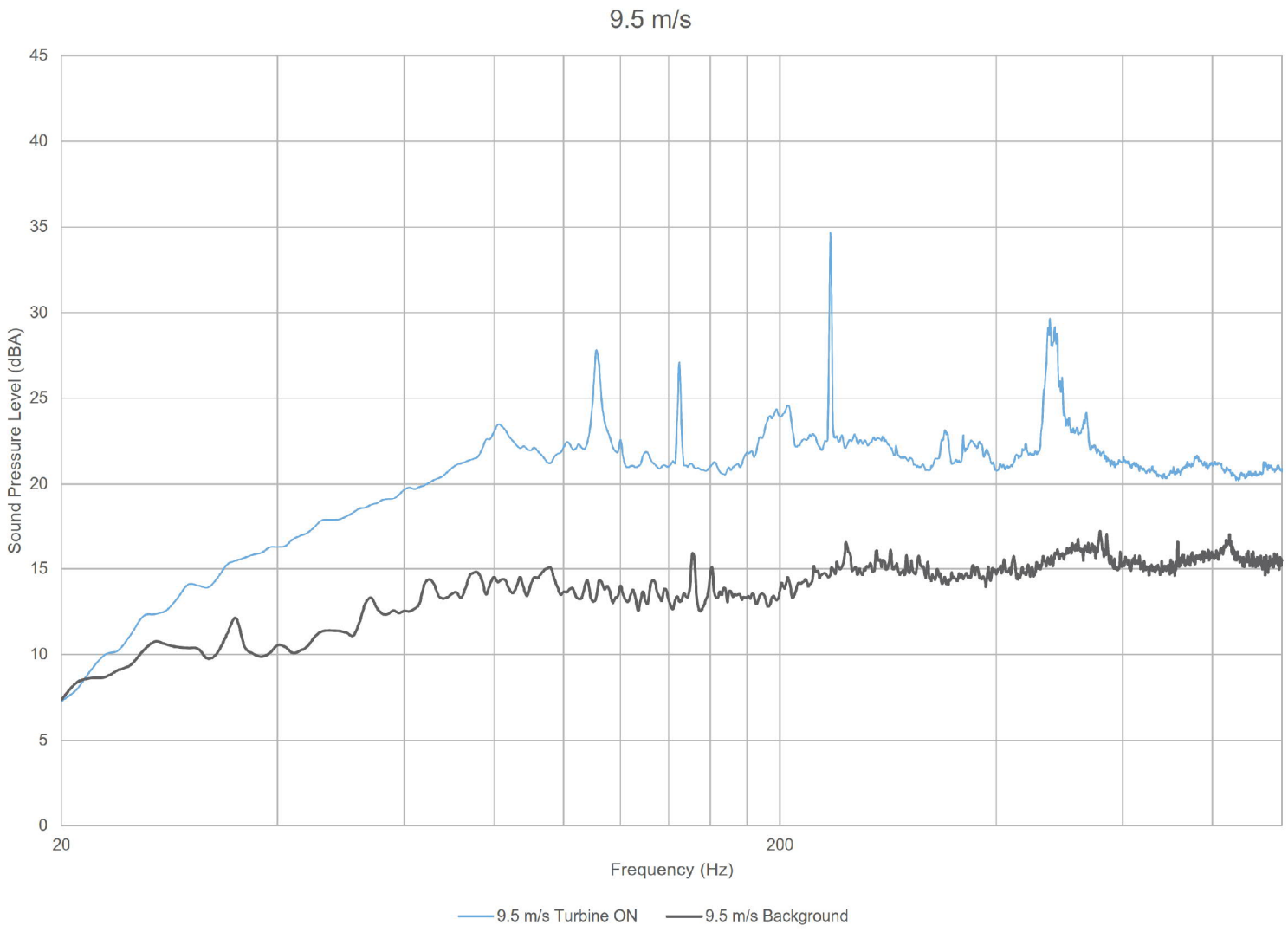
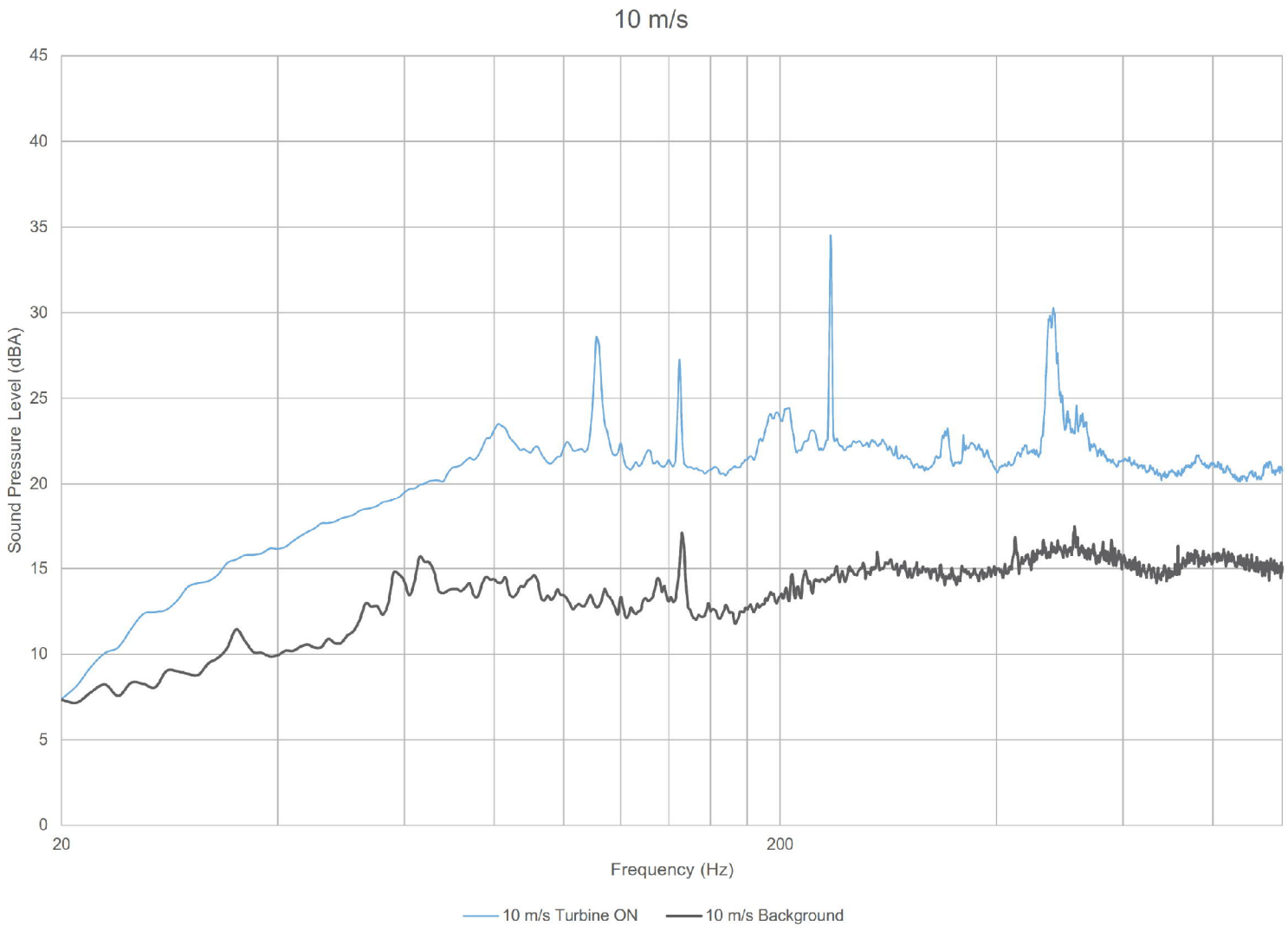
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 8.5 m/s
		Figure D.06



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 9 m/s
		Figure D.07



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 9.5 m/s
		Figure D.08



aercoustics	15427.00.T06.RP3	**Project Name**
	Scale: NTS Drawn by: AM Reviewed by: PA Date: Sept 27, 2017 Revision: 1	East Durham Wind Energy Centre - Turbine T06 - IEC61400-11 Edition 3.0
		Figure Title Plot of narrow band spectra – Turbine ON vs. Background at 10 m/s
		Figure D.09

Table D.01 Tonality Assessment Table - 6 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1695	69			21.4	39.7	37.7	-2.0	-2.0	0.0
1680	89			18.8	37.1	34.9	-2.2	-2.0	-0.1
1735	89			18.3	36.6	35.0	-1.5	-2.0	0.5
1726	90			18.9	37.2	36.0	-1.1	-2.0	0.9
1736	91			19.3	37.5	36.2	-1.3	-2.0	0.7
1699	91			20.9	39.1	34.7	-4.4	-2.0	-2.4
1766	95			19.4	37.7	35.5	-2.2	-2.0	-0.2
1683	95			21.7	39.9	37.5	-2.4	-2.0	-0.4
1765	96			20.3	38.6	35.2	-3.4	-2.0	-1.4
1703	96			20.2	38.5	35.0	-3.5	-2.0	-1.5
1707	96			21.3	39.6	29.2	-10.3	-2.0	-8.3
1753	97			20.4	38.7	36.0	-2.7	-2.0	-0.7
1757	97			20.3	38.6	34.3	-4.3	-2.0	-2.3
1752	97			20.4	38.7	33.8	-4.8	-2.0	-2.8
47	98			18.0	36.3	32.8	-3.5	-2.0	-1.5
1751	99			20.1	38.4	38.6	0.2	-2.0	2.2
1731	99			20.6	38.9	34.7	-4.2	-2.0	-2.2
45	99			17.7	35.9	31.2	-4.7	-2.0	-2.7
1743	99			20.6	38.9	35.3	-3.6	-2.0	-1.6
1750	100			20.1	38.4	36.8	-1.5	-2.0	0.5
1664	100			22.7	41.0	32.5	-8.5	-2.0	-6.5
1742	101			19.8	38.1	34.6	-3.5	-2.0	-1.5
1665	102			22.7	41.0	32.7	-8.3	-2.0	-6.3
1754	102			20.3	38.6	34.0	-4.6	-2.0	-2.6
1725	102			20.6	38.9	32.9	-6.0	-2.0	-4.0
1718	102			20.4	38.6	34.5	-4.2	-2.0	-2.2
1749	102			20.0	38.2	35.3	-2.9	-2.0	-0.9
1679	103			21.1	39.4	31.2	-8.2	-2.0	-6.2
48	103			18.9	37.2	29.4	-7.8	-2.0	-5.8
1746	103			20.7	39.0	34.9	-4.0	-2.0	-2.0
1716	104			20.9	39.2	36.8	-2.3	-2.0	-0.3
1719	105			20.7	39.0	35.9	-3.1	-2.0	-1.0
1758	106			21.5	39.8	34.5	-5.3	-2.0	-3.3
1744	106			21.7	39.9	36.8	-3.1	-2.0	-1.1
Average	98						-3.4	-2.0	-1.4

Table D.01 Tonality Assessment Table - 6 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1766	190			20.5	38.8	32.2	-6.6	-2.0	-4.6
1765	193			21.1	39.5	31.2	-8.2	-2.0	-6.2
1753	193			20.6	38.9	33.6	-5.3	-2.0	-3.3
1757	193			21.1	39.5	34.0	-5.4	-2.0	-3.4
1752	193			20.9	39.2	35.4	-3.8	-2.0	-1.8
1703	194			21.4	39.7	30.6	-9.1	-2.0	-7.1
1751	197			21.1	39.5	34.7	-4.8	-2.0	-2.8
1743	199			21.0	39.3	31.8	-7.5	-2.0	-5.5
1664	200			22.6	40.9	36.5	-4.5	-2.0	-2.4
1750	200			21.3	39.6	34.7	-4.9	-2.0	-2.9
1663	201			23.4	41.8	38.2	-3.5	-2.0	-1.5
1679	205			22.3	40.7	33.0	-7.7	-2.0	-5.6
1683	206			23.1	41.5	39.4	-2.1	-2.0	-0.1
1746	206			22.2	40.5	37.4	-3.2	-2.0	-1.1
1719	206			22.1	40.4	36.8	-3.7	-2.0	-1.6
1742	206			21.8	40.2	30.6	-9.6	-2.0	-7.5
1749	206			21.5	39.9	35.5	-4.4	-2.0	-2.3
1665	207			22.8	41.1	40.1	-1.1	-2.0	1.0
1725	207			21.8	40.2	37.1	-3.1	-2.0	-1.0
1754	207			21.4	39.8	41.3	1.5	-2.0	3.5
1758	207			22.8	41.2	35.7	-5.4	-2.0	-3.4
1744	213			23.2	41.6	39.1	-2.5	-2.0	-0.5
1716	213			22.6	40.9	42.4	1.5	-2.0	3.5
48	235			22.7	41.1	41.3	0.2	-2.1	2.3
47	235			21.9	40.4	40.8	0.5	-2.1	2.5
45	235			22.1	40.5	38.6	-1.9	-2.1	0.2
46	235			21.6	40.0	39.0	-1.0	-2.1	1.0
Average	207						-2.9	-2.0	-0.9

Table D.02 Tonality Assessment Table - 6.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1739	102			20.7	39.0	28.3	-10.7	-2.0	-8.7
31	103			18.8	37.1	28.7	-8.4	-2.0	-6.4
1658	104			24.3	42.6	37.9	-4.6	-2.0	-2.6
1741	105			20.2	38.4	33.8	-4.6	-2.0	-2.6
1706	105			22.3	40.6	30.6	-10.0	-2.0	-8.0
1659	105			23.9	42.2	30.2	-12.0	-2.0	-10.0
1748	105			20.7	39.0	27.9	-11.1	-2.0	-9.1
1747	105			20.6	38.9	33.5	-5.4	-2.0	-3.4
1678	105			21.8	40.1	34.3	-5.8	-2.0	-3.8
1755	105			21.6	39.8	35.5	-4.3	-2.0	-2.3
1756	105			21.1	39.4	33.2	-6.2	-2.0	-4.2
1684	106			22.7	41.0	33.4	-7.6	-2.0	-5.6
1677	106			22.1	40.4	29.7	-10.6	-2.0	-8.6
1717	106			21.2	39.5	30.3	-9.3	-2.0	-7.3
1745	106			21.4	39.7	34.7	-5.0	-2.0	-3.0
1720	107			21.8	40.1	31.4	-8.7	-2.0	-6.7
1721	107			22.8	41.0	32.0	-9.1	-2.0	-7.0
1705	108			23.6	41.8	31.5	-10.4	-2.0	-8.3
1763	109			21.9	40.2	33.0	-7.2	-2.0	-5.2
71	110			20.4	38.6	29.2	-9.4	-2.0	-7.4
57	110			21.0	39.2	27.7	-11.5	-2.0	-9.5
1761	110			22.1	40.3	29.6	-10.8	-2.0	-8.8
1762	110			22.1	40.4	34.0	-6.4	-2.0	-4.3
55	110			20.3	38.6	31.9	-6.6	-2.0	-4.6
1760	110			22.7	40.9	31.1	-9.8	-2.0	-7.8
29	111			20.5	38.7	28.9	-9.9	-2.0	-7.9
1686	120			22.8	41.1	47.4	6.3	-2.0	8.3
1685	127			22.6	40.9	43.5	2.6	-2.0	4.6
Average	108						-4.2	-2.0	-2.2

Table D.02 Tonality Assessment Table - 6.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1755	210			23.2	41.6	40.2	-1.4	-2.0	0.6
1666	211			25.0	43.4	40.0	-3.4	-2.0	-1.4
1747	213			22.8	41.2	39.7	-1.4	-2.0	0.6
1661	213			25.3	43.7	36.7	-7.0	-2.0	-5.0
1677	213			23.2	41.6	37.1	-4.5	-2.0	-2.4
1729	213			24.1	42.4	40.8	-1.6	-2.0	0.4
1717	213			22.8	41.2	36.6	-4.5	-2.0	-2.5
1745	213			22.7	41.1	38.5	-2.6	-2.0	-0.5
1720	213			23.0	41.4	40.0	-1.5	-2.0	0.6
1748	214			22.8	41.2	36.5	-4.6	-2.0	-2.6
1730	214			23.3	41.7	39.7	-2.0	-2.0	0.1
1684	214			24.0	42.3	43.5	1.2	-2.0	3.2
1764	214			22.9	41.2	29.1	-12.1	-2.0	-10.1
1659	214			26.2	44.6	38.7	-5.9	-2.0	-3.8
1706	214			23.7	42.1	35.3	-6.8	-2.0	-4.7
1721	215			23.6	42.0	32.7	-9.3	-2.0	-7.3
72	215			21.2	39.5	35.3	-4.3	-2.0	-2.2
1705	215			23.9	42.3	36.7	-5.6	-2.0	-3.5
1660	216			25.4	43.8	38.6	-5.2	-2.0	-3.2
1694	217			26.0	44.4	34.6	-9.7	-2.1	-7.7
1686	219			24.6	43.0	39.2	-3.8	-2.1	-1.8
71	219			22.0	40.4	39.2	-1.1	-2.1	0.9
1763	219			23.5	41.9	43.7	1.8	-2.1	3.9
1685	219			24.2	42.6	42.2	-0.4	-2.1	1.6
1762	220			24.0	42.4	39.2	-3.2	-2.1	-1.2
1760	221			24.2	42.6	46.6	4.0	-2.1	6.0
1759	221			24.1	42.5	42.8	0.3	-2.1	2.4
1761	221			23.8	42.2	42.1	-0.1	-2.1	2.0
42	235			23.9	42.3	41.4	-0.9	-2.1	1.2
40	235			23.4	41.8	39.3	-2.5	-2.1	-0.4
55	235			23.3	41.7	39.0	-2.7	-2.1	-0.6
43	235			23.8	42.2	39.4	-2.8	-2.1	-0.8
30	235			22.8	41.2	39.1	-2.1	-2.1	0.0
29	235			24.3	42.7	40.4	-2.2	-2.1	-0.2
31	235			22.6	41.0	38.4	-2.5	-2.1	-0.5
41	235			23.3	41.7	41.5	-0.2	-2.1	1.9
44	235			24.6	43.0	41.4	-1.6	-2.1	0.5
56	235			23.1	41.5	38.3	-3.1	-2.1	-1.1
57	235			23.4	41.8	39.3	-2.5	-2.1	-0.4
Average	221						-2.1	-2.1	0.0

Table D.02 Tonality Assessment Table - 6.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1741	449			20.9	39.7	36.8	-2.8	-2.2	-0.6
31	449			20.7	39.5	26.9	-12.6	-2.2	-10.4
1724	449			21.3	40.1	32.1	-8.1	-2.2	-5.8
1755	450			21.4	40.2	30.4	-9.8	-2.2	-7.6
1678	450			21.3	40.1	35.2	-4.9	-2.2	-2.7
43	454			22.2	41.0	34.3	-6.7	-2.2	-4.4
41	454			22.6	41.4	36.1	-5.3	-2.2	-3.0
1748	454			21.9	40.7	35.8	-4.9	-2.2	-2.6
40	455			22.2	41.0	29.9	-11.1	-2.3	-8.9
1677	455			22.7	41.5	36.9	-4.6	-2.3	-2.4
1661	456			24.5	43.3	35.0	-8.3	-2.3	-6.0
1729	458			22.0	40.8	37.9	-3.0	-2.3	-0.7
1666	458			22.9	41.7	37.1	-4.6	-2.3	-2.4
1745	458			21.7	40.5	36.1	-4.4	-2.3	-2.1
1747	459			21.6	40.4	35.9	-4.5	-2.3	-2.2
1730	460			22.0	40.8	36.7	-4.1	-2.3	-1.8
1721	460			21.7	40.5	36.5	-4.0	-2.3	-1.8
1720	460			21.7	40.5	34.7	-5.8	-2.3	-3.5
72	461			21.2	40.1	36.1	-3.9	-2.3	-1.7
1705	464			24.1	43.0	36.5	-6.5	-2.3	-4.2
1660	464			24.0	42.9	40.5	-2.4	-2.3	-0.1
44	465			23.0	41.8	35.5	-6.4	-2.3	-4.1
1684	466			23.2	42.1	32.8	-9.2	-2.3	-7.0
1685	468			23.3	42.2	37.3	-4.9	-2.3	-2.6
1763	468			22.8	41.7	39.1	-2.6	-2.3	-0.3
1761	469			22.6	41.4	38.9	-2.5	-2.3	-0.3
1762	471			22.5	41.3	39.0	-2.4	-2.3	-0.1
57	471			22.6	41.4	37.4	-4.0	-2.3	-1.8
71	471			21.9	40.8	34.8	-5.9	-2.3	-3.6
55	471			21.5	40.3	36.4	-4.0	-2.3	-1.7
1759	472			23.4	42.3	36.9	-5.3	-2.3	-3.1
1760	474			23.0	41.9	41.6	-0.3	-2.3	2.0
29	476			21.8	40.7	35.3	-5.3	-2.3	-3.1
Average	461						-4.6	-2.3	-2.4

Table D.03 Tonality Assessment Table - 7 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1689	82			22.5	40.7	51.4	10.6	-2.0	12.7
246	105			20.9	39.1	45.4	6.2	-2.0	8.2
140	110			21.6	39.9	28.9	-11.0	-2.0	-9.0
39	110			20.7	39.0	28.9	-10.1	-2.0	-8.1
26	110			20.7	39.0	27.7	-11.3	-2.0	-9.3
32	111			20.1	38.3	29.4	-8.9	-2.0	-6.9
27	111			20.4	38.6	29.0	-9.7	-2.0	-7.7
284	111			20.8	39.0	27.4	-11.7	-2.0	-9.7
1722	111			22.8	41.1	31.4	-9.7	-2.0	-7.7
1676	111			23.2	41.4	34.0	-7.4	-2.0	-5.4
1675	111			23.6	41.8	36.1	-5.7	-2.0	-3.7
1723	111			22.5	40.7	31.9	-8.9	-2.0	-6.9
51	111			21.1	39.3	29.7	-9.7	-2.0	-7.7
1673	111			22.6	40.9	29.0	-11.9	-2.0	-9.9
218	112			20.7	39.0	27.7	-11.3	-2.0	-9.3
217	112			20.7	38.9	27.0	-12.0	-2.0	-10.0
59	112			20.8	39.0	27.3	-11.7	-2.0	-9.7
Average	109						0.1	-2.0	2.1
1693	219			26.1	44.5	42.3	-2.1	-2.1	-0.1
1723	220			23.9	42.3	42.6	0.4	-2.1	2.4
1676	221			24.4	42.8	45.5	2.7	-2.1	4.8
1674	221			24.3	42.7	33.8	-8.9	-2.1	-6.8
1673	221			23.8	42.2	38.4	-3.9	-2.1	-1.8
1675	222			24.5	42.9	41.4	-1.5	-2.1	0.6
1672	222			24.4	42.8	42.9	0.0	-2.1	2.1
208	222			21.4	39.8	28.5	-11.3	-2.1	-9.3
1722	222			23.9	42.2	37.1	-5.1	-2.1	-3.1
284	235			23.2	41.6	37.8	-3.9	-2.1	-1.8
246	235			24.7	43.1	39.6	-3.6	-2.1	-1.5
25	235			23.9	42.3	37.5	-4.8	-2.1	-2.7
58	235			23.6	42.0	40.5	-1.6	-2.1	0.5
51	235			24.1	42.5	39.9	-2.6	-2.1	-0.5
27	235			23.6	42.0	40.1	-1.9	-2.1	0.2
26	235			23.8	42.2	38.1	-4.1	-2.1	-2.0
54	235			23.8	42.2	39.5	-2.8	-2.1	-0.7
59	235			23.7	42.1	39.4	-2.7	-2.1	-0.6
49	235			23.4	41.8	39.1	-2.7	-2.1	-0.6
39	235			23.5	42.0	38.4	-3.5	-2.1	-1.5
32	235			24.0	42.4	40.6	-1.8	-2.1	0.2
28	235			23.9	42.3	40.6	-1.6	-2.1	0.4
Average	229						-2.3	-2.1	-0.2
1693	470			23.4	42.3	38.0	-4.3	-2.3	-2.0
1674	471			22.6	41.4	37.3	-4.1	-2.3	-1.8
1723	471			22.5	41.4	38.6	-2.8	-2.3	-0.5
54	471			22.2	41.1	36.6	-4.4	-2.3	-2.2
39	472			22.5	41.3	36.7	-4.7	-2.3	-2.4
26	473			21.5	40.4	37.1	-3.3	-2.3	-1.0
246	473			22.6	41.4	41.6	0.2	-2.3	2.5
215	473			21.0	39.9	38.9	-0.9	-2.3	1.4
160	473			21.2	40.1	36.4	-3.6	-2.3	-1.3
140	473			21.2	40.0	36.2	-3.9	-2.3	-1.6
159	474			21.0	39.9	34.4	-5.5	-2.3	-3.2
1673	474			22.7	41.6	38.1	-3.4	-2.3	-1.1
208	475			21.3	40.2	36.5	-3.7	-2.3	-1.4
51	475			24.1	43.0	37.7	-5.3	-2.3	-3.0
58	475			22.9	41.7	41.7	-0.1	-2.3	2.2
59	475			22.6	41.4	40.3	-1.2	-2.3	1.1
216	476			20.5	39.4	38.0	-1.4	-2.3	0.9
1676	476			23.2	42.1	39.2	-2.9	-2.3	-0.6
218	476			20.9	39.8	36.4	-3.4	-2.3	-1.2
1675	476			23.1	42.0	41.5	-0.5	-2.3	1.8
284	476			21.6	40.5	37.9	-2.5	-2.3	-0.2
92	476			22.4	41.3	28.8	-12.4	-2.3	-10.2
217	476			21.5	40.3	37.9	-2.5	-2.3	-0.2
28	477			22.3	41.2	34.3	-6.9	-2.3	-4.6

Table D.03 Tonality Assessment Table - 7 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1722	477			23.3	42.1	32.7	-9.5	-2.3	-7.2
147	477			21.3	40.1	36.8	-3.3	-2.3	-1.1
27	477			22.1	41.0	37.5	-3.5	-2.3	-1.3
1672	477			24.2	43.1	40.5	-2.6	-2.3	-0.3
146	477			21.4	40.3	37.2	-3.0	-2.3	-0.8
1689	480			23.7	42.6	38.0	-4.6	-2.3	-2.4
Average	475						-3.1	-2.3	-0.8

Table D.04 Tonality Assessment Table - 7.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1690	78			22.9	41.2	45.3	4.2	-2.0	6.2
248	90			21.5	39.8	37.6	-2.2	-2.0	-0.1
1670	103			24.1	42.4	32.4	-10.0	-2.0	-8.0
283	110			20.6	38.9	30.4	-8.5	-2.0	-6.5
38	110			20.7	39.0	29.8	-9.1	-2.0	-7.1
223	111			21.0	39.3	29.8	-9.5	-2.0	-7.5
1691	111			25.2	43.5	38.5	-5.0	-2.0	-3.0
127	111			20.4	38.7	27.4	-11.3	-2.0	-9.3
141	111			21.5	39.7	29.3	-10.4	-2.0	-8.4
131	111			20.7	39.0	28.6	-10.4	-2.0	-8.4
20	111			21.2	39.5	29.9	-9.5	-2.0	-7.5
512	111			22.0	40.3	30.6	-9.7	-2.0	-7.7
158	111			21.2	39.5	28.2	-11.3	-2.0	-9.3
513	111			22.0	40.2	30.9	-9.3	-2.0	-7.3
21	112			21.5	39.8	27.7	-12.0	-2.0	-10.0
206	112			21.7	40.0	28.1	-11.8	-2.0	-9.8
333	112			22.3	40.6	28.5	-12.1	-2.0	-10.1
53	112			21.5	39.8	28.9	-10.9	-2.0	-8.9
280	112			21.3	39.5	27.4	-12.1	-2.0	-10.1
52	112			20.9	39.2	29.3	-9.9	-2.0	-7.9
219	112			21.3	39.6	29.4	-10.2	-2.0	-8.2
245	124			21.6	39.9	40.6	0.7	-2.0	2.7
244	127			21.3	39.6	39.4	-0.2	-2.0	1.8
Average	110						-5.0	-2.0	-3.0

Table D.04 Tonality Assessment Table - 7.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
384	223			20.8	39.2	29.0	-10.2	-2.1	-8.2
1671	226			25.0	43.4	31.3	-12.0	-2.1	-10.0
774	235			24.7	43.1	38.2	-4.8	-2.1	-2.8
248	235			25.0	43.4	39.1	-4.3	-2.1	-2.3
258	235			24.2	42.6	38.1	-4.4	-2.1	-2.4
19	235			23.9	42.3	38.0	-4.3	-2.1	-2.3
67	235			23.2	41.6	38.9	-2.7	-2.1	-0.7
21	235			25.1	43.5	39.2	-4.3	-2.1	-2.2
280	235			23.7	42.1	38.1	-4.0	-2.1	-2.0
244	235			23.5	41.9	37.9	-4.0	-2.1	-1.9
263	235			23.6	42.0	38.3	-3.6	-2.1	-1.6
279	235			23.7	42.1	37.4	-4.7	-2.1	-2.6
513	235			24.0	42.4	38.4	-4.0	-2.1	-1.9
52	235			23.7	42.2	39.4	-2.7	-2.1	-0.7
283	235			23.2	41.7	37.1	-4.5	-2.1	-2.5
60	235			24.2	42.6	40.0	-2.5	-2.1	-0.5
20	235			24.7	43.1	41.2	-1.9	-2.1	0.1
243	235			23.7	42.1	39.4	-2.7	-2.1	-0.7
333	235			23.2	41.6	38.0	-3.7	-2.1	-1.6
332	235			23.2	41.6	38.4	-3.2	-2.1	-1.1
38	235			23.8	42.2	39.0	-3.2	-2.1	-1.2
285	235			23.4	41.8	37.6	-4.2	-2.1	-2.1
512	235			23.7	42.1	38.6	-3.6	-2.1	-1.5
245	235			24.0	42.4	38.0	-4.4	-2.1	-2.4
509	235			24.2	42.6	40.1	-2.5	-2.1	-0.5
70	235			24.2	42.6	38.7	-3.9	-2.1	-1.9
50	235			24.0	42.4	40.1	-2.3	-2.1	-0.3
53	235			23.9	42.3	40.0	-2.3	-2.1	-0.3
238	236			22.2	40.6	37.9	-2.7	-2.1	-0.7
Average	234						-3.7	-2.1	-1.7

Table D.05 Tonality Assessment Table - 8 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
893	211			20.8	39.2	30.3	-8.9	-2.0	-6.8
510	235			24.8	43.2	38.7	-4.5	-2.1	-2.4
1331	235			23.5	41.9	37.7	-4.2	-2.1	-2.2
296	235			23.3	41.7	37.8	-3.9	-2.1	-1.9
511	235			23.9	42.4	38.1	-4.2	-2.1	-2.2
301	235			23.6	42.0	40.1	-1.9	-2.1	0.2
322	235			22.2	40.6	37.8	-2.8	-2.1	-0.8
506	235			23.8	42.2	38.0	-4.2	-2.1	-2.1
18	235			24.0	42.4	38.4	-4.0	-2.1	-1.9
268	235			23.3	41.7	39.7	-2.0	-2.1	0.1
266	235			23.5	41.9	38.3	-3.6	-2.1	-1.5
1335	235			24.4	42.8	37.9	-4.9	-2.1	-2.8
1332	235			24.3	42.7	37.5	-5.1	-2.1	-3.1
5	235			24.4	42.8	37.4	-5.4	-2.1	-3.4
1326	235			24.3	42.7	39.9	-2.8	-2.1	-0.8
61	235			24.1	42.5	40.1	-2.4	-2.1	-0.3
1328	235			23.6	42.0	38.2	-3.8	-2.1	-1.7
35	235			24.2	42.6	39.6	-3.0	-2.1	-0.9
504	235			24.2	42.6	38.6	-4.0	-2.1	-1.9
1091	235			24.0	42.4	38.0	-4.4	-2.1	-2.4
259	235			24.8	43.2	38.2	-4.9	-2.1	-2.9
33	235			23.9	42.3	40.1	-2.2	-2.1	-0.1
291	235			23.0	41.5	37.4	-4.0	-2.1	-1.9
34	235			23.8	42.2	38.0	-4.3	-2.1	-2.2
257	235			24.1	42.5	37.7	-4.8	-2.1	-2.7
242	235			23.7	42.1	38.8	-3.4	-2.1	-1.3
531	235			24.3	42.7	37.3	-5.5	-2.1	-3.4
747	235			24.0	42.4	39.8	-2.6	-2.1	-0.6
487	235			24.9	43.3	38.5	-4.8	-2.1	-2.8
250	235			24.0	42.4	38.9	-3.5	-2.1	-1.4
261	235			23.2	41.6	36.1	-5.5	-2.1	-3.4
17	235			23.6	42.0	39.2	-2.8	-2.1	-0.8
264	235			23.4	41.8	38.8	-3.0	-2.1	-1.0
499	235			24.8	43.2	38.4	-4.8	-2.1	-2.7
37	235			24.3	42.7	38.4	-4.3	-2.1	-2.3
267	235			23.2	41.6	38.1	-3.4	-2.1	-1.4
277	235			23.6	42.0	38.4	-3.6	-2.1	-1.5
304	235			23.2	41.6	39.4	-2.2	-2.1	-0.1
302	235			23.7	42.1	40.6	-1.6	-2.1	0.5
303	235			23.0	41.4	39.7	-1.7	-2.1	0.4
262	235			23.5	41.9	37.6	-4.3	-2.1	-2.3
278	235			24.2	42.6	37.8	-4.8	-2.1	-2.7
1090	235			23.9	42.3	38.3	-4.1	-2.1	-2.0
1329	235			24.2	42.7	38.9	-3.8	-2.1	-1.7
247	235			24.8	43.2	38.3	-4.9	-2.1	-2.8
6	235			25.1	43.5	38.2	-5.3	-2.1	-3.2
69	235			23.7	42.1	39.0	-3.0	-2.1	-1.0
323	235			23.4	41.8	39.4	-2.4	-2.1	-0.3
1333	235			24.5	43.0	38.8	-4.2	-2.1	-2.1
249	235			24.5	42.9	39.2	-3.7	-2.1	-1.6
1325	235			24.6	43.0	40.2	-2.8	-2.1	-0.7
503	235			24.4	42.8	39.1	-3.7	-2.1	-1.6
505	235			24.1	42.5	39.3	-3.2	-2.1	-1.1
66	235			23.3	41.8	39.2	-2.5	-2.1	-0.5
700	236			24.2	42.6	39.1	-3.5	-2.1	-1.5
697	236			24.1	42.5	37.9	-4.6	-2.1	-2.5
239	236			23.2	41.6	38.7	-2.9	-2.1	-0.8
1060	236			24.0	42.4	39.6	-2.8	-2.1	-0.8
1059	236			24.3	42.7	41.3	-1.4	-2.1	0.6
260	236			24.4	42.8	39.2	-3.7	-2.1	-1.6
1058	236			24.1	42.5	39.3	-3.1	-2.1	-1.1
1327	236			24.2	42.6	39.6	-3.0	-2.1	-0.9
1324	236			25.1	43.5	40.6	-2.9	-2.1	-0.8

Table D.05 Tonality Assessment Table - 8 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1061	236			24.3	42.7	40.3	-2.4	-2.1	-0.4
1322	236			23.2	41.6	38.1	-3.6	-2.1	-1.5
1330	236			23.8	42.2	38.7	-3.5	-2.1	-1.4
1323	236			24.4	42.8	39.3	-3.5	-2.1	-1.5
Average	235						-3.5	-2.1	-1.5

Table D.05 Tonality Assessment Table - 8 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
180	475			22.5	41.4	28.8	-12.6	-2.3	-10.4
1331	475			24.0	42.8	34.7	-8.1	-2.3	-5.8
345	475			20.5	39.4	34.6	-4.8	-2.3	-2.5
1273	475			21.4	40.2	34.8	-5.4	-2.3	-3.1
69	475			22.3	41.2	36.4	-4.8	-2.3	-2.6
155	475			20.7	39.6	28.9	-10.7	-2.3	-8.5
37	475			22.3	41.2	37.8	-3.3	-2.3	-1.1
506	476			23.0	41.9	29.5	-12.4	-2.3	-10.1
242	476			22.8	41.7	38.3	-3.3	-2.3	-1.1
1060	476			23.4	42.3	39.6	-2.7	-2.3	-0.4
125	476			20.6	39.4	38.1	-1.3	-2.3	1.0
184	476			21.8	40.7	28.2	-12.5	-2.3	-10.2
1330	476			23.8	42.7	35.4	-7.3	-2.3	-5.0
139	476			22.1	40.9	28.5	-12.4	-2.3	-10.2
126	476			20.8	39.7	39.4	-0.3	-2.3	2.0
856	476			21.9	40.8	28.1	-12.6	-2.3	-10.3
129	476			21.5	40.3	36.8	-3.5	-2.3	-1.2
232	476			20.2	39.1	36.2	-2.9	-2.3	-0.6
1327	476			24.4	43.3	37.5	-5.8	-2.3	-3.5
511	476			22.6	41.5	35.3	-6.2	-2.3	-4.0
225	477			22.0	40.9	38.5	-2.4	-2.3	-0.1
144	477			20.7	39.6	35.4	-4.2	-2.3	-2.0
226	478			21.8	40.7	37.2	-3.5	-2.3	-1.2
895	478			23.0	41.9	31.0	-10.9	-2.3	-8.7
1324	478			25.1	44.0	36.9	-7.0	-2.3	-4.8
1332	478			24.2	43.1	32.3	-10.8	-2.3	-8.5
250	478			22.4	41.2	32.6	-8.6	-2.3	-6.4
893	478			20.2	39.1	33.1	-6.0	-2.3	-3.8
695	478			21.4	40.3	36.2	-4.1	-2.3	-1.8
157	478			21.4	40.3	37.0	-3.3	-2.3	-1.0
360	479			21.4	40.2	33.3	-6.9	-2.3	-4.6
1061	479			24.3	43.2	36.3	-6.9	-2.3	-4.6
264	479			22.4	41.3	35.3	-6.0	-2.3	-3.8
34	479			21.9	40.8	33.0	-7.8	-2.3	-5.5
1058	479			24.0	42.9	35.3	-7.6	-2.3	-5.3
868	479			20.9	39.8	35.7	-4.1	-2.3	-1.8
128	480			21.4	40.3	34.4	-5.8	-2.3	-3.6
35	480			22.8	41.7	35.5	-6.2	-2.3	-3.9
1059	480			24.6	43.5	31.3	-12.2	-2.3	-9.9
268	480			22.1	41.0	35.6	-5.5	-2.3	-3.2
143	480			20.7	39.6	36.2	-3.4	-2.3	-1.2
883	481			22.0	40.9	30.3	-10.6	-2.3	-8.4
874	481			21.7	40.6	27.8	-12.8	-2.3	-10.5
210	481			20.6	39.5	39.7	0.2	-2.3	2.5
249	481			23.2	42.1	38.4	-3.7	-2.3	-1.4
33	481			22.8	41.7	33.6	-8.1	-2.3	-5.8
220	481			21.1	39.9	36.6	-3.3	-2.3	-1.1
1329	481			24.1	43.0	36.5	-6.6	-2.3	-4.3
61	481			22.8	41.7	36.8	-4.9	-2.3	-2.6
583	482			22.6	41.5	30.6	-10.9	-2.3	-8.6
1032	482			21.1	40.0	39.4	-0.5	-2.3	1.8
1286	482			22.2	41.1	39.6	-1.5	-2.3	0.8
842	482			22.4	41.3	34.8	-6.5	-2.3	-4.2
859	482			20.8	39.7	32.6	-7.1	-2.3	-4.8
700	482			24.2	43.1	38.6	-4.5	-2.3	-2.2
572	483			21.6	40.4	34.6	-5.9	-2.3	-3.6
584	483			21.3	40.2	32.8	-7.4	-2.3	-5.1
1287	483			21.1	40.0	35.2	-4.8	-2.3	-2.5
873	483			21.6	40.4	35.4	-5.1	-2.3	-2.8
221	483			20.9	39.8	34.5	-5.3	-2.3	-3.0
402	483			22.4	41.3	30.6	-10.7	-2.3	-8.4
385	483			21.0	39.9	38.6	-1.4	-2.3	0.9
222	483			21.5	40.4	33.1	-7.3	-2.3	-5.0

Table D.05 Tonality Assessment Table - 8 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
257	483			22.2	41.1	39.7	-1.4	-2.3	0.9
503	483			23.7	42.6	35.3	-7.3	-2.3	-5.0
1292	484			21.5	40.4	36.4	-4.0	-2.3	-1.7
1322	484			23.7	42.6	30.8	-11.8	-2.3	-9.5
1323	484			24.7	43.6	32.6	-11.0	-2.3	-8.7
894	484			22.2	41.1	34.6	-6.5	-2.3	-4.2
247	484			23.0	41.9	31.5	-10.4	-2.3	-8.1
132	485			22.3	41.1	38.7	-2.4	-2.3	-0.2
422	485			22.1	41.0	32.6	-8.3	-2.3	-6.1
161	485			21.7	40.6	37.5	-3.1	-2.3	-0.8
267	486			22.7	41.6	36.3	-5.3	-2.3	-3.1
187	486			22.0	40.9	34.9	-6.0	-2.3	-3.7
261	486			22.4	41.3	36.5	-4.8	-2.3	-2.5
304	486			23.0	41.9	42.6	0.7	-2.3	3.0
694	486			21.6	40.5	32.5	-8.0	-2.3	-5.7
186	486			21.3	40.2	34.4	-5.7	-2.3	-3.4
302	487			24.1	43.0	39.4	-3.5	-2.3	-1.3
303	487			22.9	41.8	38.6	-3.3	-2.3	-1.0
848	487			21.5	40.4	37.3	-3.1	-2.3	-0.8
1274	487			23.4	42.3	37.3	-5.0	-2.3	-2.7
93	487			23.1	42.0	30.8	-11.1	-2.3	-8.9
1667	488			24.1	43.0	42.7	-0.3	-2.3	2.0
431	489			21.6	40.5	37.0	-3.5	-2.3	-1.2
864	490			21.7	40.6	32.4	-8.2	-2.3	-5.9
656	490			21.4	40.3	35.5	-4.8	-2.3	-2.5
301	490			23.4	42.3	38.3	-4.0	-2.3	-1.7
172	491			21.4	40.3	38.1	-2.2	-2.3	0.1
266	493			23.2	42.1	36.8	-5.3	-2.3	-3.1
863	494			21.7	40.7	36.8	-3.8	-2.3	-1.5
441	495			22.1	41.0	37.9	-3.1	-2.3	-0.8
865	498			21.9	40.8	33.2	-7.6	-2.3	-5.4
78	500			22.1	41.0	41.2	0.2	-2.3	2.5
185	503			22.5	41.5	35.3	-6.2	-2.3	-3.9
259	503			23.1	42.1	31.7	-10.3	-2.3	-8.0
260	504			23.6	42.5	38.4	-4.1	-2.3	-1.8
457	532			24.0	43.0	45.2	2.2	-2.3	4.5
Average	483						-4.6	-2.3	-2.3

Table D.06 Tonality Assessment Table - 8.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1278	219			20.3	38.7	26.7	-12.0	-2.1	-9.9
1392	235			25.5	43.9	39.9	-4.1	-2.1	-2.0
289	235			23.5	41.9	39.4	-2.5	-2.1	-0.5
728	235			23.6	42.0	39.4	-2.6	-2.1	-0.5
485	235			24.0	42.4	39.2	-3.3	-2.1	-1.2
317	235			23.1	41.5	40.1	-1.4	-2.1	0.7
287	235			24.2	42.6	38.6	-4.0	-2.1	-2.0
4	235			24.8	43.2	39.4	-3.8	-2.1	-1.7
764	235			24.3	42.7	39.8	-2.9	-2.1	-0.9
10	235			23.7	42.1	41.2	-0.9	-2.1	1.2
342	235			21.9	40.3	36.3	-4.1	-2.1	-2.0
336	235			23.3	41.7	38.6	-3.1	-2.1	-1.1
528	235			23.9	42.3	38.6	-3.7	-2.1	-1.6
550	235			23.4	41.8	38.3	-3.5	-2.1	-1.4
730	235			23.7	42.1	39.7	-2.4	-2.1	-0.3
1069	235			24.3	42.7	39.8	-2.9	-2.1	-0.9
1382	235			24.5	42.9	39.6	-3.3	-2.1	-1.3
320	235			22.8	41.3	39.2	-2.1	-2.1	0.0
529	235			24.2	42.6	38.9	-3.7	-2.1	-1.7
293	235			24.2	42.6	39.4	-3.2	-2.1	-1.1
784	235			23.6	42.0	38.4	-3.6	-2.1	-1.6
725	235			23.3	41.7	38.9	-2.8	-2.1	-0.7
1352	235			24.0	42.4	39.0	-3.4	-2.1	-1.4
1104	235			23.9	42.3	38.7	-3.6	-2.1	-1.5
270	235			23.2	41.6	39.7	-1.8	-2.1	0.2
729	235			23.4	41.8	38.2	-3.6	-2.1	-1.6
480	235			23.9	42.3	37.5	-4.9	-2.1	-2.8
1349	235			23.8	42.2	37.9	-4.4	-2.1	-2.3
772	235			23.9	42.3	39.9	-2.5	-2.1	-0.4
1087	235			23.3	41.7	37.6	-4.1	-2.1	-2.0
23	235			24.3	42.7	39.3	-3.4	-2.1	-1.3
309	235			23.8	42.2	37.5	-4.8	-2.1	-2.7
740	235			24.0	42.4	39.5	-2.8	-2.1	-0.8
327	235			22.7	41.1	38.8	-2.3	-2.1	-0.3
713	235			25.8	44.2	39.3	-4.9	-2.1	-2.9
36	235			23.8	42.2	39.0	-3.2	-2.1	-1.2
319	235			23.2	41.6	39.1	-2.5	-2.1	-0.4
758	235			24.7	43.1	39.7	-3.4	-2.1	-1.3
756	235			24.2	42.6	39.9	-2.6	-2.1	-0.6
63	235			23.9	42.3	39.3	-2.9	-2.1	-0.9
502	235			24.4	42.8	38.9	-3.9	-2.1	-1.9
734	235			23.3	41.8	37.4	-4.4	-2.1	-2.3
294	235			24.2	42.6	38.0	-4.5	-2.1	-2.5
473	235			23.9	42.3	38.5	-3.8	-2.1	-1.7
530	235			23.5	41.9	38.3	-3.6	-2.1	-1.5
2	235			23.3	41.7	39.9	-1.8	-2.1	0.3
1102	235			24.7	43.1	39.4	-3.7	-2.1	-1.6
474	235			23.5	41.9	38.5	-3.4	-2.1	-1.3
1364	235			23.5	42.0	37.9	-4.1	-2.1	-2.0
1092	235			24.1	42.5	38.5	-4.0	-2.1	-2.0
1148	235			23.7	42.2	38.3	-3.8	-2.1	-1.7
748	235			25.4	43.8	40.0	-3.9	-2.1	-1.8
307	235			22.6	41.0	38.5	-2.5	-2.1	-0.4
751	235			23.7	42.1	38.7	-3.4	-2.1	-1.3
338	235			23.4	41.8	39.3	-2.5	-2.1	-0.5
525	235			25.5	43.9	39.9	-4.0	-2.1	-1.9
290	235			23.7	42.1	39.6	-2.5	-2.1	-0.4
308	235			23.3	41.7	37.7	-3.9	-2.1	-1.9
11	235			24.5	42.9	39.5	-3.4	-2.1	-1.4
773	235			23.8	42.2	38.6	-3.5	-2.1	-1.5
22	235			24.8	43.2	39.3	-3.9	-2.1	-1.8
699	236			24.1	42.5	37.7	-4.8	-2.1	-2.7
701	236			24.8	43.2	38.8	-4.3	-2.1	-2.3

Table D.06 Tonality Assessment Table - 8.5 m/s

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1064	236			24.5	43.0	38.1	-4.9	-2.1	-2.8
240	236			24.1	42.5	39.2	-3.3	-2.1	-1.2
459	258			23.6	42.0	35.1	-6.9	-2.1	-4.8
Average	235						-3.4	-2.1	-1.3

Table D.06 Tonality Assessment Table - 8.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1536	477			22.8	41.7	40.5	-1.2	-2.3	1.1
107	477			22.3	41.2	38.7	-2.5	-2.3	-0.3
1009	477			21.6	40.5	40.3	-0.2	-2.3	2.1
193	477			20.7	39.6	40.2	0.6	-2.3	2.8
758	477			24.5	43.4	35.9	-7.5	-2.3	-5.2
679	478			20.7	39.6	37.3	-2.3	-2.3	0.0
1049	478			20.9	39.7	38.8	-0.9	-2.3	1.4
327	478			21.5	40.3	41.9	1.6	-2.3	3.8
1469	478			23.6	42.5	37.1	-5.4	-2.3	-3.1
1261	478			21.5	40.4	38.5	-1.9	-2.3	0.4
989	478			21.9	40.8	42.8	2.0	-2.3	4.3
2	478			22.7	41.6	40.2	-1.4	-2.3	0.9
1216	478			21.3	40.2	39.4	-0.8	-2.3	1.5
293	478			23.2	42.1	40.9	-1.2	-2.3	1.1
342	478			21.2	40.1	36.6	-3.4	-2.3	-1.1
1450	478			21.7	40.6	37.6	-3.0	-2.3	-0.7
95	479			21.9	40.8	37.8	-3.0	-2.3	-0.7
308	479			22.7	41.6	33.6	-8.0	-2.3	-5.7
1519	479			21.5	40.4	37.7	-2.7	-2.3	-0.4
1446	480			21.7	40.5	39.2	-1.4	-2.3	0.9
336	480			22.7	41.6	42.0	0.3	-2.3	2.6
439	480			20.2	39.1	38.3	-0.8	-2.3	1.5
1069	480			24.3	43.2	37.8	-5.5	-2.3	-3.2
230	481			22.0	40.9	44.1	3.2	-2.3	5.5
137	481			21.6	40.5	38.5	-2.0	-2.3	0.3
931	481			22.9	41.7	38.7	-3.0	-2.3	-0.7
36	481			22.5	41.4	40.1	-1.2	-2.3	1.0
1191	482			21.5	40.4	41.2	0.9	-2.3	3.1
1159	482			22.6	41.5	37.8	-3.7	-2.3	-1.4
119	482			22.8	41.6	42.1	0.5	-2.3	2.8
729	482			22.2	41.1	38.8	-2.3	-2.3	0.0
389	482			21.4	40.3	42.1	1.8	-2.3	4.1
833	483			20.8	39.7	39.4	-0.3	-2.3	2.0
751	483			22.8	41.7	39.6	-2.1	-2.3	0.2
835	483			22.2	41.1	38.0	-3.1	-2.3	-0.8
309	483			22.4	41.3	41.7	0.4	-2.3	2.7
1214	483			22.5	41.4	40.7	-0.7	-2.3	1.6
642	483			21.9	40.8	39.9	-0.9	-2.3	1.4
951	483			21.7	40.6	40.2	-0.4	-2.3	1.9
202	484			21.4	40.3	39.6	-0.6	-2.3	1.6
106	484			22.9	41.8	41.6	-0.2	-2.3	2.1
613	484			21.3	40.2	41.7	1.5	-2.3	3.8
1392	484			24.1	43.0	35.7	-7.3	-2.3	-5.0
886	484			24.0	42.9	40.5	-2.4	-2.3	-0.1
120	484			22.0	40.9	41.7	0.7	-2.3	3.0
525	484			26.2	45.0	39.2	-5.9	-2.3	-3.6
691	484			21.4	40.3	39.7	-0.6	-2.3	1.7
616	485			20.8	39.7	39.2	-0.5	-2.3	1.8
689	485			21.2	40.1	38.5	-1.6	-2.3	0.7
79	486			22.0	40.8	34.0	-6.8	-2.3	-4.5
1410	486			22.5	41.4	37.0	-4.5	-2.3	-2.2
138	486			21.2	40.1	40.6	0.5	-2.3	2.8
639	487			22.6	41.5	38.1	-3.4	-2.3	-1.1
369	487			20.9	39.8	41.4	1.6	-2.3	3.9
351	487			21.2	40.1	41.8	1.7	-2.3	3.9
809	488			24.2	43.1	32.7	-10.5	-2.3	-8.2
173	488			21.0	39.9	37.6	-2.3	-2.3	0.0
623	488			20.8	39.7	36.9	-2.8	-2.3	-0.5
434	489			21.8	40.7	37.7	-3.0	-2.3	-0.7
154	490			21.9	40.8	38.1	-2.7	-2.3	-0.4
673	490			22.2	41.1	37.8	-3.3	-2.3	-1.0
164	490			22.3	41.2	39.4	-1.8	-2.3	0.5
713	492			24.5	43.4	36.3	-7.1	-2.3	-4.8

Table D.06 Tonality Assessment Table - 8.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
447	493			21.5	40.4	37.7	-2.7	-2.3	-0.4
659	493			22.0	40.9	41.7	0.8	-2.3	3.1
1104	494			24.1	43.0	37.2	-5.8	-2.3	-3.5
1553	494			23.2	42.1	37.1	-5.1	-2.3	-2.8
1527	494			22.7	41.6	38.0	-3.6	-2.3	-1.4
592	495			22.3	41.3	40.7	-0.6	-2.3	1.7
22	496			23.5	42.5	42.2	-0.2	-2.3	2.1
163	496			22.8	41.7	41.8	0.1	-2.3	2.4
116	496			22.5	41.4	44.4	3.0	-2.3	5.3
97	498			23.5	42.4	36.8	-5.6	-2.3	-3.3
23	498			23.7	42.6	40.3	-2.3	-2.3	0.0
287	501			24.6	43.6	37.3	-6.3	-2.3	-4.0
442	502			21.5	40.4	36.9	-3.5	-2.3	-1.2
294	502			23.2	42.1	41.0	-1.1	-2.3	1.2
349	503			22.1	41.0	41.3	0.3	-2.3	2.6
96	503			24.2	43.2	34.5	-8.7	-2.3	-6.4
319	504			23.6	42.5	41.1	-1.4	-2.3	0.9
455	505			21.4	40.3	38.7	-1.7	-2.3	0.6
228	505			22.4	41.3	41.7	0.3	-2.3	2.7
63	506			24.0	42.9	35.5	-7.4	-2.3	-5.1
802	517			23.0	42.0	35.1	-6.9	-2.3	-4.6
437	533			19.9	38.9	27.5	-11.5	-2.3	-9.1
Average	487						-1.4	-2.3	0.9

Table D.07 Tonality Assessment Table - 9 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
672	231			21.6	40.0	34.3	-5.7	-2.1	-3.6
668	233			22.8	41.2	41.1	-0.1	-2.1	2.0
1388	235			23.9	42.3	39.6	-2.8	-2.1	-0.7
7	235			24.9	43.3	38.7	-4.6	-2.1	-2.5
12	235			23.6	42.0	38.7	-3.3	-2.1	-1.3
252	235			24.6	43.0	38.5	-4.6	-2.1	-2.5
496	235			29.8	48.2	39.9	-8.4	-2.1	-6.3
775	235			25.5	43.9	38.1	-5.7	-2.1	-3.7
326	235			22.6	41.0	38.1	-3.0	-2.1	-0.9
724	235			23.7	42.1	38.6	-3.6	-2.1	-1.5
1122	235			24.3	42.7	40.0	-2.7	-2.1	-0.7
1094	235			23.8	42.2	37.5	-4.7	-2.1	-2.6
483	235			24.7	43.1	39.2	-3.8	-2.1	-1.8
265	235			23.6	42.0	38.5	-3.5	-2.1	-1.4
491	235			28.3	46.7	39.7	-7.0	-2.1	-5.0
299	235			23.6	42.0	39.7	-2.3	-2.1	-0.3
479	235			23.8	42.2	39.3	-2.9	-2.1	-0.8
783	235			24.4	42.8	39.2	-3.6	-2.1	-1.6
300	235			23.4	41.9	39.4	-2.4	-2.1	-0.4
15	235			23.2	41.6	39.0	-2.6	-2.1	-0.5
1118	235			23.7	42.1	38.6	-3.4	-2.1	-1.4
766	235			24.1	42.5	39.4	-3.1	-2.1	-1.1
736	235			23.7	42.1	39.1	-3.0	-2.1	-0.9
472	235			23.7	42.1	37.6	-4.6	-2.1	-2.5
750	235			24.5	42.9	39.4	-3.6	-2.1	-1.5
1389	235			24.4	42.8	40.1	-2.7	-2.1	-0.7
1136	235			23.5	41.9	39.6	-2.3	-2.1	-0.2
556	235			23.4	41.9	38.5	-3.4	-2.1	-1.3
712	235			25.4	43.9	39.1	-4.7	-2.1	-2.6
1355	235			23.8	42.2	37.1	-5.1	-2.1	-3.0
722	235			24.3	42.7	40.4	-2.3	-2.1	-0.3
720	235			24.3	42.7	40.1	-2.6	-2.1	-0.5
762	235			23.5	41.9	38.1	-3.8	-2.1	-1.8
723	235			23.7	42.1	39.6	-2.6	-2.1	-0.5
316	235			23.2	41.7	40.4	-1.2	-2.1	0.8
64	235			23.4	41.8	38.9	-3.0	-2.1	-0.9
341	235			23.1	41.5	39.2	-2.3	-2.1	-0.2
735	235			23.5	41.9	39.5	-2.5	-2.1	-0.4
763	235			24.0	42.4	39.2	-3.2	-2.1	-1.1
520	235			24.0	42.4	39.3	-3.1	-2.1	-1.1
292	235			23.9	42.3	38.6	-3.8	-2.1	-1.7
310	235			23.9	42.3	40.1	-2.1	-2.1	-0.1
733	235			23.7	42.1	39.5	-2.6	-2.1	-0.5
313	235			23.2	41.6	38.7	-2.9	-2.1	-0.8
470	235			25.4	43.8	39.5	-4.3	-2.1	-2.2
1100	235			24.2	42.6	37.5	-5.1	-2.1	-3.0
16	235			22.8	41.2	38.7	-2.5	-2.1	-0.5
744	235			23.7	42.1	39.2	-2.9	-2.1	-0.9
551	235			24.2	42.6	39.0	-3.5	-2.1	-1.5
1393	235			25.0	43.4	38.7	-4.7	-2.1	-2.7
273	235			23.3	41.7	38.6	-3.1	-2.1	-1.1
255	235			24.1	42.5	38.6	-4.0	-2.1	-1.9
789	235			23.9	42.3	40.2	-2.1	-2.1	0.0
68	235			23.6	42.1	37.9	-4.1	-2.1	-2.0
1123	235			24.4	42.8	39.8	-3.0	-2.1	-0.9
706	235			23.9	42.3	39.0	-3.3	-2.1	-1.3
519	235			24.0	42.5	38.5	-3.9	-2.1	-1.9
1111	235			24.0	42.4	38.6	-3.8	-2.1	-1.8
1391	235			25.2	43.6	38.2	-5.4	-2.1	-3.3
1398	235			23.2	41.6	38.2	-3.4	-2.1	-1.3
731	235			23.8	42.2	39.3	-2.9	-2.1	-0.8
1107	235			23.6	42.0	37.7	-4.3	-2.1	-2.3
253	235			24.0	42.4	38.5	-4.0	-2.1	-1.9
543	235			24.4	42.8	38.7	-4.0	-2.1	-2.0
1383	235			24.4	42.8	39.5	-3.3	-2.1	-1.2
321	235			22.7	41.1	37.8	-3.3	-2.1	-1.2
254	235			24.4	42.8	39.7	-3.1	-2.1	-1.0
737	235			23.8	42.2	37.6	-4.6	-2.1	-2.5
698	236			24.0	42.4	37.3	-5.2	-2.1	-3.1

Table D.07 Tonality Assessment Table - 9 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1057	236			24.8	43.2	39.8	-3.4	-2.1	-1.4
241	236			24.1	42.5	39.5	-3.1	-2.1	-1.0
1062	236			24.3	42.7	38.6	-4.2	-2.1	-2.1
703	236			24.9	43.4	39.5	-3.9	-2.1	-1.8
465	236			24.5	42.9	39.4	-3.5	-2.1	-1.4
1063	236			24.0	42.5	37.5	-4.9	-2.1	-2.8
Average	235						-3.4	-2.1	-1.4

Table D.07 Tonality Assessment Table - 9 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1253	477			21.6	40.4	39.8	-0.6	-2.3	1.7
292	477			23.0	41.9	38.4	-3.5	-2.3	-1.2
316	477			22.2	41.1	41.0	-0.1	-2.3	2.2
313	477			22.9	41.8	40.0	-1.8	-2.3	0.5
1281	478			21.4	40.3	40.5	0.2	-2.3	2.5
355	478			21.8	40.6	38.7	-1.9	-2.3	0.3
1355	478			23.2	42.1	37.7	-4.4	-2.3	-2.1
975	478			21.2	40.1	36.4	-3.7	-2.3	-1.4
68	478			21.6	40.5	38.6	-1.9	-2.3	0.4
241	478			23.2	42.1	41.2	-0.9	-2.3	1.4
1509	479			24.2	43.1	31.7	-11.4	-2.3	-9.1
988	479			22.6	41.5	42.1	0.7	-2.3	2.9
712	479			25.2	44.0	33.1	-10.9	-2.3	-8.7
915	479			21.6	40.5	34.6	-5.9	-2.3	-3.6
496	479			23.6	42.4	41.2	-1.2	-2.3	1.1
321	479			22.6	41.5	39.8	-1.6	-2.3	0.7
387	479			20.8	39.6	41.8	2.2	-2.3	4.5
950	479			21.9	40.8	31.6	-9.2	-2.3	-6.9
1491	479			22.4	41.3	39.4	-1.9	-2.3	0.4
253	480			22.1	41.0	43.4	2.5	-2.3	4.7
255	480			23.1	42.0	40.3	-1.7	-2.3	0.6
394	480			21.0	39.9	42.3	2.4	-2.3	4.7
224	480			21.5	40.4	39.0	-1.4	-2.3	0.9
1136	480			23.7	42.6	35.7	-6.9	-2.3	-4.6
1231	480			22.4	41.2	37.6	-3.6	-2.3	-1.3
1094	480			23.3	42.2	38.6	-3.6	-2.3	-1.3
1062	480			23.6	42.5	40.3	-2.2	-2.3	0.1
105	481			22.9	41.8	37.5	-4.2	-2.3	-1.9
252	481			22.9	41.8	43.0	1.3	-2.3	3.6
1517	481			20.9	39.8	39.9	0.1	-2.3	2.3
930	481			21.7	40.6	38.9	-1.7	-2.3	0.5
1293	482			21.4	40.3	36.6	-3.7	-2.3	-1.4
1488	482			22.2	41.1	40.3	-0.8	-2.3	1.5
836	482			21.7	40.6	38.6	-1.9	-2.3	0.3
601	482			21.4	40.3	42.2	1.9	-2.3	4.2
867	482			20.2	39.1	40.4	1.4	-2.3	3.7
1122	482			24.8	43.7	38.8	-4.9	-2.3	-2.6
1123	482			23.9	42.8	41.0	-1.8	-2.3	0.5
326	482			22.1	40.9	35.8	-5.2	-2.3	-2.9
380	482			20.8	39.7	42.1	2.3	-2.3	4.6
1285	483			22.0	40.8	43.0	2.2	-2.3	4.4
783	483			24.1	42.9	36.5	-6.4	-2.3	-4.2
465	483			23.7	42.6	39.6	-3.0	-2.3	-0.7
602	483			21.4	40.3	41.2	0.9	-2.3	3.2
1179	483			21.3	40.2	38.2	-1.9	-2.3	0.4
98	483			21.7	40.6	38.7	-1.9	-2.3	0.3
1420	483			22.3	41.2	39.8	-1.4	-2.3	0.8
1107	483			23.3	42.2	38.3	-3.9	-2.3	-1.6
1422	483			20.8	39.7	39.7	0.0	-2.3	2.3
273	483			22.4	41.3	41.8	0.4	-2.3	2.7
1433	484			21.8	40.7	34.9	-5.8	-2.3	-3.5
101	484			22.3	41.2	41.8	0.6	-2.3	2.9
109	484			23.9	42.8	43.2	0.4	-2.3	2.7
826	484			22.8	41.7	38.2	-3.5	-2.3	-1.2
834	484			22.8	41.7	37.2	-4.5	-2.3	-2.3
935	485			22.3	41.2	37.1	-4.1	-2.3	-1.8
731	485			23.4	42.3	33.5	-8.8	-2.3	-6.5
121	485			23.1	42.0	42.7	0.8	-2.3	3.1
1406	486			22.0	40.9	37.0	-3.9	-2.3	-1.6
416	486			21.4	40.3	42.1	1.8	-2.3	4.1
1441	486			21.8	40.7	37.5	-3.2	-2.3	-0.9
1383	486			24.6	43.5	35.5	-8.0	-2.3	-5.8
1414	486			22.3	41.2	36.0	-5.2	-2.3	-2.9
551	486			24.4	43.3	32.3	-11.0	-2.3	-8.7
192	486			21.7	40.6	43.5	2.9	-2.3	5.2
1442	486			22.5	41.4	39.9	-1.5	-2.3	0.8
134	486			21.3	40.2	40.8	0.5	-2.3	2.8
890	486			21.9	40.8	40.6	-0.2	-2.3	2.1
433	486			22.4	41.3	38.8	-2.6	-2.3	-0.3

Table D.07 Tonality Assessment Table - 9 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
617	486			20.9	39.8	37.5	-2.2	-2.3	0.0
406	486			21.2	40.1	39.7	-0.4	-2.3	1.9
310	487			22.9	41.8	40.8	-1.1	-2.3	1.2
519	487			23.3	42.2	38.4	-3.8	-2.3	-1.5
300	487			22.6	41.5	41.3	-0.2	-2.3	2.0
174	487			21.0	39.9	42.3	2.4	-2.3	4.6
843	487			23.4	42.3	35.1	-7.2	-2.3	-4.9
1024	487			22.5	41.4	41.3	0.0	-2.3	2.3
1264	487			21.8	40.7	40.3	-0.4	-2.3	1.9
99	488			21.1	40.0	41.4	1.4	-2.3	3.7
543	488			24.5	43.4	39.2	-4.2	-2.3	-1.9
648	488			22.1	41.0	37.3	-3.7	-2.3	-1.4
649	488			21.4	40.3	34.0	-6.3	-2.3	-4.0
435	489			21.6	40.5	38.1	-2.4	-2.3	-0.1
341	489			21.7	40.6	41.2	0.6	-2.3	2.8
483	490			23.9	42.8	37.6	-5.2	-2.3	-2.9
913	490			23.3	42.2	33.3	-8.9	-2.3	-6.6
450	490			21.3	40.2	39.0	-1.2	-2.3	1.1
567	490			22.3	41.3	37.5	-3.8	-2.3	-1.5
443	490			21.1	40.1	38.8	-1.2	-2.3	1.1
520	490			23.4	42.3	40.0	-2.3	-2.3	0.0
1668	491			24.3	43.2	43.9	0.7	-2.3	3.0
108	491			23.2	42.1	40.1	-2.0	-2.3	0.3
1549	491			23.8	42.7	33.1	-9.6	-2.3	-7.3
670	492			25.2	44.1	40.2	-3.9	-2.3	-1.6
417	492			21.2	40.2	40.4	0.2	-2.3	2.5
82	492			22.7	41.6	38.1	-3.5	-2.3	-1.2
448	493			21.0	39.9	40.6	0.6	-2.3	2.9
822	494			22.6	41.5	38.0	-3.5	-2.3	-1.2
703	494			24.7	43.6	40.5	-3.1	-2.3	-0.8
792	494			22.8	41.7	38.2	-3.5	-2.3	-1.2
687	494			21.2	40.1	41.1	1.0	-2.3	3.3
1393	494			23.5	42.4	42.6	0.2	-2.3	2.5
453	495			23.0	41.9	39.4	-2.4	-2.3	-0.2
299	495			22.9	41.8	41.6	-0.2	-2.3	2.0
229	498			22.4	41.3	44.3	3.0	-2.3	5.3
64	498			22.9	41.8	39.6	-2.2	-2.3	0.0
658	499			22.2	41.1	39.7	-1.4	-2.3	0.9
165	501			22.1	41.1	42.0	0.9	-2.3	3.2
198	502			22.3	41.2	42.5	1.3	-2.3	3.6
454	506			22.0	41.0	41.2	0.2	-2.3	2.5
491	506			25.3	44.3	33.8	-10.5	-2.3	-8.2
775	516			25.1	44.1	35.9	-8.2	-2.3	-5.8
162	519			23.8	42.8	42.0	-0.8	-2.3	1.5
470	521			25.5	44.5	40.2	-4.3	-2.3	-1.9
7	524			25.0	44.0	38.4	-5.7	-2.3	-3.3
590	525			23.4	42.4	34.7	-7.7	-2.3	-5.4
591	529			23.5	42.5	42.0	-0.5	-2.3	1.9
Average	487						-1.3	-2.3	0.9

Table D.08 Tonality Assessment Table - 9.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1430	222			21.2	39.6	28.9	-10.7	-2.1	-8.6
1143	235			24.8	43.2	40.8	-2.4	-2.1	-0.3
721	235			23.5	42.0	38.4	-3.5	-2.1	-1.5
768	235			24.2	42.6	39.2	-3.4	-2.1	-1.4
771	235			23.4	41.8	39.2	-2.6	-2.1	-0.5
517	235			23.9	42.3	39.0	-3.3	-2.1	-1.3
557	235			24.4	42.8	40.6	-2.2	-2.1	-0.1
256	235			24.1	42.5	39.5	-3.0	-2.1	-0.9
312	235			23.0	41.4	38.8	-2.6	-2.1	-0.5
1390	235			25.1	43.5	39.7	-3.8	-2.1	-1.7
1068	235			25.1	43.5	39.7	-3.8	-2.1	-1.7
719	235			24.2	42.6	39.1	-3.6	-2.1	-1.5
1124	235			23.7	42.2	38.9	-3.3	-2.1	-1.2
558	235			23.7	42.1	39.2	-2.9	-2.1	-0.8
1139	235			23.8	42.2	39.4	-2.8	-2.1	-0.8
776	235			25.6	44.0	39.7	-4.3	-2.1	-2.3
1357	235			24.0	42.4	37.6	-4.8	-2.1	-2.7
1344	235			23.8	42.2	36.9	-5.3	-2.1	-3.3
305	235			22.6	41.0	39.7	-1.4	-2.1	0.7
761	235			23.9	42.3	40.9	-1.3	-2.1	0.7
516	235			24.9	43.3	39.5	-3.8	-2.1	-1.8
1132	235			23.6	42.0	39.0	-3.0	-2.1	-1.0
286	235			24.2	42.6	38.1	-4.5	-2.1	-2.4
527	235			24.7	43.1	40.2	-2.9	-2.1	-0.9
1374	235			24.1	42.5	39.3	-3.2	-2.1	-1.2
269	235			24.2	42.6	39.4	-3.2	-2.1	-1.1
554	235			23.6	42.0	39.9	-2.0	-2.1	0.0
1116	235			23.8	42.2	39.7	-2.5	-2.1	-0.4
1106	235			24.1	42.5	38.7	-3.8	-2.1	-1.8
1101	235			25.3	43.7	38.1	-5.7	-2.1	-3.6
1366	235			24.0	42.4	39.1	-3.3	-2.1	-1.3
1089	235			24.4	42.8	38.9	-3.9	-2.1	-1.8
497	235			28.2	46.7	39.6	-7.0	-2.1	-4.9
1336	235			24.5	42.9	38.9	-3.9	-2.1	-1.9
9	235			24.8	43.2	39.5	-3.7	-2.1	-1.7
469	235			23.7	42.2	39.2	-3.0	-2.1	-0.9
1105	235			23.4	41.8	37.4	-4.4	-2.1	-2.4
743	235			24.0	42.4	39.3	-3.1	-2.1	-1.1
281	235			24.8	43.2	40.1	-3.1	-2.1	-1.0
298	235			24.0	42.4	40.7	-1.7	-2.1	0.3
538	235			24.1	42.5	39.4	-3.1	-2.1	-1.0
272	235			23.9	42.3	39.3	-3.0	-2.1	-0.9
13	235			24.8	43.2	39.6	-3.5	-2.1	-1.5
62	235			24.2	42.6	38.8	-3.8	-2.1	-1.7
716	235			25.0	43.4	40.0	-3.4	-2.1	-1.3
311	235			23.3	41.7	39.5	-2.2	-2.1	-0.2
1343	235			23.5	41.9	37.3	-4.6	-2.1	-2.6
1078	235			24.3	42.7	38.9	-3.8	-2.1	-1.8
1088	235			25.0	43.4	40.0	-3.4	-2.1	-1.3
14	235			23.5	41.9	38.8	-3.1	-2.1	-1.1
1121	235			23.5	41.9	38.9	-3.0	-2.1	-1.0
536	235			23.6	42.0	40.1	-2.0	-2.1	0.1
727	235			24.9	43.3	39.4	-3.9	-2.1	-1.8
1397	235			24.0	42.4	38.3	-4.1	-2.1	-2.1
1131	235			23.8	42.2	38.5	-3.6	-2.1	-1.6
1072	235			24.0	42.4	39.5	-2.9	-2.1	-0.8
315	235			23.2	41.6	39.8	-1.8	-2.1	0.2
1381	235			24.2	42.6	38.0	-4.6	-2.1	-2.5
518	235			23.5	42.0	38.1	-3.8	-2.1	-1.7
1339	235			24.0	42.4	37.8	-4.6	-2.1	-2.5
275	235			23.3	41.7	40.3	-1.5	-2.1	0.6
562	235			23.5	41.9	38.8	-3.1	-2.1	-1.0
1358	235			24.4	42.8	39.6	-3.3	-2.1	-1.2
1056	236			24.4	42.8	39.2	-3.6	-2.1	-1.6
463	236			24.4	42.8	39.1	-3.7	-2.1	-1.6
1055	236			23.4	41.8	36.9	-4.9	-2.1	-2.9
464	236			25.1	43.5	41.9	-1.6	-2.1	0.5

Table D.08 Tonality Assessment Table - 9.5 m/s

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
462	236			24.6	43.0	38.7	-4.3	-2.1	-2.3
Average	235						-3.3	-2.1	-1.3

Table D.08 Tonality Assessment Table - 9.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
990	477			22.1	41.0	39.6	-1.4	-2.3	0.9
1267	477			20.5	39.4	40.0	0.7	-2.3	3.0
973	477			21.6	40.5	38.7	-1.8	-2.3	0.5
312	477			22.0	40.9	42.4	1.6	-2.3	3.9
1038	478			21.9	40.8	37.3	-3.5	-2.3	-1.2
1045	478			21.7	40.5	38.7	-1.8	-2.3	0.5
562	478			23.0	41.9	39.4	-2.5	-2.3	-0.2
1417	478			22.1	41.0	38.1	-2.9	-2.3	-0.6
991	478			21.5	40.4	42.1	1.7	-2.3	4.0
719	479			23.5	42.4	37.9	-4.5	-2.3	-2.2
1132	479			23.8	42.6	38.6	-4.0	-2.3	-1.7
1184	479			21.6	40.5	38.6	-1.9	-2.3	0.4
413	479			19.9	38.8	37.8	-1.0	-2.3	1.3
1003	479			21.5	40.4	42.0	1.6	-2.3	3.8
993	480			21.3	40.2	39.8	-0.4	-2.3	1.9
1029	480			22.0	40.9	41.1	0.2	-2.3	2.5
538	480			24.4	43.3	38.3	-5.0	-2.3	-2.7
1200	481			23.0	41.9	40.1	-1.7	-2.3	0.5
796	481			21.5	40.4	35.3	-5.0	-2.3	-2.8
1105	481			23.9	42.8	34.2	-8.5	-2.3	-6.2
398	481			21.4	40.3	41.5	1.3	-2.3	3.5
1183	481			21.9	40.8	39.2	-1.6	-2.3	0.7
771	481			23.1	42.0	29.5	-12.5	-2.3	-10.2
1143	481			24.2	43.1	41.2	-1.9	-2.3	0.4
62	481			22.4	41.3	37.3	-4.0	-2.3	-1.7
464	482			24.6	43.5	32.4	-11.1	-2.3	-8.9
909	482			22.2	41.1	38.3	-2.8	-2.3	-0.6
1265	482			21.6	40.5	43.2	2.7	-2.3	5.0
1390	482			23.9	42.8	36.5	-6.3	-2.3	-4.0
1495	482			22.1	41.0	43.3	2.3	-2.3	4.6
716	482			23.2	42.1	37.5	-4.5	-2.3	-2.3
1196	482			21.9	40.8	38.0	-2.7	-2.3	-0.5
612	483			21.7	40.6	39.5	-1.1	-2.3	1.2
1304	483			23.4	42.3	43.7	1.4	-2.3	3.7
1357	483			24.2	43.1	39.6	-3.5	-2.3	-1.2
518	483			22.5	41.4	39.3	-2.1	-2.3	0.2
281	483			23.2	42.0	39.2	-2.8	-2.3	-0.5
563	483			21.5	40.4	39.5	-0.9	-2.3	1.3
1016	483			21.5	40.4	41.1	0.7	-2.3	3.0
1124	483			23.5	42.4	37.7	-4.7	-2.3	-2.4
1437	483			21.5	40.4	37.8	-2.6	-2.3	-0.3
1254	483			22.2	41.1	38.5	-2.6	-2.3	-0.3
985	484			22.6	41.5	43.0	1.5	-2.3	3.8
984	484			22.1	41.0	41.3	0.3	-2.3	2.6
404	484			21.6	40.5	40.1	-0.4	-2.3	1.9
682	485			22.1	41.0	40.8	-0.2	-2.3	2.1
1088	486			25.0	43.9	43.6	-0.3	-2.3	2.0
618	486			20.3	39.2	39.1	-0.1	-2.3	2.1
451	486			21.2	40.1	42.9	2.8	-2.3	5.1
110	486			22.5	41.4	41.7	0.3	-2.3	2.5
272	486			22.7	41.6	43.5	1.8	-2.3	4.1
1550	486			22.3	41.2	40.9	-0.4	-2.3	1.9
1358	486			24.6	43.5	38.2	-5.3	-2.3	-3.1
256	486			22.3	41.2	43.9	2.7	-2.3	5.0
418	487			21.2	40.1	41.8	1.7	-2.3	4.0
940	487			22.0	40.9	41.9	1.0	-2.3	3.3
914	487			23.5	42.4	35.4	-7.0	-2.3	-4.7
1302	487			23.0	41.9	40.0	-1.9	-2.3	0.4
1106	487			24.5	43.4	34.4	-9.0	-2.3	-6.7
286	487			23.2	42.1	33.1	-8.9	-2.3	-6.6
866	487			21.9	40.8	36.9	-3.9	-2.3	-1.6
1055	487			23.9	42.8	41.1	-1.6	-2.3	0.6
1557	488			22.6	41.5	38.1	-3.4	-2.3	-1.1
463	489			23.7	42.6	38.1	-4.6	-2.3	-2.3
14	489			23.2	42.1	39.3	-2.8	-2.3	-0.5
743	489			23.8	42.7	34.4	-8.3	-2.3	-6.0
1051	490			21.7	40.6	40.1	-0.5	-2.3	1.8

Table D.08 Tonality Assessment Table - 9.5 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
793	491			21.7	40.6	38.8	-1.8	-2.3	0.5
660	491			21.4	40.3	41.0	0.7	-2.3	3.0
1291	491			22.7	41.6	40.0	-1.6	-2.3	0.7
1503	493			22.7	41.6	33.2	-8.5	-2.3	-6.2
1436	494			23.6	42.5	34.4	-8.1	-2.3	-5.9
424	494			23.0	41.9	37.1	-4.7	-2.3	-2.4
1366	494			23.7	42.6	37.6	-5.0	-2.3	-2.7
311	494			22.5	41.5	40.8	-0.7	-2.3	1.6
1411	494			23.0	41.9	39.4	-2.5	-2.3	-0.2
630	494			22.4	41.3	40.3	-1.0	-2.3	1.3
1056	494			24.9	43.8	32.3	-11.5	-2.3	-9.2
624	495			21.8	40.7	41.9	1.2	-2.3	3.5
517	495			24.4	43.3	33.7	-9.6	-2.3	-7.3
1453	495			21.7	40.6	39.1	-1.6	-2.3	0.7
383	495			22.4	41.3	39.3	-2.0	-2.3	0.2
1547	498			24.6	43.5	40.7	-2.8	-2.3	-0.5
905	499			22.1	41.0	34.5	-6.5	-2.3	-4.2
409	501			22.4	41.3	32.3	-9.0	-2.3	-6.7
1514	502			24.0	42.9	30.3	-12.6	-2.3	-10.3
13	502			23.8	42.8	40.1	-2.6	-2.3	-0.3
403	503			21.8	40.7	36.9	-3.8	-2.3	-1.5
298	506			24.0	42.9	41.5	-1.4	-2.3	0.9
910	506			22.5	41.4	34.7	-6.8	-2.3	-4.5
815	515			23.5	42.5	35.5	-7.0	-2.3	-4.7
516	519			24.9	43.9	38.2	-5.7	-2.3	-3.4
887	532			24.4	43.4	35.7	-7.6	-2.3	-5.3
462	535			24.2	43.2	43.1	-0.1	-2.3	2.3
Average	488						-1.6	-2.3	0.6

Table D.09 Tonality Assessment Table - 10 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1429	221			21.7	40.1	29.2	-10.9	-2.1	-8.8
767	235			23.7	42.1	39.3	-2.9	-2.1	-0.8
781	235			24.5	43.0	39.8	-3.1	-2.1	-1.1
1151	235			23.8	42.2	39.8	-2.4	-2.1	-0.3
709	235			25.1	43.5	38.8	-4.7	-2.1	-2.6
1369	235			23.9	42.3	39.3	-3.1	-2.1	-1.0
1376	235			23.8	42.2	38.7	-3.6	-2.1	-1.5
739	235			23.9	42.3	38.9	-3.3	-2.1	-1.3
552	235			24.0	42.4	40.8	-1.6	-2.1	0.4
710	235			24.6	43.0	38.6	-4.4	-2.1	-2.3
1399	235			23.5	41.9	38.8	-3.1	-2.1	-1.0
1135	235			23.4	41.8	38.5	-3.3	-2.1	-1.3
533	235			25.2	43.6	40.6	-3.0	-2.1	-1.0
749	235			24.9	43.3	39.8	-3.5	-2.1	-1.4
1093	235			24.5	42.9	39.7	-3.2	-2.1	-1.1
251	235			23.8	42.2	38.4	-3.8	-2.1	-1.8
745	235			23.6	42.0	39.3	-2.7	-2.1	-0.6
1394	235			24.3	42.7	39.1	-3.6	-2.1	-1.6
1354	235			23.7	42.1	38.2	-3.9	-2.1	-1.8
752	235			23.7	42.1	39.0	-3.0	-2.1	-1.0
1117	235			24.0	42.4	39.5	-2.9	-2.1	-0.9
1400	235			23.5	41.9	38.8	-3.1	-2.1	-1.0
274	235			23.4	41.8	39.9	-1.9	-2.1	0.2
1346	235			24.3	42.8	38.4	-4.3	-2.1	-2.3
532	235			25.5	43.9	40.0	-3.9	-2.1	-1.8
742	235			24.0	42.4	38.9	-3.5	-2.1	-1.4
535	235			23.3	41.8	38.3	-3.5	-2.1	-1.4
1360	235			24.7	43.1	40.6	-2.4	-2.1	-0.4
306	235			23.2	41.6	38.5	-3.2	-2.1	-1.1
1133	235			24.1	42.5	39.8	-2.7	-2.1	-0.6
718	235			25.4	43.8	39.9	-3.9	-2.1	-1.8
561	235			23.4	41.9	39.0	-2.9	-2.1	-0.8
1128	235			24.1	42.6	39.4	-3.1	-2.1	-1.1
537	235			23.9	42.3	39.8	-2.5	-2.1	-0.4
1097	235			23.8	42.2	38.5	-3.7	-2.1	-1.7
324	235			23.3	41.7	38.9	-2.8	-2.1	-0.7
484	235			24.7	43.1	38.3	-4.7	-2.1	-2.7
1071	235			23.9	42.3	39.2	-3.2	-2.1	-1.1
1095	235			24.0	42.4	39.4	-3.0	-2.1	-1.0
1108	235			23.9	42.3	37.8	-4.5	-2.1	-2.4
1338	235			23.6	42.0	38.0	-4.1	-2.1	-2.0
1080	235			24.3	42.7	38.1	-4.7	-2.1	-2.6
478	235			23.3	41.7	38.7	-3.0	-2.1	-0.9
555	235			23.6	42.0	39.2	-2.8	-2.1	-0.8
477	235			23.4	41.8	38.8	-3.0	-2.1	-1.0
1096	235			23.9	42.3	39.3	-3.0	-2.1	-0.9
1379	235			23.6	42.0	39.2	-2.8	-2.1	-0.7
1402	235			24.2	42.6	39.4	-3.2	-2.1	-1.2
468	236			24.2	42.6	39.4	-3.2	-2.1	-1.2
467	236			23.5	41.9	37.9	-4.0	-2.1	-1.9
Average	235						-3.3	-2.1	-1.3

Table D.09 Tonality Assessment Table - 10 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
391	476			20.7	39.6	42.7	3.1	-2.3	5.4
564	476			21.4	40.3	40.0	-0.3	-2.3	2.0
998	476			23.0	41.8	38.7	-3.1	-2.3	-0.8
1554	476			21.6	40.5	38.5	-2.0	-2.3	0.3
1535	476			21.2	40.0	39.7	-0.3	-2.3	2.0
1249	476			22.2	41.1	40.6	-0.5	-2.3	1.8
1026	477			22.0	40.9	41.0	0.1	-2.3	2.3
1215	478			23.0	41.8	36.7	-5.1	-2.3	-2.9
390	478			21.2	40.1	41.3	1.2	-2.3	3.5
976	478			22.2	41.1	41.6	0.5	-2.3	2.8
1500	478			21.8	40.6	41.8	1.1	-2.3	3.4
1030	478			21.5	40.3	37.1	-3.3	-2.3	-1.0
1256	478			22.8	41.6	38.9	-2.8	-2.3	-0.5
1053	479			20.7	39.6	36.4	-3.2	-2.3	-0.9
1403	479			22.8	41.7	37.6	-4.1	-2.3	-1.8
1346	479			24.8	43.6	39.4	-4.2	-2.3	-1.9
1182	479			22.0	40.9	39.8	-1.1	-2.3	1.2
607	479			21.0	39.9	36.2	-3.7	-2.3	-1.4
1376	479			24.1	43.0	37.4	-5.6	-2.3	-3.3
1418	479			23.2	42.0	36.0	-6.0	-2.3	-3.8
1369	479			24.0	42.8	40.6	-2.2	-2.3	0.1
1046	480			22.3	41.1	37.5	-3.6	-2.3	-1.3
938	480			22.4	41.3	31.0	-10.3	-2.3	-8.1
739	480			22.9	41.8	33.7	-8.1	-2.3	-5.9
1117	480			24.5	43.4	37.8	-5.6	-2.3	-3.3
1006	480			21.4	40.3	41.6	1.3	-2.3	3.6
1241	480			20.7	39.6	38.9	-0.7	-2.3	1.6
1192	480			21.4	40.3	39.1	-1.2	-2.3	1.1
1071	480			24.4	43.3	40.8	-2.6	-2.3	-0.3
251	480			21.8	40.6	40.3	-0.3	-2.3	2.0
781	480			23.9	42.8	34.4	-8.4	-2.3	-6.1
1093	481			24.4	43.3	39.4	-3.9	-2.3	-1.6
690	481			21.1	40.0	39.2	-0.8	-2.3	1.5
274	481			22.5	41.4	43.9	2.5	-2.3	4.8
1217	481			21.6	40.5	40.8	0.3	-2.3	2.6
969	481			22.2	41.1	39.6	-1.6	-2.3	0.7
1095	481			23.9	42.8	39.7	-3.1	-2.3	-0.8
900	482			22.1	41.0	42.1	1.1	-2.3	3.4
767	482			22.7	41.6	38.4	-3.2	-2.3	-0.9
1423	482			21.3	40.2	39.9	-0.3	-2.3	2.0
968	482			22.2	41.1	41.6	0.5	-2.3	2.8
1014	482			22.7	41.6	37.8	-3.8	-2.3	-1.6
600	482			20.8	39.7	36.7	-3.0	-2.3	-0.7
994	482			22.4	41.3	41.0	-0.3	-2.3	2.0
579	482			21.4	40.3	41.1	0.8	-2.3	3.1
1043	482			22.8	41.7	41.6	-0.1	-2.3	2.2
1269	483			22.4	41.3	41.0	-0.3	-2.3	2.0
1297	483			23.3	42.2	38.2	-4.0	-2.3	-1.8
552	483			23.8	42.7	41.1	-1.6	-2.3	0.7
1080	483			24.0	42.9	37.2	-5.7	-2.3	-3.4
535	483			22.7	41.6	36.1	-5.5	-2.3	-3.2
1415	483			22.1	41.0	38.8	-2.2	-2.3	0.1
1399	483			24.0	42.9	37.5	-5.3	-2.3	-3.1
1097	483			23.9	42.8	35.6	-7.2	-2.3	-4.9
1360	483			25.1	44.0	40.9	-3.1	-2.3	-0.8
1035	483			21.8	40.7	41.2	0.4	-2.3	2.7
664	484			21.6	40.5	41.0	0.5	-2.3	2.8
1248	484			21.7	40.6	40.8	0.2	-2.3	2.4
467	484			23.5	42.4	37.3	-5.1	-2.3	-2.8
1096	484			23.6	42.5	41.5	-1.1	-2.3	1.2
94	484			24.3	43.2	38.9	-4.4	-2.3	-2.1
423	485			22.6	41.5	37.4	-4.2	-2.3	-1.9
967	485			23.0	41.9	39.7	-2.2	-2.3	0.1
1153	486			22.3	41.2	39.3	-1.9	-2.3	0.4
1199	486			24.0	42.9	40.3	-2.6	-2.3	-0.3
1128	487			24.2	43.1	41.9	-1.1	-2.3	1.1
1521	487			22.0	40.9	41.4	0.5	-2.3	2.8

Table D.09 Tonality Assessment Table - 10 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
399	487			20.8	39.7	42.3	2.6	-2.3	4.9
419	487			21.0	39.9	38.5	-1.4	-2.3	0.9
972	487			22.2	41.1	39.5	-1.5	-2.3	0.7
1407	487			22.2	41.1	36.1	-5.0	-2.3	-2.7
647	487			22.7	41.6	35.1	-6.5	-2.3	-4.2
742	487			23.6	42.5	37.3	-5.2	-2.3	-2.9
1400	488			24.0	42.9	40.1	-2.8	-2.3	-0.5
1394	488			23.5	42.4	40.2	-2.2	-2.3	0.1

Table D.09 Tonality Assessment Table - 10 m/s

Project: East Durham Wind Energy Centre- Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 10/31/2017

Measurement #	Centre frequency (Hz)	Energy average of all masking lines (dB)	Background (dB)	Background adjusted criterion level (dB)	Masking level (dB)	Tone level (dB)	Determination of tonality (dB)	Frequency dependent audibility criterion (dB)	Tonal Audibility (dB)
1255	489			22.9	41.8	38.9	-2.9	-2.3	-0.6
651	491			21.7	40.7	41.6	0.9	-2.3	3.2
561	493			23.4	42.3	36.5	-5.8	-2.3	-3.5
593	494			21.5	40.4	36.4	-4.0	-2.3	-1.7
444	494			21.4	40.3	41.8	1.5	-2.3	3.7
640	494			22.4	41.3	36.5	-4.8	-2.3	-2.5
1220	495			22.7	41.6	42.3	0.7	-2.3	3.0
191	502			22.5	41.4	43.4	1.9	-2.3	4.2
324	503			23.1	42.1	39.6	-2.5	-2.3	-0.2
718	505			23.8	42.7	42.8	0.1	-2.3	2.4
484	509			24.1	43.0	34.5	-8.6	-2.3	-6.3
823	516			22.9	41.8	34.6	-7.3	-2.3	-5.0
532	517			25.7	44.7	40.1	-4.6	-2.3	-2.3
533	517			25.3	44.3	43.1	-1.2	-2.3	1.1
749	527			24.3	43.3	43.0	-0.4	-2.3	2.0
Average	485						-1.5	-2.3	0.8

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Appendix E
Measurement Data

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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			1336	200.0	193.6	2.8	12.8	8.2	7.5	17	95.7	53
2	8.3	52.8	1340	200.0	193.6	2.7	12.8	8.5	7.1	17	95.7	53
3			1313	200.0	193.6	1.0	12.4	8.1	6.2	17	95.7	53
4	8.5	53.3	1319	200.0	193.6	0.5	12.5	8.6	5.6	17	95.7	53
5	7.9	53.9	1195	200.0	193.6	0.4	12.7	8.2	5.4	17	95.7	53
6	7.8	53.2	1130	200.0	193.6	0.4	12.8	6.9	6.5	17	95.7	53
7	8.8	53.6	1370	200.0	193.6	0.7	13.4	9.0	5.6	17	95.7	53
8	10.8	54.9	1364	200.0	193.6	6.8	13.9	11.0	7.1	17	95.7	54
9	9.3	54.6	1295	200.0	193.6	5.7	13.0	9.4	8.2	17	95.7	54
10	8.4	53.9	1297	200.0	193.6	1.9	12.4	8.6	6.3	17	95.7	54
11	8.5	52.6	1337	200.0	193.6	1.3	12.6	8.7	6.7	17	95.7	54
12	9.0	52.8	1332	200.0	193.6	0.7	12.5	9.1	6.2	17	95.7	54
13	9.6	53.4	1383	200.0	193.6	4.7	13.5	9.8	7.8	17	95.7	54
14	9.7	53.2	1335	200.0	193.6	5.8	13.2	9.9	8.6	17	95.7	54
15	9.2	53.1	1324	200.0	193.6	5.6	13.0	9.4	8.2	17	95.7	54
16	8.9	52.1	1307	200.0	193.6	2.5	12.4	9.0	7.7	17	95.7	54
17	7.9	52.4	1185	200.0	193.6	0.2	12.2	7.7	8.2	17	95.7	54
18	8.0	53.0	1203	200.0	193.6	0.2	12.7	9.4	8.4	17	95.7	54
19	7.6	52.9	1076	200.0	193.6	0.3	12.8	8.2	6.9	17	95.7	54
20	7.4	53.3	990	200.0	193.6	0.3	12.8	7.6	7.1	17	95.7	54
21	7.5	53.2	1014	200.0	193.6	0.3	12.9	7.9	7.8	17	95.7	54
22	8.4	53.9	1337	200.0	193.6	0.3	13.2	8.5	7.5	17	95.7	54
23	8.3	53.7	1355	200.0	193.6	2.6	13.5	8.5	6.7	17	95.7	54
24			1300	200.0	193.6	1.3	12.8	8.3	6.3	17	95.7	54
25	7.1	52.9	883	200.0	193.6	0.5	12.4	6.8	6.1	17	95.7	54
26	6.9	51.9	805	200.0	193.6	0.1	12.7	6.1	6.3	17	95.7	54
27	7.0	52.2	842	200.0	193.6	0.1	12.8	7.4	5.6	17	95.7	54
28	6.9	52.3	814	200.0	193.6	0.1	12.8	7.3	5.0	17	95.7	54
29	6.7	52.3	750	200.0	193.6	0.2	12.7	6.8	5.0	17	95.7	54
30	6.5	51.4	667	200.0	193.6	0.5	12.1	5.9	6.0	17	95.7	54
31	6.3	50.8	614	200.0	193.6	0.3	12.0	6.4	5.4	17	95.7	54
32	7.2	51.6	902	200.0	193.6	0.2	12.8	8.0	5.9	17	95.7	54
33	7.9	52.8	1189	200.0	193.6	0.5	12.9	8.7	6.7	17	95.7	54
34	8.0	52.6	1202	200.0	193.6	0.3	12.9	8.5	5.4	17	95.7	54
35	8.0	53.1	1198	200.0	193.6	0.5	12.9	8.6	4.8	17	95.7	54
36	8.6	53.4	1291	200.0	193.6	0.7	12.9	8.8	4.2	17	95.7	54
37	7.8	53.0	1159	200.0	193.6	0.4	12.8	9.0	5.2	17	95.7	54
38	7.4	52.8	969	200.0	193.6	0.4	12.7	8.0	5.3	17	95.7	54
39	6.8	53.1	778	200.0	193.6	0.0	12.7	6.5	6.2	17	95.7	54
40	6.5	52.3	691	200.0	193.6	0.4	12.4	7.0	4.8	17	95.7	54
41	6.4	51.9	656	200.0	193.6	0.2	12.3	7.3	5.3	17	95.7	54
42	6.4	52.6	663	200.0	193.6	0.3	12.3	6.6	5.5	17	95.7	54
43	6.4	51.7	651	200.0	193.6	0.2	12.3	7.3	5.5	17	95.7	54
44	6.5	52.5	672	200.0	193.6	0.4	12.4	6.6	6.6	17	95.7	54
45	6.2	51.5	592	200.0	193.6	0.7	11.7	5.3	7.0	17	95.7	54
46	5.9	50.6	505	200.0	193.6	0.6	11.1	5.4	7.2	17	95.7	54
47	5.8	50.5	488	200.0	193.6	0.1	11.3	7.5	6.9	17	95.7	54
48	6.1	51.8	570	200.0	193.6	0.1	11.9	7.2	5.9	17	95.7	54
49	6.8	51.2	771	200.0	193.6	0.0	12.4	7.8	6.0	17	95.7	54
50	7.4	52.6	997	200.0	193.6	0.3	12.8	8.0	6.2	17	95.7	54
51	7.2	54.4	920	200.0	193.6	0.3	12.8	7.8	5.8	17	95.7	54
52	7.4	53.0	976	200.0	193.6	0.2	12.9	7.9	6.5	17	95.7	54
53	7.6	52.7	1075	200.0	193.6	0.3	12.9	9.2	6.7	17	95.7	54
54	7.1	52.7	883	200.0	193.6	0.2	12.8	7.6	6.3	17	95.7	54
55	6.6	52.1	719	200.0	193.6	0.2	12.7	7.2	6.1	17	95.7	54
56	6.5	51.7	693	200.0	193.6	0.4	12.4	6.7	7.0	17	95.7	54
57	6.7	52.1	737	200.0	193.6	0.2	12.6	6.6	5.4	17	95.7	54
58	7.1	52.6	855	200.0	193.6	0.1	12.8	7.9	4.8	17	95.7	54
59	7.0	53.0	841	200.0	193.6	0.1	12.9	6.8	6.9	17	95.7	54
60	7.7	52.6	1099	200.0	193.6	0.3	13.0	8.5	8.3	17	95.7	54
61	8.0	52.9	1206	200.0	193.6	0.4	12.9	8.5	7.9	17	95.7	54
62	9.3	53.1	1344	200.0	193.6	0.5	13.0	9.5	8.3	17	95.7	54
63	8.6	53.3	1371	200.0	193.6	1.4	13.5	8.8	8.3	17	95.7	54
64	8.8	53.7	1342	200.0	193.6	3.4	13.4	8.9	7.5	17	95.7	54
65			1323	200.0	193.6	2.8	13.1	7.7	6.9	17	95.7	54
66	8.2	52.8	1236	200.0	193.6	0.8	12.3	6.7	7.0	17	95.7	54
67	7.6	52.1	1053	200.0	193.6	0.6	12.5	8.2	6.7	17	95.7	54
68	8.9	52.8	1330	200.0	193.6	1.0	12.9	9.0	8.0	17	95.7	54
69	7.9	52.9	1169	200.0	193.6	0.4	12.8	8.3	8.1	17	95.7	54
70	7.4	52.6	981	200.0	193.6	0.4	12.8	7.9	8.2	17	95.7	54
71	6.7	52.7	753	200.0	193.6	0.1	12.7	7.1	8.3	17	95.7	54
72	6.6	52.1	701	200.0	193.6	0.3	12.5	5.8	6.9	17	95.7	54
73	7.5	51.9	1014	200.0	193.6	0.2	12.9	7.0	6.1	17	95.7	54
74			1356	200.0	193.6	0.3	13.3	8.3	6.0	17	95.7	54
75			1331	200.0	193.6	1.5	13.1	7.7	6.3	17	95.7	54
76			1283	200.0	193.6	0.5	12.7	7.8	5.9	17	95.7	54
77			1315	200.0	193.6	0.8	13.3	8.4	6.3	17	95.7	54
78	8.2	52.7	1239	200.0	193.6	3.3	13.4	7.6	6.4	17	95.7	54
79	8.4	52.3	1292	200.0	193.6	2.4	13.1	8.6	5.2	17	95.7	54
80			1316	200.0	193.6	1.1	12.8	8.2	6.0	17	95.7	54
81			1359	200.0	193.6	4.3	13.3	8.1	6.6	17	95.7	54
82	8.9	52.5	1343	200.0	193.6	5.9	13.2	9.0	5.9	17	95.7	54
83	9.4	52.8	1323	200.0	193.6	4.8	12.9	9.6	6.2	17	95.7	54
84	9.1	53.4	1332	200.0	193.6	4.5	12.8	9.2	7.1	17	95.7	54
85	9.3	52.7	1343	200.0	193.6	4.3	12.8	9.5	6.7	17	95.7	54
86	8.7	52.2	1339	200.0	193.6	3.9	12.8	8.9	7.2	17	95.7	54
87			1253	200.0	193.6	3.9	12.7	8.3	7.3	17	95.7	54
88	7.6	52.0	1068	200.0	193.6	7.4	13.2	8.9	5.7	17	95.7	54

***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	7.6	52.1	1071	200.0	193.6	6.4	12.7	8.8	6.1	17	95.7	54
90	7.6	51.8	1079	200.0	193.6	2.7	12.0	7.2	6.2	17	95.7	54
91	7.0	51.2	829	200.0	193.6	0.4	11.8	7.4	6.4	17	95.7	54
92	7.0	51.8	844	200.0	193.6	0.3	12.7	6.5	5.9	17	95.7	54
93	7.9	52.6	1177	200.0	193.6	0.1	13.1	8.1	5.8	17	95.7	54
94	9.8	53.1	1313	200.0	193.6	0.6	13.1	10.0	6.0	17	95.7	54
95	8.5	53.1	1317	200.0	193.6	0.1	13.0	8.7	7.3	17	95.7	54
96	8.6	53.4	1375	200.0	193.6	2.2	13.5	8.7	6.8	17	95.7	54
97	8.7	53.3	1338	200.0	193.6	4.3	13.4	8.9	6.4	17	95.7	54
98	8.9	52.8	1319	200.0	193.6	3.3	13.0	9.1	6.7	17	95.7	54
99	8.9	52.2	1342	200.0	193.6	3.9	13.1	9.0	7.6	17	95.7	54
100	9.0	52.2	1324	200.0	193.6	4.2	12.8	9.2	8.2	17	95.7	54
101	9.0	52.2	1347	200.0	193.6	4.2	12.9	9.2	8.0	17	95.7	54
102			1332	200.0	193.6	4.3	12.8	8.4	8.8	17	95.7	54
103			1331	200.0	193.6	2.9	12.6	8.4	8.4	17	95.7	54
104			1330	200.0	193.6	1.4	12.4	7.4	7.6	17	95.7	54
105	8.8	52.9	1369	200.0	193.6	1.8	12.9	9.0	8.0	17	95.7	54
106	8.5	52.9	1358	200.0	193.6	4.4	13.2	8.7	7.6	17	95.7	54
107	8.7	52.7	1332	200.0	193.6	3.9	12.9	8.9	7.8	17	95.7	54
108	9.2	52.9	1352	200.0	193.6	4.3	13.1	9.4	7.9	17	95.7	54
109	9.2	53.7	1343	200.0	193.6	5.9	13.1	9.4	8.7	17	95.7	54
110	9.3	54.3	1339	200.0	193.6	6.6	13.0	9.5	9.5	17	95.7	54
111	9.4	52.9	1328	200.0	193.6	5.7	12.8	9.5	8.4	17	95.7	54
112	9.0	52.3	1331	200.0	193.6	4.0	12.6	9.2	9.0	17	95.7	54
113			1301	200.0	193.6	1.0	12.1	7.3	8.6	17	95.7	54
114	8.4	52.6	1279	200.0	193.6	0.3	12.5	8.5	8.4	17	95.7	54
115			1358	200.0	193.6	0.4	13.0	8.3	8.5	17	95.7	54
116	8.4	53.0	1357	200.0	193.6	2.6	13.3	8.6	8.0	17	95.7	54
117			1338	200.0	193.6	2.6	13.2	7.4	7.6	17	95.7	54
118			1331	200.0	193.6	2.4	13.0	8.3	6.8	17	95.7	54
119	8.3	53.1	1340	200.0	193.6	2.7	13.0	8.4	6.5	17	95.7	54
120	8.7	52.8	1347	200.0	193.6	3.7	13.1	8.9	7.3	17	95.7	54
121	9.1	53.0	1342	200.0	193.6	4.1	13.0	9.2	7.2	17	95.7	54
122	8.3	52.2	1317	200.0	193.6	2.7	12.6	8.5	6.3	17	95.7	54
123			1331	200.0	193.6	0.9	12.5	8.1	5.9	17	95.7	54
124	8.7	52.0	1274	200.0	193.6	0.0	12.5	8.9	6.6	17	95.7	54
125	8.1	52.2	1222	200.0	193.6	0.4	12.7	8.0	5.7	17	95.7	54
126	7.9	52.7	1185	200.0	193.6	0.3	12.8	7.8	4.8	17	95.7	54
127	7.7	52.1	1084	200.0	193.6	0.4	12.8	7.9	5.1	17	95.7	54
128	8.0	52.6	1199	200.0	193.6	0.6	12.9	8.4	5.9	17	95.7	55
129	7.9	53.2	1169	200.0	193.6	0.4	12.8	7.6	6.8	17	95.7	55
130	7.4	52.6	988	200.0	193.6	0.4	12.8	7.4	6.2	17	95.7	55
131	7.4	52.8	992	200.0	193.6	0.3	12.9	7.0	6.3	17	95.7	55
132	8.0	54.0	1213	200.0	193.6	0.5	13.0	7.7	7.4	17	95.7	55
133			1353	200.0	193.6	0.1	13.2	8.4	6.5	17	95.7	55
134	9.1	52.9	1338	200.0	193.6	1.2	13.1	9.3	5.8	17	95.7	55
135			1326	200.0	193.6	0.6	12.9	7.2	6.8	17	95.7	55
136			1264	200.0	193.6	0.6	12.7	8.2	7.2	17	95.7	55
137	8.7	52.8	1328	200.0	193.6	0.5	12.9	8.9	7.7	17	95.7	55
138	8.5	52.4	1350	200.0	193.6	0.7	13.1	8.7	7.2	17	95.7	55
139	7.8	52.0	1151	200.0	193.6	0.2	12.7	7.5	5.9	17	95.7	55
140	7.2	52.7	916	200.0	193.6	0.4	12.7	6.6	6.3	17	95.7	55
141	7.4	52.2	995	200.0	193.6	0.3	12.9	6.9	4.9	17	95.7	55
142	7.6	52.2	1054	200.0	193.6	0.4	12.9	6.7	5.6	17	95.7	55
143	7.9	52.2	1165	200.0	193.6	0.4	12.9	7.2	5.7	17	95.7	55
144	7.8	52.2	1131	200.0	193.6	0.5	12.8	7.8	5.4	17	95.7	55
145	7.4	52.1	970	200.0	193.6	0.4	12.8	7.5	5.3	17	95.7	55
146	7.2	51.7	900	200.0	193.6	0.3	12.8	6.6	5.7	17	95.7	55
147	7.2	51.9	905	200.0	193.6	0.2	12.9	7.1	4.4	17	95.7	55
148	7.7	51.7	1101	200.0	193.6	0.3	13.0	6.9	5.0	17	95.7	55
149	7.7	52.1	1093	200.0	193.6	0.5	12.9	7.1	6.1	17	95.7	55
150	7.5	52.2	1038	200.0	193.6	0.5	12.9	7.6	6.5	17	95.7	55
151			1270	200.0	193.6	0.5	13.0	7.9	6.6	17	95.7	55
152			1354	200.0	193.6	1.1	13.3	7.9	6.0	17	95.7	55
153			1345	200.0	193.6	2.1	13.3	7.4	5.0	17	95.7	55
154	8.6	52.9	1334	200.0	193.6	2.5	13.2	8.7	6.1	17	95.7	55
155	7.9	51.7	1178	200.0	193.6	0.4	12.4	8.3	8.0	17	95.7	55
156	7.3	51.2	963	200.0	193.6	0.4	12.6	6.7	7.6	17	95.7	55
157	7.9	52.3	1166	200.0	193.6	0.5	12.9	7.7	8.2	17	95.7	55
158	7.6	52.7	1080	200.0	193.6	0.5	12.8	8.4	7.9	17	95.7	55
159	7.2	52.5	906	200.0	193.6	0.3	12.8	8.1	8.0	17	95.7	55
160	7.0	52.2	851	200.0	193.6	0.0	12.8	6.4	7.5	17	95.7	55
161	7.9	52.1	1166	200.0	193.6	0.3	13.0	6.8	7.5	17	95.7	55
162	9.0	53.2	1380	200.0	193.6	2.1	13.6	9.2	9.7	17	95.7	55
163	8.6	53.5	1335	200.0	193.6	5.6	13.5	8.7	9.8	17	95.7	55
164	8.5	52.9	1333	200.0	193.6	5.6	13.3	8.7	8.8	17	95.7	55
165	9.2	52.8	1329	200.0	193.6	8.4	13.3	9.3	8.0	17	95.7	55
166	9.0	51.6	1326	200.0	193.6	7.4	12.9	9.1	7.8	17	95.7	55
167	8.9	52.4	1336	200.0	193.6	6.2	12.7	9.1	8.1	17	95.7	55
168	9.1	51.3	1338	200.0	193.6	5.7	12.7	9.3	8.0	17	95.7	55
169	8.6	51.6	1330	200.0	193.6	3.6	12.5	8.7	7.5	17	95.7	55
170			1333	200.0	193.6	1.2	12.3	7.8	7.3	17	95.7	55
171	8.3	52.5	1352	200.0	193.6	0.9	12.6	8.4	7.4	17	95.7	55
172	8.0	52.1	1214	200.0	193.6	3.7	13.1	7.9	6.7	17	95.7	55
173	8.4	51.7	1260	200.0	193.6	4.4	13.2	8.6	6.9	17	95.7	55
174	9.2	51.8	1280	200.0	193.6	4.0	13.0	9.4	8.9	17	95.7	55
175	7.8	51.6	1148	200.0	193.6	3.8	12.8	8.2	8.4	17	95.7	55
176	7.8	51.7	1129	200.0	193.6	3.5	12.7	7.7	7.2	17	95.7	55

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

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***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	7.7	51.0	1102	200.0	193.6	4.9	13.1	7.6	7.0	17	95.7	55
178	7.7	51.7	1101	200.0	193.6	7.1	13.3	8.2	7.1	17	95.7	55
179	7.7	51.9	1119	200.0	193.6	7.4	13.1	8.7	6.6	17	95.7	55
180	7.8	52.1	1129	200.0	193.6	6.7	12.8	8.6	6.4	17	95.7	55
181	7.7	51.6	1105	200.0	193.3	4.5	12.4	7.8	6.4	17	95.7	55
182	7.7	51.1	1097	200.0	190.7	2.5	12.2	7.0	5.9	17	95.7	55
183	7.7	50.9	1119	200.0	190.7	1.5	12.4	6.9	6.2	17	95.7	55
184	7.8	51.3	1124	200.0	190.7	2.5	12.9	6.8	6.6	17	95.7	55
185	7.8	51.8	1145	200.0	190.7	5.5	13.5	8.0	6.1	17	95.7	55
186	7.8	51.9	1143	200.0	190.7	5.6	13.1	7.0	6.1	17	95.7	55
187	7.9	52.0	1169	200.0	190.7	6.1	13.1	7.6	7.1	17	95.7	55
188	7.9	51.6	1183	200.0	190.7	4.6	12.6	7.7	7.3	17	95.7	56
189	8.0	51.4	1222	200.0	190.7	1.2	12.1	7.2	7.2	17	95.7	56
190	8.4	52.5	1276	200.0	190.7	0.4	12.6	8.5	8.2	17	95.7	56
191	9.9	53.9	1376	200.0	190.7	3.9	13.5	10.1	7.4	17	95.7	56
192	9.1	52.9	1332	200.0	190.7	4.3	13.1	9.3	6.7	17	95.7	56
193	8.6	52.3	1322	200.0	190.7	3.0	12.8	8.8	7.2	17	95.7	56
194			1324	200.0	190.7	1.6	12.6	7.7	7.3	17	95.7	55
195			1291	200.0	190.7	0.3	12.4	8.3	7.3	17	95.7	55
196			1327	200.0	190.7	0.1	12.8	8.3	7.5	17	95.7	55
197			1344	200.0	190.7	0.4	12.9	7.7	6.9	17	95.7	55
198	8.8	52.6	1375	200.0	190.7	2.6	13.5	9.0	6.3	17	95.7	55
199			1307	200.0	190.7	2.7	12.9	7.8	7.4	17	95.7	55
200	7.9	52.2	1191	200.0	190.7	0.5	12.4	7.3	7.1	17	95.7	55
201			1300	200.0	190.7	0.6	12.8	8.2	8.1	17	95.7	55
202	8.7	53.0	1348	200.0	190.7	0.1	13.0	8.9	7.4	17	95.7	55
203			1311	200.0	190.7	0.5	13.0	7.5	6.9	17	95.7	55
204	7.5	52.5	1034	200.0	190.7	0.4	12.7	7.0	6.8	17	95.7	55
205	7.3	52.2	932	200.0	190.7	0.4	12.8	6.5	6.3	17	95.7	55
206	7.5	52.1	1007	200.0	190.7	0.4	12.9	6.4	7.6	17	95.7	55
207	7.4	52.2	969	200.0	190.7	0.4	12.8	6.8	7.0	17	95.7	55
208	7.1	51.9	856	200.0	190.7	0.2	12.8	5.6	6.9	17	95.7	55
209	7.6	52.1	1067	200.0	190.7	0.5	13.0	7.3	5.9	17	95.7	55
210	8.1	52.5	1238	200.0	190.7	0.6	12.9	8.3	5.4	17	95.7	55
211	7.7	52.4	1091	200.0	190.7	0.5	12.8	7.4	6.5	17	95.7	55
212	7.7	53.2	1106	200.0	190.7	0.5	12.9	7.6	7.3	17	95.7	55
213	7.4	52.5	983	200.0	190.7	0.4	12.8	7.1	6.7	17	95.7	55
214	7.3	51.9	957	200.0	190.7	0.4	12.8	7.1	6.2	17	95.7	55
215	7.0	52.2	829	200.0	190.7	0.0	12.8	6.2	6.1	17	95.7	55
216	7.1	51.7	885	200.0	190.7	0.1	12.9	6.2	6.7	17	95.7	55
217	7.2	52.0	900	200.0	190.7	0.2	12.9	6.9	6.8	17	95.7	55
218	7.2	52.1	919	200.0	190.7	0.1	12.9	7.2	7.0	17	95.7	55
219	7.5	51.8	1033	200.0	190.7	0.3	12.9	7.4	6.4	17	95.7	55
220	7.9	52.3	1170	200.0	190.7	0.4	12.9	8.3	6.1	17	95.7	55
221	7.8	52.3	1153	200.0	190.7	0.0	13.0	8.5	6.2	17	95.7	55
222	7.9	52.3	1183	200.0	190.7	0.0	12.9	8.3	6.1	17	95.7	55
223	7.6	52.2	1081	200.0	190.7	0.5	12.8	7.8	7.9	17	95.7	55
224	9.0	52.5	1250	200.0	190.7	0.5	12.9	9.2	7.6	17	95.7	55
225	8.1	52.8	1227	200.0	190.7	0.5	12.9	7.4	6.7	17	95.7	55
226	8.0	54.0	1198	200.0	190.7	0.3	12.9	7.1	7.0	17	95.7	55
227			1299	200.0	190.7	0.4	13.0	8.4	6.5	17	95.7	55
228	8.3	53.0	1374	200.0	190.7	2.5	13.6	8.4	5.8	17	95.7	55
229	9.2	53.1	1347	200.0	190.7	4.7	13.5	9.3	5.7	17	95.7	55
230	8.4	52.8	1320	200.0	190.7	4.2	13.1	8.5	5.2	17	95.7	55
231			1328	200.0	190.7	3.8	12.9	8.3	5.3	17	95.7	55
232	8.0	51.3	1200	200.0	190.7	3.9	12.7	8.4	6.5	17	95.7	55
233	7.9	51.0	1163	200.0	190.7	3.5	12.7	8.4	6.0	17	95.7	55
234	8.1	51.4	1230	200.0	190.7	2.6	12.7	8.2	5.2	17	95.7	55
235			1280	200.0	190.7	1.4	12.5	8.0	5.8	17	95.7	55
236	8.2	51.8	1236	200.0	190.7	0.6	12.4	7.9	8.1	17	95.7	56
237	7.7	51.2	1102	200.0	190.7	0.3	12.1	7.1	8.4	17	95.7	56
238	7.7	51.2	1083	200.0	190.7	0.2	12.1	7.3	8.5	17	95.7	56
239	7.9	52.6	1189	200.0	190.7	0.4	12.6	8.3	8.5	17	95.7	56
240	8.4	52.7	1283	200.0	190.7	0.3	12.7	8.6	8.5	17	95.7	56
241	9.0	53.9	1342	200.0	190.7	0.2	12.9	9.2	7.9	17	95.7	56
242	8.2	53.8	1238	200.0	190.7	0.1	12.8	9.0	7.0	17	95.7	55
243	7.6	53.1	1053	200.0	190.7	0.4	12.8	7.6	7.8	17	95.7	55
244	7.6	52.8	1074	200.0	190.7	0.4	12.9	7.9	7.6	17	95.7	55
245	7.4	52.9	995	200.0	190.7	0.4	12.8	6.8	6.7	17	95.7	55
246	7.1	53.3	865	200.0	190.7	0.1	12.8	7.0	7.2	17	95.7	55
247	7.8	53.9	1131	200.0	190.7	0.4	13.0	7.9	6.4	17	95.7	55
248	7.4	53.7	1006	200.0	190.7	0.4	12.8	8.0	6.3	17	95.7	56
249	7.9	53.8	1180	200.0	190.7	0.5	12.9	8.9	5.7	17	95.7	56
250	7.9	53.5	1164	200.0	190.7	0.4	12.9	8.3	6.2	17	95.7	56
251	9.8	52.7	1257	200.0	190.7	0.4	12.9	9.9	7.9	17	95.7	56
252	9.2	53.6	1337	200.0	190.7	0.5	13.0	9.4	7.0	17	95.7	56
253	8.8	54.2	1334	200.0	190.7	0.6	12.9	9.0	6.9	17	95.7	56
254	8.9	53.9	1259	200.0	190.7	0.4	12.9	9.0	6.4	17	95.7	55
255	8.9	53.8	1304	200.0	190.7	0.7	12.9	9.1	6.6	17	95.7	55
256	9.5	54.2	1349	200.0	190.7	0.0	13.1	9.7	5.9	17	95.7	55
257	8.2	53.2	1242	200.0	190.7	0.0	12.8	8.9	6.7	17	95.7	55
258	7.6	52.8	1047	200.0	190.7	0.5	12.8	7.9	6.1	17	95.7	55
259	8.0	53.3	1199	200.0	190.7	0.6	13.3	9.4	5.3	17	95.7	55
260	8.0	53.7	1204	200.0	190.7	3.0	13.6	8.8	5.0	17	95.7	56
261	7.9	53.1	1163	200.0	190.7	3.1	13.2	7.1	5.2	17	95.7	56
262	7.8	52.1	1148	200.0	190.7	2.2	12.8	7.0	6.0	17	95.7	56
263	7.6	52.2	1065	200.0	190.7	1.5	12.4	8.4	4.8	17	95.7	56
264	7.9	52.2	1161	200.0	190.7	2.3	12.8	8.3	5.0	17	95.7	56

***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	8.8	53.1	1280	200.0	190.7	2.4	12.8	8.9	5.5	17	95.7	56
266	8.0	52.9	1209	200.0	190.7	4.5	13.2	9.3	5.7	17	95.7	56
267	7.8	53.1	1158	200.0	190.7	5.9	13.2	8.2	5.0	17	95.7	56
268	8.0	52.7	1209	200.0	190.7	5.3	12.9	8.3	6.5	17	95.7	56
269	9.3	52.7	1262	200.0	190.7	4.0	12.7	9.4	7.6	17	95.7	56
270	8.3	52.6	1323	200.0	190.7	2.9	12.6	8.5	6.9	17	95.7	56
271			1321	200.0	190.7	3.2	12.7	8.2	6.8	17	95.7	56
272	9.6	52.9	1347	200.0	190.7	4.7	13.1	9.8	7.4	17	95.7	56
273	9.1	53.4	1335	200.0	190.7	5.2	13.0	9.3	6.8	17	95.7	56
274	10.2	52.8	1341	200.0	190.7	5.0	12.9	10.4	6.8	17	95.7	56
275	9.4	53.0	1327	200.0	190.7	3.8	12.7	9.6	7.4	17	95.7	56
276			1299	200.0	190.7	1.3	12.2	7.7	7.1	17	95.7	55
277	7.8	52.4	1153	200.0	190.7	0.5	12.4	8.7	7.4	17	95.7	55
278	7.8	53.3	1145	200.0	190.7	0.4	12.7	7.2	7.2	17	95.7	55
279	7.3	53.3	951	200.0	190.7	0.4	12.7	6.5	6.8	17	95.7	55
280	7.5	52.8	1029	200.0	190.7	0.3	12.9	8.4	7.7	17	95.7	55
281	9.3	53.2	1293	200.0	190.7	0.7	13.0	9.5	7.7	17	95.7	54
282			1308	200.0	190.7	0.2	13.0	8.8	7.0	17	95.7	54
283	7.4	52.9	998	200.0	190.7	0.4	12.8	9.0	6.3	17	95.7	54
284	7.1	52.5	889	200.0	190.7	0.3	12.8	7.3	6.4	17	95.7	54
285	7.3	52.3	968	200.0	190.7	0.2	12.9	7.5	6.0	17	95.7	54
286	9.3	53.1	1329	200.0	190.7	0.2	13.3	9.5	5.5	17	95.7	54
287	8.7	53.6	1353	200.0	190.7	4.0	13.6	8.8	5.1	17	95.7	53
288			1314	200.0	190.7	3.8	13.1	8.2	5.6	17	95.7	54
289	8.5	53.1	1304	200.0	190.7	1.2	12.6	8.6	6.0	17	95.7	54
290	8.5	52.7	1333	200.0	190.7	1.0	12.7	8.7	6.9	17	95.7	55
291	8.1	53.0	1226	200.0	190.7	0.0	12.5	7.7	8.1	17	95.7	55
292	8.8	53.0	1311	200.0	190.7	0.6	12.8	9.0	7.1	17	95.7	55
293	8.4	54.0	1335	200.0	190.7	0.2	12.9	8.6	6.6	17	95.7	55
294	8.3	54.0	1365	200.0	190.7	1.1	13.4	8.5	6.1	17	95.7	55
295			1319	200.0	190.7	1.8	13.1	7.5	5.7	17	95.7	55
296	7.9	53.3	1189	200.0	190.7	0.6	12.5	8.0	5.2	17	95.7	55
297			1279	200.0	190.7	0.7	12.9	7.3	6.1	17	95.7	55
298	9.6	53.9	1375	200.0	190.7	3.2	13.6	9.8	6.7	17	95.7	55
299	9.1	53.3	1336	200.0	190.7	4.8	13.3	9.3	6.1	17	95.7	55
300	8.9	53.2	1319	200.0	190.7	4.2	13.1	9.1	6.5	17	95.7	55
301	8.1	52.9	1231	200.0	190.7	5.8	13.2	9.4	6.0	17	95.7	55
302	7.8	53.5	1153	200.0	190.7	6.7	13.1	8.7	6.8	17	95.7	54
303	7.8	53.0	1151	200.0	190.7	7.0	13.1	9.2	8.3	17	95.7	54
304	8.2	52.9	1243	200.0	190.7	7.2	13.1	10.2	7.9	17	95.7	54
305	9.7	52.9	1292	200.0	190.7	5.8	12.7	9.9	7.0	17	95.7	54
306	10.0	52.3	1323	200.0	190.7	3.5	12.4	10.2	6.9	17	95.7	54
307	8.5	52.1	1317	200.0	190.7	1.9	12.1	8.7	6.0	17	95.7	54
308	8.7	52.4	1356	200.0	190.7	0.4	12.5	8.8	6.3	17	95.7	54
309	8.3	53.4	1372	200.0	190.7	2.5	13.0	8.5	5.7	17	95.7	54
310	9.2	53.2	1358	200.0	190.7	3.9	13.2	9.4	5.1	17	95.7	55
311	9.6	53.2	1352	200.0	190.7	5.2	13.3	9.7	5.8	17	95.7	54
312	9.3	52.6	1327	200.0	190.7	5.1	12.9	9.5	6.5	17	95.7	55
313	8.8	52.8	1337	200.0	190.7	4.7	12.9	9.0	5.2	17	95.7	56
314			1339	200.0	190.7	4.6	12.8	7.8	5.6	16	95.7	56
315	9.4	52.3	1343	200.0	190.7	4.3	12.8	9.6	7.2	16	95.7	56
316	9.0	52.6	1347	200.0	190.7	4.5	12.9	9.2	7.0	16	95.7	56
317	8.5	52.6	1337	200.0	190.7	4.1	12.8	8.6	5.8	16	95.7	56
318			1320	200.0	190.7	1.8	12.4	7.3	5.6	16	95.7	56
319	8.6	52.9	1381	200.0	190.7	3.8	13.1	8.7	5.4	16	95.7	56
320	8.5	53.3	1326	200.0	190.7	6.6	13.0	8.6	5.7	16	95.7	56
321	9.1	53.0	1323	200.0	190.7	5.1	12.7	9.3	5.2	16	95.7	56
322	8.0	51.7	1210	200.0	190.7	0.7	11.9	7.5	5.5	16	95.7	56
323	8.2	53.0	1237	200.0	190.7	0.4	12.7	8.5	5.6	16	95.7	56
324	9.9	53.2	1384	200.0	190.7	4.9	13.7	10.1	7.5	16	95.7	56
325			1294	200.0	190.7	4.8	12.9	7.3	6.9	16	95.7	56
326	9.0	52.3	1330	200.0	190.7	3.5	12.9	9.2	6.8	16	95.7	56
327	8.6	52.2	1333	200.0	190.7	4.5	12.9	8.8	6.3	16	95.7	56
328			1340	200.0	190.7	3.8	12.8	8.4	5.6	16	95.7	56
329			1330	200.0	190.7	2.8	12.7	8.1	6.4	16	95.7	56
330			1323	200.0	190.7	0.4	12.3	8.3	6.5	16	95.7	56
331			1255	200.0	190.7	0.4	12.5	7.9	6.8	16	95.7	56
332	7.7	52.5	1117	200.0	190.7	0.4	12.7	7.7	5.7	16	95.7	56
333	7.7	52.8	1104	200.0	190.7	0.4	12.8	7.5	6.2	16	95.7	56
334			1342	200.0	190.7	0.6	13.2	7.3	6.3	16	95.7	56
335			1371	200.0	190.7	3.5	13.8	8.1	7.2	16	95.7	56
336	8.4	52.9	1305	200.0	190.7	3.6	13.1	8.6	6.5	16	95.7	56
337			1320	200.0	190.7	2.0	12.9	8.4	6.5	16	95.7	56
338	8.5	52.8	1339	200.0	190.7	2.5	12.9	8.7	5.1	16	95.7	56
339			1340	200.0	190.7	4.2	13.0	7.9	5.2	16	95.7	56
340			1320	200.0	190.7	2.0	12.6	8.2	5.1	16	95.7	56
341	9.0	52.4	1359	200.0	190.7	3.4	13.1	9.2	5.2	16	95.7	56
342	8.7	52.0	1323	200.0	190.7	3.5	12.7	8.8	5.3	16	95.7	56
343	8.1	51.2	1234	200.0	190.7	0.4	12.2	8.6	6.3	16	95.7	56
344	7.9	51.8	1159	200.0	190.7	0.5	12.6	7.8	5.5	16	95.7	56
345	7.9	52.2	1186	200.0	190.7	0.4	12.8	7.6	4.8	16	95.7	56
346			1262	200.0	190.7	0.4	12.9	6.9	5.1	16	95.7	56
347			1353	200.0	190.7	0.4	13.2	7.1	5.0	16	95.7	56
348			1352	200.0	190.7	1.7	13.2	7.4	5.2	16	95.7	56
349	8.7	53.1	1358	200.0	190.7	4.9	13.6	8.9	5.9	16	95.7	56
350			1330	200.0	190.7	5.1	13.2	8.0	6.4	16	95.7	56
351	8.5	52.3	1333	200.0	190.7	5.7	13.1	8.7	5.6	16	95.7	56
352			1333	200.0	190.7	5.9	12.9	8.1	6.7	16	95.7	56

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

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***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 (%)
353			1326	200.0	190.7	5.3	12.7	8.4	6.2	16	95.7	56
354	8.4	51.8	1344	200.0	190.7	4.5	12.8	8.5	5.6	16	95.7	56
355	9.1	51.4	1350	200.0	190.7	4.6	12.8	9.3	5.4	16	95.7	56
356	8.3	52.5	1342	200.0	190.7	4.7	12.8	8.5	5.5	16	95.7	56
357	8.3	52.4	1335	200.0	190.7	3.8	12.7	8.5	5.6	16	95.7	56
358			1324	200.0	190.7	1.5	12.4	8.3	7.2	16	95.7	56
359	7.5	51.1	1036	200.0	190.7	0.2	12.3	7.5	7.1	16	95.7	56
360	8.0	51.9	1208	200.0	190.7	0.6	12.8	7.7	7.6	16	95.7	56
361			1268	200.0	190.7	0.4	12.9	7.0	5.6	16	95.7	56
362			1353	200.0	190.7	0.5	13.1	8.3	5.9	16	95.7	56
363			1351	200.0	190.7	2.1	13.3	7.1	5.8	16	95.7	56
364			1310	200.0	190.7	0.8	12.7	7.3	6.2	16	95.7	56
365			1348	200.0	190.7	0.3	12.9	7.5	5.1	16	95.7	56
366			1371	200.0	190.7	5.5	13.6	8.1	5.4	16	95.7	56
367			1312	200.0	190.7	5.5	13.0	8.1	5.4	16	95.7	56
368			1338	200.0	190.7	5.4	13.0	7.4	6.5	16	95.7	55
369	8.4	52.0	1330	200.0	190.7	6.1	12.9	8.6	8.5	16	95.7	55
370			1334	200.0	190.7	4.7	12.7	7.4	7.6	16	95.7	55
371			1342	200.0	190.7	3.9	12.7	8.2	6.8	16	95.7	55
372			1337	200.0	190.7	3.1	12.6	7.8	5.8	16	95.7	55
373			1369	200.0	190.7	4.8	13.1	8.3	6.7	16	95.7	55
374			1307	200.0	190.7	3.9	12.5	7.1	8.3	16	95.7	55
375			1350	200.0	190.7	3.1	12.8	7.8	7.7	16	95.7	55
376	9.0	51.8	1331	200.0	190.7	3.9	12.7	9.2	7.4	16	95.7	55
377			1337	200.0	190.7	2.5	12.6	8.1	7.3	16	95.7	55
378			1340	200.0	190.7	1.9	12.6	7.6	7.0	16	95.7	55
379	8.5	51.6	1358	200.0	190.7	1.9	12.8	8.7	7.6	16	95.7	55
380	8.9	51.8	1352	200.0	190.7	3.9	13.1	9.0	8.8	16	95.7	55
381			1341	200.0	190.7	3.9	13.0	7.5	8.6	16	95.7	54
382			1343	200.0	190.7	3.4	12.9	6.7	9.3	16	95.7	54
383	9.6	52.3	1343	200.0	190.7	6.0	13.2	9.8	8.5	16	95.7	54
384	7.5	51.7	1009	200.0	190.7	6.4	12.8	7.6	8.5	16	95.7	54
385	8.0	51.7	1216	200.0	197.5	10.7	13.0	10.3	6.8	15	95.7	60
386	8.1	51.7	1232	200.0	197.5	8.6	12.8	8.5	7.5	15	95.7	60
387	8.9	51.3	1321	200.0	197.5	8.2	12.9	9.0	8.5	15	95.7	60
388	8.4	51.8	1342	200.0	197.5	7.8	12.8	8.5	9.0	15	95.7	60
389	8.5	52.5	1347	200.0	197.5	8.9	12.9	8.7	7.1	15	95.7	60
390	10.2	52.0	1342	200.0	197.5	8.8	12.9	10.4	6.4	15	95.7	60
391	10.0	52.0	1342	200.0	197.5	8.4	12.8	10.2	7.9	15	95.7	60
392	9.2	51.7	1338	200.0	197.5	7.2	12.7	9.3	7.9	15	95.7	60
393			1347	200.0	197.5	6.8	12.8	8.2	6.1	15	95.7	60
394	9.2	51.8	1348	200.0	197.5	7.4	12.9	9.4	7.0	15	95.7	60
395			1335	200.0	197.5	6.4	12.7	8.3	7.3	15	95.7	60
396			1329	200.0	197.5	4.3	12.5	8.2	7.2	15	95.7	60
397	9.4	50.7	1334	200.0	197.5	1.6	12.3	9.6	5.7	15	95.7	60
398	9.3	52.0	1382	200.0	197.5	3.7	13.0	9.5	6.3	15	95.7	60
399	10.0	51.8	1346	200.0	197.5	6.1	13.1	10.2	6.8	15	95.7	60
400	9.5	51.8	1323	200.0	197.5	4.3	12.7	9.6	5.6	15	95.7	60
401			1301	200.0	197.5	1.1	12.2	8.2	5.6	15	95.7	60
402	8.2	52.6	1241	200.0	197.5	0.1	12.5	8.9	5.2	15	95.7	60
403	9.7	53.2	1384	200.0	197.5	3.5	13.5	9.9	4.9	15	95.7	60
404	9.5	52.1	1340	200.0	197.5	5.7	13.3	9.7	4.8	15	95.7	60
405	8.9	51.7	1315	200.0	197.5	3.8	12.8	9.1	5.7	15	95.7	60
406	8.8	51.6	1346	200.0	197.5	4.1	13.0	9.0	5.4	15	95.7	60
407	9.0	51.7	1320	200.0	197.5	3.9	12.7	9.2	5.5	15	95.7	60
408			1316	200.0	197.5	1.0	12.3	7.8	6.2	15	95.7	60
409	9.5	52.4	1387	200.0	197.5	5.0	13.3	9.6	7.2	15	95.7	60
410	9.5	51.7	1333	200.0	197.5	7.3	13.1	9.6	8.3	15	95.7	60
411	8.7	51.3	1320	200.0	197.5	5.0	12.7	8.9	7.4	15	95.7	60
412			1341	200.0	197.5	3.6	12.6	8.2	7.3	15	95.7	60
413	9.5	51.4	1340	200.0	197.5	4.3	12.7	9.7	8.3	15	95.7	60
414			1337	200.0	197.5	2.7	12.6	8.1	6.9	15	95.7	61
415			1356	200.0	197.5	2.9	12.9	7.2	7.6	15	95.7	61
416	8.8	52.0	1359	200.0	197.5	4.3	13.0	8.9	8.0	15	95.7	61
417	9.0	52.3	1351	200.0	197.5	6.1	13.2	9.1	6.8	15	95.7	61
418	9.6	51.7	1346	200.0	197.5	6.7	13.1	9.8	6.1	15	95.7	61
419	9.8	52.1	1325	200.0	197.5	6.5	12.9	10.0	6.3	15	95.7	60
420			1310	200.0	197.5	3.1	12.3	7.1	6.6	15	95.7	60
421	7.7	51.4	1084	200.0	197.5	0.2	12.0	7.0	7.7	15	95.7	60
422	7.8	52.0	1156	200.0	197.5	0.3	12.7	7.3	6.9	15	95.7	60
423	9.9	53.3	1376	200.0	197.5	1.7	13.4	10.1	6.4	15	95.7	60
424	9.5	52.6	1356	200.0	197.5	5.9	13.7	9.7	6.9	15	95.7	60
425	8.3	52.0	1296	200.0	197.5	4.2	12.9	8.5	7.5	15	95.7	61
426			1318	200.0	197.5	2.5	12.7	7.9	6.8	15	95.7	61
427	7.7	51.1	1102	200.0	197.5	0.2	12.1	7.4	6.9	15	95.7	61
428	7.4	53.7	1006	200.0	197.5	0.4	12.6	7.5	6.9	15	95.7	61
429	7.3	52.4	966	200.0	197.5	0.2	12.8	6.4	6.9	15	95.7	61
430			1335	200.0	197.5	0.8	13.0	8.3	7.0	15	95.7	61
431	8.0	53.7	1211	200.0	197.5	0.6	13.0	6.8	5.8	15	95.7	61
432	7.7	52.4	1111	200.0	197.5	0.5	12.9	7.1	4.4	15	95.8	61
433	9.1	53.8	1352	200.0	197.5	0.5	13.2	9.2	5.4	15	95.8	61
434	8.7	53.2	1353	200.0	197.5	1.9	13.4	8.9	4.6	15	95.8	61
435	9.0	52.3	1353	200.0	197.5	3.2	13.4	9.1	6.2	15	95.8	61
436			1324	200.0	197.5	4.6	13.2	8.4	7.0	15	95.8	61
437	8.4	51.4	1302	200.0	197.5	2.1	12.6	8.5	6.6	15	95.8	61
438			1343	200.0	202.0	1.9	12.8	8.4	5.0	15	95.8	61
439	8.4	51.3	1342	200.0	203.4	3.1	12.8	8.6	4.5	15	95.8	61
440	7.7	51.1	1089	200.0	203.4	0.2	12.2	7.0	5.1	15	95.8	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 (-C)	Pressure (kPa)	Relative Humidity (%)
441	8.0	51.8	1213	200.0	203.4	0.8	12.9	8.5	4.5	15	95.8	61
442	8.7	53.7	1367	200.0	203.4	2.6	13.6	8.9	5.9	15	95.8	61
443	8.9	51.9	1334	200.0	203.4	3.6	13.3	9.1	4.6	15	95.8	61
444	9.9	52.0	1339	200.0	203.4	4.7	13.3	10.1	4.0	15	95.8	61
445			1300	200.0	203.4	2.8	12.6	8.1	4.7	15	95.8	61
446			1331	200.0	203.4	1.8	12.6	8.3	4.8	15	95.8	61
447	8.3	51.5	1365	200.0	203.4	3.1	13.0	8.4	4.6	15	95.8	61
448	8.8	51.8	1355	200.0	203.4	5.6	13.2	9.0	4.8	15	95.8	61
449	8.3	51.5	1317	200.0	203.4	4.2	12.7	8.4	5.7	15	95.8	61
450	8.8	51.5	1351	200.0	203.4	4.2	12.9	9.0	6.1	15	95.8	61
451	9.7	51.8	1343	200.0	203.4	6.5	13.1	9.9	5.0	15	95.8	61
452			1327	200.0	203.4	3.9	12.7	8.2	6.9	15	95.8	61
453	8.8	52.1	1373	200.0	203.4	2.6	13.2	8.9	6.2	15	95.8	61
454	8.9	52.6	1366	200.0	203.4	4.7	13.7	9.1	6.2	15	95.8	61
455	8.4	52.1	1342	200.0	203.4	2.8	13.6	8.6	5.8	15	95.8	61
456			1337	200.0	203.4	0.0	13.6	7.6	5.9	15	95.8	61
457	8.2	53.7	1237	200.0	203.4	0.6	14.2	8.7	5.9	15	95.8	61
458	9.1	54.7	1372	200.0	203.4	1.7	15.0	9.3	7.0	15	95.8	61
459	8.5	54.6	1343	200.0	203.4	3.4	14.9	8.6	6.5	15	95.8	61
460			1317	200.0	203.4	3.3	14.4	8.4	6.8	15	95.8	61
461			1329	200.0	203.4	4.7	14.3	6.8	6.9	15	95.8	61
462	9.4	54.5	1315	200.0	203.4	8.3	14.1	9.6	6.2	15	95.8	61
463	9.6	53.3	1292	200.0	203.4	7.9	13.2	9.8	7.9	15	95.8	61
464	9.4	53.1	1310	200.0	203.4	6.6	12.8	9.6	8.2	15	95.8	61
465	9.0	53.0	1347	200.0	203.4	6.1	12.9	9.1	7.8	15	95.8	61
466	10.6	52.8	1338	200.0	203.4	7.6	12.9	10.8	8.0	15	95.8	61
467	10.2	53.0	1339	200.0	203.4	8.1	12.9	10.4	7.2	15	95.8	61
468	10.2	52.1	1324	200.0	203.4	5.4	12.5	10.4	5.9	15	95.8	61
469	9.6	52.3	1258	200.0	203.4	0.6	12.0	9.8	5.4	15	95.8	61
470	9.0	53.7	1339	200.0	203.4	2.2	13.1	9.1	5.0	15	95.8	61
471	11.5	54.3	1327	200.0	203.4	9.4	13.3	11.7	5.0	15	95.8	61
472	9.0	52.5	1316	200.0	203.4	6.5	12.8	9.1	6.0	15	95.8	61
473	8.5	52.0	1335	200.0	203.4	4.7	12.6	8.7	6.9	15	95.8	61
474	8.7	52.1	1341	200.0	203.4	3.6	12.5	8.8	5.5	15	95.8	61
475	10.5	52.8	1375	200.0	203.4	6.5	13.2	10.7	6.4	15	95.8	61
476	10.3	52.8	1344	200.0	203.4	8.7	13.1	10.5	6.3	15	95.8	61
477	9.9	52.6	1339	200.0	203.4	9.7	13.0	10.1	7.6	15	95.8	61
478	9.9	52.3	1338	200.0	203.4	8.9	12.8	10.1	8.2	15	95.8	61
479	9.2	52.5	1330	200.0	203.4	6.4	12.5	9.4	7.1	15	95.7	61
480	8.3	52.5	1333	200.0	203.4	3.4	12.4	8.5	6.0	15	95.7	61
481			1254	200.0	203.4	0.7	12.1	7.3	6.6	15	95.7	61
482			1252	200.0	203.4	0.5	12.7	7.7	5.5	15	95.7	61
483	9.2	54.0	1365	200.0	203.4	1.1	13.2	9.4	4.9	15	95.7	61
484	9.9	53.3	1377	200.0	203.4	4.2	13.6	10.1	6.4	15	95.7	61
485	8.5	53.5	1327	200.0	203.4	5.9	13.3	8.6	8.6	15	95.7	61
486			1287	200.0	203.4	2.4	12.4	7.9	8.6	15	95.7	61
487	8.2	53.2	1240	200.0	203.4	0.5	12.2	7.1	7.6	15	95.7	61
488			1250	200.0	203.4	0.5	12.7	7.8	6.0	15	95.7	61
489			1353	200.0	203.4	0.8	13.1	7.7	5.7	15	95.7	61
490			1370	200.0	203.4	3.8	13.5	8.0	6.2	15	95.7	61
491	8.9	54.0	1360	200.0	203.4	6.4	13.7	9.1	7.3	15	95.7	61
492			1323	200.0	203.4	7.2	13.2	9.3	6.2	15	95.7	61
493			1331	200.0	203.4	7.3	13.0	9.3	5.6	15	95.7	61
494			1334	200.0	203.4	7.5	12.9	9.7	5.6	15	95.7	61
495			1339	200.0	203.4	6.4	12.7	9.1	6.2	15	95.7	61
496	9.0	54.2	1345	200.0	203.4	7.0	12.9	9.1	7.1	15	95.7	61
497	9.6	53.7	1326	200.0	203.4	5.1	12.5	9.8	6.2	15	95.8	61
498			1278	200.0	203.4	1.3	12.1	8.4	5.7	15	95.8	61
499	8.2	52.9	1243	200.0	203.4	0.2	12.5	9.0	6.2	15	95.8	61
500			1354	200.0	203.4	0.6	13.0	7.6	5.5	15	95.8	61
501			1336	200.0	203.4	1.0	13.0	8.4	5.3	15	95.8	61
502	8.3	52.8	1268	200.0	203.4	0.6	12.7	8.4	6.2	15	95.8	61
503	8.1	53.5	1232	200.0	203.4	1.5	12.9	7.8	5.4	15	95.8	61
504	8.0	52.7	1204	200.0	203.4	1.5	12.9	8.4	5.2	15	95.8	61
505	8.0	53.3	1214	200.0	203.4	1.9	13.0	7.4	5.0	15	95.8	61
506	8.0	52.7	1214	200.0	203.4	2.0	12.9	7.1	5.4	15	95.8	61
507			1294	200.0	203.4	2.6	13.1	8.1	4.4	15	95.8	61
508			1313	200.0	203.4	1.1	12.6	8.0	5.8	15	95.8	61
509	7.7	52.5	1116	200.0	203.4	0.6	12.5	8.3	7.4	15	95.7	61
510	8.1	53.2	1232	200.0	203.4	0.5	12.8	8.2	6.1	15	95.7	61
511	8.0	52.9	1213	200.0	203.4	0.5	12.8	8.6	4.8	15	95.7	61
512	7.7	52.4	1110	200.0	203.4	0.5	12.8	8.1	5.7	15	95.7	61
513	7.7	52.8	1118	200.0	203.4	0.5	12.9	8.3	5.7	15	95.7	61
514			1308	200.0	203.4	0.9	12.9	8.4	5.7	15	95.7	61
515			1256	200.0	203.4	0.3	12.9	7.8	7.1	15	95.7	61
516	9.5	53.5	1388	200.0	203.4	2.8	13.7	9.7	7.4	15	95.7	61
517	9.5	53.5	1333	200.0	203.4	5.7	13.5	9.7	6.0	15	95.7	61
518	9.4	52.3	1320	200.0	203.4	4.8	13.1	9.6	7.6	15	95.7	61
519	9.2	52.7	1336	200.0	203.4	6.7	13.2	9.4	10.2	15	95.7	61
520	9.2	52.9	1342	200.0	203.4	8.1	13.1	9.3	7.5	15	95.7	61
521	11.8	53.2	1336	200.0	203.4	12.2	13.1	12.0	8.2	15	95.7	61
522	12.8	53.7	1341	200.0	203.4	12.8	13.0	13.1	8.5	15	95.7	61
523	11.3	53.3	1337	200.0	203.4	11.7	12.8	11.5	7.1	15	95.7	61
524	10.3	53.2	1339	200.0	203.4	8.8	12.6	10.5	7.2	15	95.7	61
525	8.5	55.0	1356	200.0	203.4	8.1	12.8	8.7	7.7	15	95.7	61
526	11.8	54.8	1341	200.0	203.4	10.2	12.9	12.0	7.5	15	95.7	61
527	9.5	54.0	1328	200.0	203.4	7.0	12.5	9.6	9.9	15	95.7	61
528	8.4	52.8	1338	200.0	203.4	4.1	12.4	8.6	9.2	15	95.7	61

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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	8.4	52.9	1317	200.0	203.4	2.9	12.5	8.6	9.1	15	95.7	61
530	8.5	53.0	1247	200.0	203.4	2.6	12.2	8.7	8.9	15	95.7	61
531	7.9	53.2	1166	200.0	203.4	0.9	12.3	8.4	6.8	15	95.7	61
532	9.8	54.6	1356	200.0	203.4	2.7	13.6	10.0	7.4	15	95.7	61
533	10.2	54.4	1320	200.0	203.4	8.4	14.0	10.4	6.6	15	95.7	61
534	10.6	54.1	1310	200.0	203.4	9.7	13.3	10.7	6.5	15	95.7	61
535	10.1	52.7	1326	200.0	203.4	8.8	12.9	10.2	6.8	15	95.7	61
536	9.4	52.1	1339	200.0	203.4	7.4	12.7	9.6	7.6	15	95.7	61
537	9.8	53.0	1347	200.0	203.4	7.2	12.8	10.0	8.1	15	95.7	61
538	9.7	53.1	1352	200.0	203.4	8.2	13.0	9.9	7.6	15	95.7	61
539	11.1	53.6	1341	200.0	203.4	11.2	13.0	11.3	7.0	15	95.7	61
540	10.7	54.3	1338	200.0	203.4	8.9	12.7	10.9	9.8	15	95.7	61
541			1337	200.0	203.4	6.8	12.6	8.3	10.3	15	95.7	61
542			1349	200.0	203.4	5.4	12.7	7.8	7.0	15	95.7	61
543	8.9	53.4	1363	200.0	203.4	7.0	13.0	9.0	6.6	15	95.7	61
544	11.6	54.2	1345	200.0	203.4	9.3	13.1	11.8	7.4	15	95.7	61
545	10.9	53.4	1341	200.0	203.4	9.4	12.9	11.1	9.0	15	95.7	61
546	11.6	52.7	1335	200.0	203.4	8.6	12.8	11.8	8.5	15	95.7	61
547	10.3	52.9	1351	200.0	203.4	8.2	12.9	10.5	7.4	15	95.7	61
548	11.5	53.1	1345	200.0	203.4	10.3	13.0	11.7	6.9	15	95.7	61
549	10.4	53.0	1341	200.0	203.4	9.6	12.8	10.6	7.8	15	95.7	61
550	8.7	52.2	1335	200.0	203.4	7.6	12.7	8.8	8.1	15	95.7	61
551	8.9	52.5	1356	200.0	203.4	6.8	12.8	9.0	8.7	15	95.7	61
552	10.0	53.2	1342	200.0	203.4	9.4	12.9	10.2	8.3	15	95.7	61
553	10.4	52.8	1345	200.0	203.4	8.8	12.9	10.6	8.2	15	95.7	61
554	9.7	52.8	1339	200.0	203.4	9.1	12.9	9.9	6.8	15	95.7	61
555	9.8	53.2	1338	200.0	203.4	7.6	12.7	10.0	6.2	15	95.7	61
556	8.8	52.8	1345	200.0	203.4	5.8	12.7	9.0	6.5	15	95.7	61
557	9.7	53.2	1343	200.0	203.4	6.3	12.8	9.9	6.5	15	95.7	61
558	9.5	53.4	1346	200.0	203.4	5.5	12.8	9.6	6.0	15	95.7	61
559			1346	200.0	203.4	5.3	12.8	8.3	6.2	15	95.7	61
560			1340	200.0	203.4	4.9	12.8	7.1	7.8	15	95.7	61
561	10.0	52.6	1357	200.0	203.4	6.9	13.1	10.2	6.2	15	95.7	61
562	9.4	52.4	1335	200.0	203.4	7.2	12.9	9.6	5.8	15	95.7	61
563	9.5	52.2	1340	200.0	203.4	7.4	12.9	9.6	7.1	15	95.7	61
564	9.8	51.7	1339	200.0	203.4	8.1	12.9	10.0	7.8	15	95.7	61
565	9.7	52.2	1340	200.0	203.4	7.3	12.8	9.9	7.5	15	95.7	61
566			1340	200.0	203.4	6.0	12.7	7.1	9.4	15	95.7	61
567	9.2	51.9	1355	200.0	203.4	9.4	13.1	9.4	7.8	15	95.7	61
568	9.5	52.0	1335	200.0	203.4	8.4	12.8	9.7	6.2	15	95.7	61
569	10.4	52.3	1342	200.0	203.4	8.1	12.8	10.6	6.1	15	95.7	61
570	8.5	52.7	1340	200.0	203.4	7.1	12.7	8.7	6.3	15	95.7	61
571	9.5	52.9	1348	200.0	203.4	6.5	12.8	9.6	7.3	15	95.7	61
572	8.0	52.2	1199	200.0	203.4	8.1	13.0	8.6	5.9	15	95.7	61
573	7.9	52.0	1193	200.0	203.4	5.9	12.6	9.1	6.6	15	95.7	61
574	8.0	51.6	1202	200.0	203.4	3.5	12.4	6.5	6.2	15	95.7	61
575	8.1	51.5	1228	200.0	203.4	6.1	13.1	9.3	8.5	15	95.7	61
576	8.2	51.9	1235	200.0	203.4	6.9	12.8	9.6	8.7	15	95.7	61
577	10.3	51.9	1318	200.0	203.4	7.2	13.0	10.5	7.5	15	95.7	61
578			1319	200.0	203.4	6.1	12.6	8.0	7.6	15	95.7	61
579	10.1	52.0	1349	200.0	203.4	6.5	12.9	10.2	8.4	15	95.7	61
580			1314	200.0	203.4	4.5	12.4	7.1	7.7	15	95.7	61
581			1343	200.0	203.4	2.2	12.5	7.7	6.7	15	95.7	61
582			1272	200.0	203.4	2.5	12.6	7.1	5.8	15	95.7	61
583	7.8	52.0	1159	200.0	203.4	5.3	13.0	7.8	7.5	15	95.7	61
584	7.9	51.8	1169	200.0	203.4	6.0	13.0	8.2	7.8	15	95.7	61
585	8.4	51.0	1331	200.0	203.3	4.9	12.5	8.5	7.3	15	95.7	61
586	8.3	51.4	1338	200.0	203.3	2.5	12.4	8.5	8.1	15	95.7	61
587	8.8	51.8	1356	200.0	203.3	2.5	12.6	9.0	7.0	15	95.7	61
588			1307	200.0	203.3	0.9	12.4	8.0	6.7	15	95.7	61
589			1299	200.0	203.3	0.9	12.7	7.7	6.1	15	95.7	61
590	9.0	53.0	1356	200.0	203.3	0.6	13.2	9.2	5.6	15	95.7	61
591	9.0	53.4	1357	200.0	203.3	7.5	13.8	9.2	7.3	15	95.7	61
592	8.7	52.5	1314	200.0	203.3	8.1	13.3	8.8	7.5	15	95.7	61
593	10.0	52.6	1311	200.0	203.3	8.5	12.8	10.1	7.4	15	95.7	61
594	8.3	50.9	1326	200.0	203.3	4.2	12.4	8.4	7.0	15	95.7	61
595			1327	200.0	203.3	1.2	12.2	7.7	7.0	15	95.7	61
596	8.0	53.6	1205	200.0	203.3	0.2	12.4	6.5	7.0	15	95.7	61
597			1343	200.0	203.3	0.4	13.1	7.5	6.0	15	95.7	61
598			1375	200.0	203.3	7.0	14.0	9.0	5.8	15	95.7	61
599			1310	200.0	203.3	7.6	13.2	7.8	5.6	15	95.7	61
600	9.9	51.8	1319	200.0	203.3	7.3	12.9	10.0	7.5	15	95.7	61
601	8.8	51.9	1338	200.0	203.3	8.1	13.0	9.0	6.3	15	95.7	61
602	9.0	52.3	1341	200.0	203.3	9.5	13.0	9.1	6.5	15	95.7	61
603			1337	200.0	203.3	8.3	12.8	8.3	7.2	15	95.7	61
604	9.5	51.1	1337	200.0	203.3	6.9	12.7	9.7	6.4	15	95.7	61
605	9.1	51.1	1330	200.0	203.3	3.7	12.4	9.3	5.4	15	95.7	62
606	10.4	51.8	1378	200.0	203.3	7.0	13.1	10.5	6.0	15	95.7	62
607	10.0	52.1	1330	200.0	203.3	8.4	12.9	10.1	6.3	15	95.7	62
608	9.6	51.2	1333	200.0	203.3	5.8	12.7	9.8	5.9	15	95.7	62
609	9.4	51.4	1340	200.0	203.3	3.9	12.6	9.5	7.0	15	95.7	62
610			1353	200.0	203.3	4.8	12.8	8.1	6.4	15	95.7	62
611	8.3	51.4	1331	200.0	203.3	3.9	12.6	8.4	6.4	15	95.7	62
612	9.7	51.8	1357	200.0	203.3	3.3	12.8	9.9	5.0	15	95.7	62
613	8.6	52.3	1348	200.0	203.3	4.8	13.0	8.8	4.6	15	95.7	62
614	8.4	51.7	1336	200.0	203.3	4.2	12.8	8.6	6.2	15	95.7	62
615			1337	200.0	203.3	3.5	12.7	8.1	6.6	15	95.7	62
616	8.3	51.6	1354	200.0	203.3	3.7	12.9	8.5	5.4	15	95.7	62

***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	9.1	51.5	1345	200.0	203.3	4.9	13.0	9.3	4.6	15	95.7	62
618	9.5	51.2	1346	200.0	203.3	5.7	13.0	9.7	3.9	15	95.7	62
619			1317	200.0	203.3	3.8	12.6	8.2	5.1	15	95.7	62
620	8.7	50.9	1333	200.0	203.3	1.9	12.5	8.9	6.3	15	95.7	62
621			1358	200.0	203.3	1.7	12.7	8.3	5.1	15	95.7	62
622			1368	200.0	203.3	4.0	13.1	8.4	5.6	15	95.7	62
623	8.3	51.9	1348	200.0	203.3	5.2	13.1	8.5	6.5	15	95.7	62
624	9.5	51.7	1350	200.0	203.3	6.8	13.2	9.6	7.1	15	95.7	62
625	8.5	52.1	1321	200.0	203.3	6.3	12.8	8.7	7.2	15	95.7	62
626	8.8	51.2	1342	200.0	203.3	5.5	12.8	9.0	6.7	15	95.7	62
627	9.9	51.4	1341	200.0	203.4	6.1	12.8	10.1	6.1	15	95.7	62
628			1340	200.0	203.4	5.1	12.7	8.3	5.1	15	95.7	62
629	8.5	51.8	1344	200.0	203.4	4.7	12.8	8.6	5.3	15	95.7	62
630	9.4	51.9	1368	200.0	203.4	6.7	13.1	9.6	6.0	15	95.7	62
631	12.8	52.4	1342	200.0	203.4	10.1	13.2	13.0	7.0	15	95.7	62
632	12.4	52.6	1342	200.0	203.4	11.7	13.0	12.7	8.5	15	95.7	62
633	12.5	52.6	1338	200.0	203.4	12.3	12.9	12.7	8.7	15	95.7	62
634	10.9	51.7	1336	200.0	203.4	10.0	12.7	11.2	8.1	15	95.7	62
635	10.5	52.4	1350	200.0	203.4	7.3	12.7	10.7	7.7	15	95.7	62
636			1350	200.0	203.4	8.6	12.9	7.6	7.4	15	95.7	62
637			1329	200.0	203.4	7.2	12.6	7.8	7.2	15	95.7	62
638			1334	200.0	203.4	4.3	12.5	7.5	7.4	15	95.7	62
639	8.5	52.4	1379	200.0	203.4	6.2	13.1	8.7	7.2	15	95.7	62
640	10.1	52.3	1332	200.0	203.4	8.9	13.0	10.3	7.1	15	95.7	62
641	8.8	52.1	1330	200.0	203.4	6.6	12.7	8.9	6.3	15	95.7	62
642	8.5	52.2	1354	200.0	203.4	6.3	12.8	8.7	7.6	15	95.7	62
643			1320	200.0	203.4	6.3	12.6	7.8	6.9	15	95.7	62
644			1328	200.0	203.4	2.4	12.3	6.6	6.1	15	95.7	62
645			1355	200.0	203.4	2.3	12.6	7.4	5.3	15	95.7	62
646			1343	200.0	203.4	1.6	12.6	8.3	7.3	15	95.7	62
647	10.1	52.3	1381	200.0	203.4	2.7	13.1	10.3	8.8	15	95.7	62
648	8.9	52.7	1350	200.0	203.4	7.0	13.3	9.0	8.1	15	95.7	62
649	9.1	51.7	1329	200.0	203.4	6.5	13.0	9.3	7.5	15	95.7	62
650	9.0	51.8	1334	200.0	203.4	5.7	12.9	9.2	6.7	15	95.7	62
651	9.8	52.2	1346	200.0	203.4	8.7	13.1	10.0	7.2	15	95.7	62
652	8.6	52.1	1331	200.0	203.4	7.8	12.8	8.7	7.3	15	95.7	62
653	8.7	51.5	1341	200.0	203.4	6.2	12.7	8.9	6.8	15	95.7	62
654	10.2	50.9	1339	200.0	203.4	5.7	12.7	10.4	6.2	15	95.7	62
655			1248	200.0	203.4	1.6	12.0	7.9	6.7	15	95.7	62
656	7.9	52.1	1184	200.0	203.4	0.3	12.5	7.7	6.3	15	95.7	62
657			1380	200.0	203.4	4.4	13.6	7.1	5.6	15	95.7	62
658	9.1	52.6	1348	200.0	203.4	5.9	13.4	9.2	5.5	15	95.7	62
659	8.6	52.7	1326	200.0	203.4	7.0	13.2	8.8	5.1	15	95.7	62
660	9.5	52.2	1337	200.0	203.4	7.6	13.1	9.7	6.1	15	95.7	62
661	11.4	52.0	1337	200.0	203.4	10.5	13.1	11.6	7.4	15	95.7	62
662	9.9	51.7	1339	200.0	203.4	10.0	12.8	10.1	7.6	15	95.7	62
663	10.8	52.6	1336	200.0	203.4	9.8	12.8	11.0	6.3	15	95.7	62
664	10.0	52.1	1348	200.0	203.4	8.1	12.8	10.2	7.3	15	95.7	62
665	8.6	52.2	1337	200.0	203.4	8.6	12.8	8.7	6.6	15	95.7	62
666	8.5	51.8	1352	200.0	203.4	7.4	12.8	8.7	6.7	15	95.7	62
667	10.5	52.6	1342	200.0	203.4	10.8	13.0	10.7	7.3	15	95.7	62
668	8.8	53.8	1336	200.0	203.4	8.2	12.7	9.0	6.9	15	95.7	62
669			1337	200.0	203.4	6.3	12.6	8.3	6.0	15	95.7	62
670	8.9	53.2	1356	200.0	203.4	6.2	12.8	9.1	7.3	15	95.7	62
671	9.3	52.5	1335	200.0	203.4	6.6	12.8	9.5	7.5	15	95.7	62
672	9.0	51.8	1346	200.0	203.4	5.4	12.8	9.2	8.0	15	95.7	62
673	8.5	51.9	1348	200.0	203.4	7.7	13.0	8.7	7.3	15	95.7	62
674	8.7	51.9	1326	200.0	203.4	5.7	12.6	8.8	6.1	15	95.7	62
675			1351	200.0	203.4	4.2	12.7	7.3	6.5	15	95.7	62
676	11.4	52.9	1360	200.0	203.4	9.1	13.2	11.6	7.3	15	95.7	62
677	10.5	52.1	1320	200.0	203.4	7.3	12.7	10.7	7.9	15	95.7	62
678			1348	200.0	203.4	5.1	12.7	7.2	7.4	15	95.7	62
679	8.6	51.7	1349	200.0	203.4	6.7	12.9	8.7	7.7	15	95.7	62
680	9.1	51.7	1341	200.0	203.4	6.3	12.8	9.2	6.3	15	95.7	62
681	9.2	52.1	1352	200.0	203.4	6.0	12.9	9.3	6.3	15	95.7	62
682	9.6	52.3	1349	200.0	203.4	9.3	13.1	9.7	7.2	15	95.7	62
683	10.4	52.9	1333	200.0	203.4	9.2	12.9	10.6	7.1	15	95.7	62
684	8.2	52.2	1244	200.0	203.4	7.5	12.6	9.2	7.8	15	95.7	62
685			1285	200.0	203.4	4.7	12.4	8.0	6.8	15	95.7	62
686			1356	200.0	203.4	4.5	12.8	7.6	6.7	15	95.7	62
687	9.1	51.9	1368	200.0	203.4	7.9	13.2	9.2	7.7	15	95.7	62
688			1314	200.0	203.4	6.6	12.6	8.3	7.5	15	95.7	62
689	8.7	51.4	1352	200.0	203.4	6.7	12.9	8.9	7.6	15	95.7	62
690	9.8	51.7	1344	200.0	203.4	8.1	13.0	9.9	6.4	15	95.7	62
691	8.6	51.9	1270	200.0	203.4	9.7	13.1	8.7	6.2	15	95.7	62
692			1262	200.0	203.4	9.7	12.9	8.3	5.8	15	95.7	62
693	9.3	51.6	1290	200.0	203.4	8.5	12.8	9.4	5.4	15	95.7	62
694	8.0	51.7	1215	200.0	203.4	10.8	13.0	9.6	5.8	15	95.7	62
695	7.9	51.8	1189	200.0	203.4	11.2	12.9	9.7	7.3	15	95.7	62
696	8.0	51.9	1217	200.0	203.4	9.5	12.7	9.8	9.8	15	95.7	62
697	8.2	52.6	1240	200.0	203.4	7.6	12.6	8.9	9.0	15	95.7	62
698	8.8	53.4	1266	200.0	203.4	6.6	12.8	8.9	7.9	15	95.7	62
699	8.7	53.0	1268	200.0	203.4	7.0	12.8	8.8	7.9	15	95.7	62
700	8.0	52.8	1222	200.0	203.4	7.2	12.9	9.2	8.9	15	95.7	62
701	8.4	53.5	1250	200.0	203.4	7.6	12.9	8.6	7.5	15	95.7	62
702			1287	200.0	203.4	5.7	12.6	7.9	7.7	15	95.7	62
703	9.0	53.6	1361	200.0	203.4	9.0	13.2	9.2	7.5	15	95.7	62
704	13.0	53.7	1336	200.0	203.4	10.2	12.9	13.2	9.6	15	95.7	62

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
705	10.3	53.1	1340	200.0	203.4	9.1	12.8	10.5	10.7	15	95.7	62
706	8.9	52.6	1339	200.0	203.4	6.9	12.7	9.1	8.9	15	95.7	62
707	10.8	53.6	1357	200.0	203.4	10.5	13.1	11.1	9.4	15	95.7	62
708	11.7	53.9	1335	200.0	203.4	9.9	12.8	11.9	10.9	15	95.7	62
709	9.8	54.4	1345	200.0	203.4	7.7	12.8	10.0	8.7	15	95.7	62
710	10.0	54.4	1341	200.0	203.4	8.0	12.8	10.1	8.1	15	95.7	62
711			1332	200.0	203.4	5.5	12.5	8.2	7.0	15	95.7	62
712	9.0	53.6	1369	200.0	203.4	6.2	13.0	9.2	6.5	15	95.7	62
713	8.3	53.7	1334	200.0	203.4	8.0	12.9	8.4	5.2	15	95.7	62
714			1333	200.0	203.4	5.5	12.7	7.6	6.4	15	95.7	62
715			1342	200.0	203.4	4.7	12.6	8.3	6.3	15	95.7	62
716	9.6	52.9	1352	200.0	203.4	5.7	12.9	9.7	7.1	15	95.7	62
717			1313	200.0	203.4	3.5	12.4	7.7	7.1	15	95.7	62
718	10.1	53.0	1370	200.0	203.4	7.5	13.2	10.2	7.7	15	95.7	62
719	9.3	53.1	1328	200.0	203.4	9.7	12.9	9.5	7.9	15	95.7	62
720	9.0	52.9	1344	200.0	203.4	8.2	12.9	9.2	7.2	15	95.7	62
721	9.3	52.5	1338	200.0	203.4	8.8	12.8	9.5	6.8	15	95.7	62
722	9.2	52.6	1338	200.0	203.4	6.4	12.6	9.3	7.0	15	95.7	62
723	9.0	52.7	1350	200.0	203.4	6.6	12.8	9.2	5.6	15	95.7	62
724	9.2	52.5	1346	200.0	203.4	7.1	12.9	9.4	5.5	15	95.7	62
725	8.7	52.3	1327	200.0	203.4	5.0	12.6	8.9	6.1	15	95.7	62
726			1319	200.0	203.4	1.5	12.2	8.2	5.6	15	95.7	62
727	9.4	54.2	1388	200.0	203.4	3.5	13.0	9.6	5.0	15	95.7	62
728	8.5	53.4	1321	200.0	203.4	6.8	12.9	8.6	7.1	15	95.7	62
729	8.6	52.4	1338	200.0	203.4	5.6	12.9	8.8	7.1	15	95.7	62
730	8.7	52.5	1323	200.0	203.4	4.6	12.6	8.8	6.6	15	95.7	62
731	8.9	52.6	1351	200.0	203.4	3.7	12.7	9.0	6.6	15	95.7	62
732	10.6	53.3	1352	200.0	203.4	7.5	13.1	10.8	6.2	15	95.7	62
733	8.8	52.7	1333	200.0	203.4	6.8	12.8	9.0	5.4	15	95.7	62
734	8.6	52.5	1344	200.0	203.4	6.5	12.9	8.7	5.7	15	95.7	62
735	9.0	52.2	1338	200.0	203.4	6.6	12.8	9.2	6.0	15	95.7	62
736	9.0	52.1	1318	200.0	203.4	4.2	12.4	9.1	5.9	15	95.7	62
737	8.9	52.4	1354	200.0	203.4	3.3	12.7	9.1	5.4	15	95.7	62
738			1347	200.0	203.4	3.1	12.7	8.2	5.3	15	95.7	62
739	10.2	52.2	1355	200.0	203.4	3.6	12.9	10.4	7.0	15	95.7	62
740	8.6	52.6	1344	200.0	203.4	3.4	12.8	8.8	7.5	15	95.7	62
741			1365	200.0	203.4	5.3	13.2	8.1	8.5	15	95.7	62
742	10.2	52.6	1340	200.0	203.4	6.4	13.1	10.4	6.6	15	95.7	62
743	9.6	53.2	1334	200.0	203.4	7.1	13.0	9.8	5.4	15	95.7	62
744	9.2	52.8	1335	200.0	203.4	5.8	12.8	9.4	5.2	15	95.7	62
745	10.1	52.6	1321	200.0	203.4	4.8	12.5	10.3	5.1	15	95.7	62
746			1270	200.0	203.4	0.6	12.0	7.8	5.6	15	95.7	62
747	7.9	53.2	1164	200.0	203.4	0.5	12.5	8.1	5.9	15	95.7	62
748	8.3	53.6	1338	200.0	203.4	0.2	13.0	8.5	5.7	15	95.7	62
749	10.1	55.2	1397	200.0	203.4	5.5	14.0	10.3	5.2	15	95.7	62
750	9.0	53.6	1328	200.0	203.4	8.7	13.5	9.2	5.3	15	95.7	62
751	8.5	53.0	1322	200.0	203.4	7.4	13.0	8.7	4.5	15	95.7	62
752	10.1	52.8	1331	200.0	203.4	8.3	12.9	10.3	6.1	15	95.7	62
753	10.4	52.1	1342	200.0	203.4	8.1	12.9	10.6	6.6	15	95.7	62
754			1336	200.0	203.4	8.1	12.8	7.7	6.1	15	95.7	62
755			1330	200.0	203.4	5.3	12.5	7.7	4.5	15	95.7	62
756	8.7	52.2	1357	200.0	203.4	4.4	12.7	8.9	5.6	15	95.7	62
757			1347	200.0	203.4	6.4	12.9	8.3	5.8	15	95.7	62
758	8.3	52.9	1360	200.0	203.4	7.3	13.1	8.4	7.5	15	95.7	62
759	11.8	53.4	1289	200.0	203.4	11.7	13.3	12.0	6.6	15	95.7	62
760	12.1	53.8	1283	200.0	203.4	11.5	13.0	12.4	6.7	15	95.7	62
761	9.5	52.8	1334	200.0	203.4	8.3	12.7	9.6	7.8	15	95.7	62
762	8.8	52.5	1348	200.0	203.4	7.4	12.8	9.0	7.6	15	95.7	62
763	9.1	52.7	1344	200.0	203.4	8.0	12.8	9.2	6.4	15	95.7	62
764	8.7	52.7	1341	200.0	203.4	7.7	12.8	8.8	6.5	15	95.7	62
765	10.9	52.8	1343	200.0	203.4	7.6	12.9	11.1	6.7	15	95.7	62
766	9.2	52.9	1339	200.0	203.4	6.4	12.7	9.4	6.0	15	95.7	62
767	10.0	52.5	1352	200.0	203.4	7.7	13.0	10.2	5.1	15	95.7	62
768	9.5	52.4	1338	200.0	203.4	7.2	12.8	9.7	6.7	15	95.7	62
769	11.3	52.5	1347	200.0	203.4	7.8	12.9	11.5	7.1	15	95.7	62
770	10.4	52.4	1338	200.0	203.4	6.5	12.7	10.6	6.6	15	95.7	62
771	9.5	52.2	1339	200.0	203.4	7.0	12.8	9.7	6.1	15	95.7	62
772	8.7	52.0	1327	200.0	203.4	4.0	12.4	8.9	7.3	15	95.7	62
773	8.7	52.3	1333	200.0	203.4	2.7	12.4	8.8	8.3	15	95.7	62
774	7.5	52.7	1029	200.0	203.4	0.1	12.2	7.3	6.9	15	95.7	62
775	9.0	54.9	1387	200.0	203.4	2.5	13.5	9.1	7.3	15	95.7	62
776	9.5	54.4	1357	200.0	203.4	7.3	13.7	9.6	6.4	15	95.7	62
777			1294	200.0	203.4	5.5	12.8	8.1	5.3	15	95.7	62
778			1339	200.0	203.4	5.5	13.0	7.8	4.9	15	95.7	62
779	10.7	53.7	1329	200.0	203.4	9.3	13.1	10.9	5.0	15	95.7	62
780			1322	200.0	203.4	5.4	12.5	8.0	7.1	15	95.7	62
781	9.8	52.7	1355	200.0	203.4	6.5	12.9	10.0	5.8	15	95.7	62
782			1325	200.0	203.4	5.4	12.6	7.7	4.5	15	95.7	62
783	8.9	52.8	1357	200.0	203.4	5.2	12.9	9.1	5.5	15	95.7	62
784	8.4	52.8	1334	200.0	203.4	5.5	12.8	8.6	7.8	15	95.7	61
785			1337	200.0	203.4	4.3	12.7	8.0	6.9	15	95.7	61
786			1371	200.0	203.4	6.0	13.1	8.3	5.1	15	95.7	61
787			1348	200.0	203.4	9.9	13.2	8.4	5.9	15	95.7	61
788	10.8	53.3	1331	200.0	203.4	9.7	12.9	11.0	6.8	15	95.7	61
789	8.9	52.4	1337	200.0	203.4	7.1	12.6	9.1	6.6	15	95.7	61
790	11.2	52.7	1338	200.0	203.4	5.9	12.6	11.4	5.8	15	95.7	61
791			1335	200.0	203.4	3.6	12.4	8.3	6.0	15	95.7	61
792	9.0	51.8	1377	200.0	203.4	5.0	13.0	9.2	8.3	15	95.7	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 (-C)	Pressure (kPa)	Relative Humidity (%)
793	9.5	52.5	1340	200.0	203.4	7.2	13.0	9.7	8.0	15	95.7	61
794			1318	200.0	203.4	5.3	12.6	8.2	7.8	15	95.7	61
795	9.1	51.6	1344	200.0	203.4	3.5	12.6	9.3	6.3	15	95.7	61
796	9.7	52.4	1352	200.0	203.4	5.1	12.9	9.9	5.2	15	95.7	61
797	9.2	51.7	1338	200.0	203.4	4.6	12.7	9.4	5.2	15	95.7	61
798	8.4	52.1	1332	200.0	203.4	3.5	12.6	8.6	6.0	15	95.7	61
799			1267	200.0	203.4	0.5	12.2	7.3	6.4	15	95.7	61
800			1295	200.0	203.4	0.8	12.6	6.8	4.6	15	95.7	61
801			1396	200.0	203.4	3.7	13.6	9.4	4.4	15	95.7	61
802	8.6	53.2	1350	200.0	203.4	8.5	13.7	8.7	4.4	15	95.7	61
803	10.5	52.5	1324	200.0	203.4	8.9	13.2	10.7	5.6	15	95.7	61
804			1325	200.0	203.4	6.2	12.6	7.7	5.6	15	95.7	61
805	8.5	51.1	1345	200.0	203.4	5.3	12.7	8.7	8.2	15	95.7	61
806			1306	200.0	203.4	2.9	12.2	8.3	8.1	15	95.7	61
807			1338	200.0	203.4	0.5	12.4	7.3	8.5	15	95.7	61
808			1383	200.0	203.4	4.4	13.4	7.4	8.6	15	95.7	61
809	8.5	53.1	1355	200.0	203.4	6.2	13.3	8.7	7.7	15	95.7	61
810	11.1	53.4	1340	200.0	203.4	10.4	13.3	11.3	9.0	15	95.7	61
811			1312	200.0	203.4	6.3	12.5	8.2	6.2	15	95.7	61
812			1320	200.0	203.4	1.1	12.1	7.5	5.6	15	95.7	61
813	8.2	53.3	1244	200.0	203.4	0.0	12.4	8.5	5.6	15	95.7	61
814	10.8	52.7	1397	200.0	203.4	4.3	13.6	11.0	5.2	15	95.7	61
815	9.5	52.6	1338	200.0	203.4	8.5	13.5	9.7	6.8	15	95.7	61
816			1316	200.0	203.4	6.5	12.9	8.3	5.7	15	95.7	61
817			1319	200.0	203.4	4.0	12.5	8.0	5.2	15	95.7	61
818	9.3	51.5	1352	200.0	203.4	4.6	12.8	9.4	6.5	15	95.7	61
819	9.0	51.7	1321	200.0	203.4	3.7	12.5	9.1	6.0	15	95.7	61
820	8.6	50.6	1282	200.0	203.4	0.0	12.1	8.8	6.1	15	95.7	61
821			1303	200.0	203.4	0.5	12.7	7.9	7.2	15	95.7	61
822	9.2	53.6	1387	200.0	203.4	2.6	13.4	9.4	7.2	15	95.7	61
823	10.1	52.7	1360	200.0	203.4	7.0	13.7	10.3	6.6	15	95.7	61
824			1326	200.0	203.4	6.9	13.2	8.0	9.0	15	95.7	61
825	10.5	53.0	1325	200.0	203.4	8.9	13.1	10.7	6.9	15	95.7	61
826	9.1	53.1	1337	200.0	203.4	8.0	12.9	9.3	6.6	15	95.7	61
827	10.3	52.4	1330	200.0	203.4	8.0	12.7	10.5	6.8	15	95.7	61
828			1331	200.0	203.4	5.0	12.5	8.0	6.7	15	95.7	61
829			1334	200.0	203.4	2.4	12.3	7.8	6.6	15	95.7	61
830	9.7	52.7	1364	200.0	203.4	2.8	12.8	9.9	5.5	15	95.7	61
831			1254	200.0	203.4	2.9	12.6	7.9	7.2	15	95.7	61
832	9.1	51.6	1295	200.0	203.4	2.2	12.7	9.3	6.8	15	95.7	61
833	8.7	52.0	1358	200.0	203.4	3.5	13.1	8.9	7.2	15	95.7	61
834	9.0	52.0	1379	200.0	203.4	8.1	13.5	9.2	7.1	15	95.7	61
835	8.3	52.4	1321	200.0	203.4	10.2	12.9	8.4	10.7	15	95.7	61
836	9.2	52.1	1340	200.0	203.4	8.5	12.9	9.4	9.6	15	95.7	61
837	10.0	52.3	1346	200.0	203.4	8.6	12.9	10.1	9.1	15	95.7	61
838	10.8	54.2	1335	200.0	203.4	9.2	12.8	11.0	9.8	15	95.7	61
839			1334	200.0	203.4	6.0	12.5	8.3	9.0	15	95.7	61
840			1340	200.0	203.4	3.3	12.4	7.8	7.5	15	95.7	61
841	8.6	53.3	1344	200.0	203.4	4.2	12.9	8.7	7.0	15	95.7	61
842	8.2	52.3	1236	200.0	203.4	5.8	13.0	9.8	7.8	15	95.7	61
843	9.2	52.6	1283	200.0	203.4	6.5	13.1	9.4	5.5	15	95.7	61
844	8.7	52.6	1303	200.0	203.4	4.2	12.5	8.9	4.3	15	95.7	61
845	9.6	52.5	1345	200.0	203.4	2.9	12.7	9.8	4.8	15	95.7	61
846			1369	200.0	203.4	4.8	13.0	8.2	5.0	15	95.7	61
847	11.2	52.6	1324	200.0	203.4	10.5	13.3	11.4	8.9	15	95.7	61
848	8.1	52.2	1233	200.0	203.4	10.6	13.1	12.3	7.2	15	95.7	61
849	11.4	51.8	1322	200.0	203.4	11.0	13.0	11.6	7.4	15	95.7	61
850	11.2	51.6	1337	200.0	203.4	10.1	12.8	11.4	7.4	15	95.7	61
851	8.7	51.9	1325	200.0	203.4	6.9	12.5	8.9	8.8	15	95.7	61
852			1273	200.0	203.4	3.6	12.2	8.1	8.2	15	95.7	61
853			1261	200.0	203.4	6.3	12.6	8.2	7.5	15	95.7	61
854	8.2	51.4	1247	200.0	203.4	6.6	12.5	7.9	6.4	15	95.7	61
855	8.2	51.2	1236	200.0	203.4	7.0	12.7	9.5	7.1	15	95.7	61
856	7.9	51.9	1189	200.0	203.4	8.5	12.8	9.1	6.7	15	95.7	61
857	8.0	52.3	1198	200.0	203.4	9.3	12.9	10.4	7.0	15	95.7	61
858	7.9	51.2	1176	200.0	203.4	7.5	12.7	9.4	5.1	15	95.7	61
859	7.9	51.0	1195	200.0	203.4	8.7	13.0	10.5	5.7	15	95.7	61
860	7.9	51.9	1182	200.0	203.4	7.9	12.7	9.6	5.9	15	95.7	61
861	7.9	50.8	1164	200.0	203.4	3.2	11.9	6.6	5.7	15	95.7	61
862	7.8	52.1	1135	200.0	203.4	0.5	12.0	8.1	5.4	15	95.7	61
863	8.1	52.4	1228	200.0	203.4	4.1	13.2	7.5	4.4	15	95.7	61
864	7.9	52.0	1189	200.0	203.4	5.0	13.2	7.9	6.4	15	95.7	61
865	8.0	52.1	1220	200.0	203.4	6.3	13.4	9.1	6.7	15	95.7	61
866	9.5	52.0	1313	200.0	203.4	8.6	13.4	9.7	5.6	15	95.7	61
867	9.0	51.5	1326	200.0	203.4	8.2	13.0	9.2	4.5	15	95.7	61
868	8.0	51.6	1205	200.0	203.4	7.8	12.8	8.9	4.1	15	95.7	61
869	7.8	50.8	1138	200.0	203.4	4.2	12.1	8.4	6.3	15	95.7	61
870	8.0	51.0	1200	200.0	203.4	5.1	12.8	8.4	6.5	15	95.7	61
871	8.0	52.6	1205	200.0	203.4	11.1	13.3	9.4	5.7	15	95.7	61
872	8.0	52.1	1220	200.0	203.4	10.1	12.9	10.1	7.6	15	95.7	61
873	8.2	51.5	1240	200.0	203.4	10.5	13.0	8.5	8.4	15	95.7	61
874	7.9	51.6	1181	200.0	203.4	12.0	12.9	13.4	6.9	15	95.7	61
875	10.8	52.1	1259	200.0	203.4	9.3	12.7	11.0	6.9	15	95.7	61
876	9.5	51.5	1276	200.0	203.4	7.5	12.7	9.7	5.3	15	95.7	61
877			1291	200.0	203.4	7.0	12.8	8.2	5.6	15	95.7	61
878			1329	200.0	203.4	5.8	12.7	8.1	7.5	15	95.7	61
879			1324	200.0	203.4	3.1	12.4	7.6	7.6	15	95.7	61
880			1333	200.0	203.4	1.2	12.3	6.7	5.9	15	95.7	61

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
881	7.6	52.6	1075	200.0	203.4	0.1	12.4	6.8	5.7	15	95.7	61
882	7.9	52.4	1159	200.0	203.4	0.5	12.8	6.6	6.5	15	95.7	61
883	8.2	53.1	1244	200.0	203.4	0.3	12.9	7.3	6.1	15	95.7	61
884			1335	200.0	203.4	0.3	12.9	8.1	6.1	15	95.7	61
885			1323	200.0	203.4	0.2	13.0	7.6	5.8	15	95.7	61
886	8.3	53.8	1390	200.0	203.4	2.0	13.6	8.5	6.1	15	95.7	61
887	9.6	54.9	1333	200.0	203.4	9.4	13.7	9.8	5.1	15	95.7	60
888	9.2	51.8	1276	200.0	203.4	5.1	12.5	9.4	6.4	15	95.7	60
889	9.1	51.8	1286	200.0	203.4	2.7	12.3	9.3	5.6	15	95.7	60
890	9.1	52.8	1308	200.0	203.4	8.0	13.0	9.2	6.4	15	95.7	60
891	9.9	51.7	1333	200.0	203.4	9.3	12.8	10.1	6.6	15	95.7	60
892	10.3	51.1	1293	200.0	203.4	8.6	12.9	10.5	8.1	15	95.7	60
893	8.2	51.1	1239	200.0	203.4	9.7	12.9	9.2	9.1	15	95.7	60
894	8.1	51.0	1227	200.0	203.4	10.4	12.9	8.2	6.4	15	95.7	60
895	8.1	52.6	1228	200.0	203.4	11.4	12.8	12.3	6.5	15	95.7	60
896	10.3	52.7	1315	200.0	203.4	11.1	12.9	10.5	6.8	15	95.7	60
897	10.0	52.7	1304	200.0	203.4	9.6	12.7	10.2	8.4	15	95.7	60
898	9.1	52.4	1333	200.0	203.4	6.6	12.8	9.3	6.8	15	95.7	60
899			1357	200.0	203.4	5.9	12.8	8.0	7.6	15	95.7	60
900	9.8	52.0	1346	200.0	203.4	7.7	12.9	10.0	7.1	15	95.7	60
901			1306	200.0	203.4	4.4	12.3	7.7	6.6	15	95.7	60
902			1365	200.0	203.4	4.5	12.9	7.9	5.6	15	95.7	60
903	8.5	51.8	1328	200.0	203.4	5.2	12.7	8.6	6.2	15	95.7	60
904	8.3	51.2	1311	200.0	203.4	1.7	12.2	8.5	6.2	15	95.7	60
905	9.6	51.9	1382	200.0	203.4	3.2	13.0	9.8	6.0	15	95.7	60
906	8.3	52.4	1325	200.0	203.4	6.3	12.8	8.5	5.4	15	95.7	60
907			1308	200.0	203.4	2.4	12.4	8.3	5.6	15	95.7	60
908	8.9	52.4	1342	200.0	203.4	0.3	12.4	9.1	5.1	15	95.7	60
909	9.5	52.8	1386	200.0	203.4	2.8	13.1	9.6	5.6	15	95.7	60
910	9.3	52.4	1361	200.0	203.4	7.4	13.4	9.4	7.9	15	95.7	60
911	8.6	51.8	1274	200.0	203.4	3.8	12.3	8.8	6.9	15	95.7	60
912			1333	200.0	203.4	0.8	12.4	7.7	6.1	15	95.7	60
913	8.9	54.3	1389	200.0	203.4	5.2	13.3	9.1	6.2	15	95.7	60
914	9.5	53.2	1334	200.0	203.4	8.6	13.1	9.7	6.9	15	95.7	60
915	9.2	52.0	1332	200.0	203.4	7.1	12.9	9.3	8.0	15	95.7	60
916			1321	200.0	203.4	5.2	12.5	10.8	7.3	15	95.7	60
917			1328	200.0	203.4	3.0	12.4	10.4	7.5	15	95.7	60
918			1261	200.0	203.4	0.5	12.2	7.9	6.4	15	95.7	60
919			1224	200.0	203.4	0.5	12.7	6.7	5.4	15	95.7	60
920			1377	200.0	203.4	2.9	13.5	9.0	5.6	15	95.7	60
921			1357	200.0	203.4	11.0	13.8	10.5	7.9	15	95.7	60
922			1317	200.0	203.4	9.3	12.9	11.1	8.1	15	95.7	60
923			1330	200.0	203.4	5.0	12.5	8.0	7.5	15	95.7	59
924			1335	200.0	203.4	3.1	12.4	7.4	8.2	15	95.7	59
925			1295	200.0	203.4	5.8	13.0	8.8	6.9	15	95.7	59
926			1315	200.0	203.4	10.1	13.3	10.8	6.2	15	95.7	59
927			1338	200.0	203.4	11.0	13.0	10.3	8.0	15	95.7	59
928			1350	200.0	203.4	11.2	13.0	11.5	9.8	15	95.7	59
929			1328	200.0	203.4	11.9	12.7	12.6	7.1	15	95.7	59
930	9.1	51.6	1352	200.0	203.4	8.2	12.7	9.3	7.0	15	95.7	59
931	8.6	52.3	1347	200.0	203.4	10.3	12.9	8.7	7.4	15	95.7	59
932	11.0	53.5	1340	200.0	203.4	10.6	12.9	11.2	7.3	15	95.7	59
933	10.3	52.7	1342	200.0	203.4	8.6	12.7	10.5	7.1	15	95.7	59
934	8.7	51.8	1346	200.0	203.4	7.7	12.8	8.8	7.8	15	95.7	59
935	8.8	52.0	1352	200.0	203.4	10.7	13.1	8.9	6.6	15	95.7	59
936	10.9	52.0	1336	200.0	203.4	9.9	12.8	11.1	7.6	15	95.7	59
937	8.3	51.0	1344	200.0	203.4	7.8	12.7	8.5	7.9	15	95.7	59
938	10.1	52.2	1351	200.0	203.4	8.9	12.9	10.2	8.8	15	95.7	59
939	9.3	52.2	1335	200.0	203.4	8.4	12.8	9.5	8.8	15	95.7	59
940	9.4	51.7	1351	200.0	203.4	8.0	12.9	9.6	8.6	15	95.7	59
941	11.6	51.8	1335	200.0	203.4	8.9	12.8	11.8	9.1	15	95.7	59
942	10.5	51.9	1343	200.0	203.4	8.4	12.8	10.7	7.6	15	95.7	59
943	9.5	52.4	1340	200.0	203.4	7.3	12.8	9.7	8.5	15	95.7	59
944			1336	200.0	203.4	5.3	12.6	8.4	8.2	15	95.7	59
945			1346	200.0	203.4	4.9	12.7	7.9	8.7	15	95.7	59
946	8.3	51.8	1353	200.0	203.4	4.5	12.8	8.4	7.4	15	95.7	59
947	10.7	52.4	1364	200.0	203.4	7.5	13.2	10.9	8.1	15	95.7	59
948	10.4	52.5	1337	200.0	203.4	9.3	13.0	10.6	6.0	15	95.7	59
949	8.5	51.9	1336	200.0	203.4	6.9	12.7	8.7	7.0	15	95.7	59
950	9.2	51.6	1326	200.0	203.4	5.9	12.6	9.4	6.9	15	95.7	59
951	8.3	52.8	1342	200.0	197.5	10.3	12.8	8.5	9.0	15	95.6	60
952	11.1	52.5	1350	200.0	197.5	12.1	13.0	11.3	8.6	15	95.6	60
953	12.2	52.4	1341	200.0	197.5	13.1	12.9	12.4	7.6	15	95.6	60
954	12.6	52.3	1311	200.0	197.5	11.6	12.8	12.8	8.3	15	95.6	60
955	10.7	51.6	1324	200.0	197.5	10.3	12.8	10.9	7.8	15	95.6	60
956	11.7	52.0	1303	200.0	197.5	10.9	12.8	11.9	7.7	15	95.6	60
957	11.9	52.1	1335	200.0	197.5	11.0	12.9	12.1	6.9	15	95.6	60
958	10.4	52.1	1338	200.0	197.5	9.4	12.7	10.6	7.6	15	95.6	60
959	11.1	52.5	1347	200.0	197.5	8.4	12.8	11.3	7.5	15	95.6	60
960	11.6	52.3	1354	200.0	197.5	11.1	13.1	11.8	6.8	15	95.6	60
961	11.5	52.9	1337	200.0	197.5	11.7	12.9	11.7	6.3	15	95.6	60
962	12.1	52.7	1344	200.0	197.5	11.8	12.9	12.3	8.2	15	95.6	60
963	11.1	51.9	1338	200.0	197.5	10.1	12.7	11.3	8.1	15	95.6	60
964			1342	200.0	197.5	7.7	12.6	8.2	7.9	15	95.6	60
965	8.4	51.9	1356	200.0	197.5	8.0	12.9	8.5	6.0	15	95.6	60
966			1339	200.0	197.5	8.5	12.8	8.0	6.6	15	95.6	60
967	9.8	52.7	1350	200.0	197.5	8.3	12.9	10.0	7.4	15	95.6	60
968	10.0	52.9	1338	200.0	197.5	9.2	12.9	10.2	8.7	15	95.6	60

***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 (%)
969	10.0	52.6	1346	200.0	197.5	10.4	13.0	10.2	9.2	15	95.6	60
970	11.8	52.5	1341	200.0	197.5	10.5	12.9	12.0	8.0	15	95.6	60
971	9.4	52.2	1336	200.0	197.5	8.9	12.7	9.6	8.3	15	95.6	60
972	10.1	52.1	1356	200.0	197.5	9.6	12.9	10.3	8.7	15	95.6	60
973	9.7	51.9	1337	200.0	197.5	10.3	12.9	9.8	6.9	15	95.6	60
974	11.1	52.0	1258	200.0	197.5	10.7	12.9	11.3	6.7	15	95.6	60
975	9.0	51.5	1293	200.0	197.5	9.6	12.8	9.2	8.1	15	95.6	60
976	10.1	51.9	1343	200.0	197.5	9.3	12.9	10.3	8.8	15	95.6	60
977	10.4	52.6	1349	200.0	197.5	10.0	12.9	10.6	7.4	15	95.6	60
978	11.9	52.6	1340	200.0	197.5	11.8	12.9	12.1	7.2	15	95.6	60
979	11.0	52.4	1342	200.0	197.5	10.5	12.8	11.2	8.2	15	95.6	60
980	10.3	52.8	1344	200.0	197.5	9.4	12.8	10.5	7.6	15	95.6	60
981	10.7	52.2	1344	200.0	197.5	9.6	12.9	10.9	6.5	15	95.6	60
982	10.2	51.5	1343	200.0	197.5	8.6	12.8	10.4	6.8	15	95.6	60
983	9.7	51.6	1344	200.0	197.5	7.8	12.8	9.9	6.2	15	95.6	60
984	9.6	52.0	1352	200.0	197.5	9.3	13.0	9.7	9.6	15	95.6	60
985	9.3	52.4	1345	200.0	197.5	10.3	12.9	9.5	8.6	15	95.6	60
986	10.3	53.2	1334	200.0	197.5	10.4	12.8	10.5	9.8	15	95.6	60
987	8.7	52.2	1348	200.0	197.5	7.8	12.8	8.9	9.0	15	95.6	60
988	8.8	52.6	1346	200.0	197.5	8.9	12.9	8.9	8.2	15	95.6	60
989	8.7	52.2	1344	200.0	197.5	8.9	12.9	8.9	8.2	15	95.6	60
990	9.7	52.0	1345	200.0	197.5	8.7	12.9	9.9	6.9	15	95.6	60
991	9.4	51.8	1345	200.0	197.5	9.3	12.9	9.6	6.9	15	95.6	60
992	8.5	52.0	1340	200.0	197.5	8.4	12.8	8.7	7.2	15	95.6	60
993	9.5	51.4	1350	200.0	197.5	9.3	12.9	9.7	7.9	15	95.6	60
994	9.8	52.3	1342	200.0	197.5	10.1	12.9	10.0	7.5	15	95.6	60
995	11.4	53.3	1342	200.0	197.5	11.3	12.9	11.6	6.7	15	95.6	60
996	10.2	51.6	1318	200.0	197.5	10.6	12.8	10.4	6.8	15	95.6	60
997	8.2	50.9	1243	200.0	197.5	9.4	12.8	10.0	6.6	15	95.6	60
998	9.9	52.0	1311	200.0	197.5	10.9	12.9	10.1	5.8	15	95.6	60
999	10.7	53.4	1340	200.0	197.5	9.9	12.8	10.9	6.4	15	95.6	60
1000	8.9	52.3	1347	200.0	197.5	10.0	12.9	9.0	7.0	15	95.6	60
1001	10.9	52.0	1344	200.0	197.5	10.8	12.9	11.1	7.3	15	95.6	60
1002	10.6	52.4	1343	200.0	197.5	9.8	12.8	10.8	7.6	15	95.6	60
1003	9.6	52.4	1347	200.0	197.5	10.4	12.9	9.8	7.6	15	95.6	60
1004	10.9	51.8	1340	200.0	197.5	9.1	12.8	11.1	7.6	15	95.6	60
1005	10.9	51.3	1348	200.0	197.5	10.2	12.9	11.1	6.6	15	95.6	60
1006	10.1	52.1	1342	200.0	197.5	11.0	12.9	10.3	5.6	15	95.6	60
1007	10.5	51.4	1343	200.0	197.5	9.6	12.8	10.7	6.1	15	95.6	60
1008	9.7	51.7	1342	200.0	197.5	9.2	12.8	9.9	6.4	15	95.6	60
1009	8.4	51.9	1346	200.0	197.5	9.1	12.9	8.6	7.7	15	95.6	60
1010			1339	200.0	197.5	7.7	12.7	8.4	8.0	15	95.6	60
1011			1354	200.0	197.5	8.5	13.0	8.3	7.0	15	95.6	60
1012	9.9	52.7	1335	200.0	197.5	8.5	12.8	10.1	6.4	15	95.6	60
1013			1350	200.0	197.5	7.8	12.9	7.5	7.1	15	95.6	60
1014	9.8	53.0	1341	200.0	197.5	9.2	12.9	10.0	6.8	15	95.6	60
1015			1337	200.0	197.5	6.8	12.7	8.0	7.1	15	95.6	60
1016	9.6	51.6	1357	200.0	197.5	8.5	13.0	9.8	7.6	15	95.6	60
1017	10.8	52.2	1350	200.0	197.5	11.3	13.1	11.0	7.8	15	95.6	60
1018	12.2	53.0	1336	200.0	197.5	12.6	12.9	12.4	7.4	15	95.6	60
1019	12.4	52.6	1342	200.0	197.5	11.8	12.8	12.6	6.7	15	95.6	60
1020	12.6	52.3	1346	200.0	197.5	12.1	12.9	12.8	7.4	15	95.6	60
1021	11.3	52.4	1337	200.0	197.5	11.5	12.8	11.5	7.7	15	95.6	60
1022	13.2	53.3	1350	200.0	197.5	10.3	12.9	13.4	6.6	15	95.6	60
1023	12.3	52.6	1337	200.0	197.5	9.0	12.7	12.5	6.4	15	95.6	60
1024	9.0	52.6	1360	200.0	197.5	9.2	12.9	9.2	7.5	15	95.6	59
1025	12.5	52.4	1338	200.0	197.5	11.3	12.9	12.7	7.8	15	95.6	59
1026	10.2	52.5	1341	200.0	197.5	9.9	12.8	10.4	6.5	15	95.6	59
1027	8.9	52.3	1349	200.0	197.5	9.2	12.9	9.0	7.0	15	95.6	59
1028	10.4	52.1	1336	200.0	197.5	8.7	12.7	10.6	6.9	15	95.6	59
1029	9.7	52.3	1348	200.0	197.5	9.3	12.9	9.9	8.2	15	95.6	59
1030	9.9	52.0	1299	200.0	197.5	9.6	12.9	10.0	6.4	15	95.6	59
1031	7.9	51.6	1183	200.0	197.5	9.8	12.8	9.9	8.6	15	95.6	59
1032	8.1	51.4	1223	200.0	197.5	8.8	12.8	10.3	8.7	15	95.6	59
1033			1280	200.0	197.5	10.2	12.9	7.9	8.1	15	95.6	59
1034	9.0	52.0	1330	200.0	197.5	9.7	12.9	9.2	7.1	15	95.6	59
1035	9.9	51.8	1346	200.0	197.5	12.0	13.0	10.0	7.5	15	95.6	59
1036	12.4	51.9	1341	200.0	197.5	11.9	12.8	12.7	6.5	15	95.6	59
1037	11.1	51.9	1339	200.0	197.5	9.3	12.7	11.3	7.5	15	95.6	59
1038	9.5	51.9	1349	200.0	197.5	9.5	12.9	9.7	8.1	15	95.6	59
1039	8.9	52.0	1342	200.0	197.5	8.6	12.8	9.1	9.0	15	95.6	59
1040	10.3	52.0	1346	200.0	197.5	9.2	12.9	10.5	9.8	15	95.6	59
1041	10.7	51.6	1347	200.0	197.5	10.0	12.9	10.9	8.3	15	95.6	59
1042	10.4	52.0	1341	200.0	197.5	10.2	12.9	10.6	8.0	15	95.6	59
1043	9.9	52.6	1341	200.0	197.5	10.8	12.9	10.1	7.6	15	95.6	59
1044	10.3	52.3	1338	200.0	197.5	8.3	12.7	10.5	6.8	15	95.6	59
1045	9.6	51.6	1351	200.0	197.5	7.4	12.8	9.8	6.2	15	95.6	59
1046	9.9	51.9	1339	200.0	197.5	7.6	12.8	10.1	6.2	15	95.6	59
1047			1332	200.0	197.5	5.3	12.5	7.2	6.7	15	95.6	59
1048			1352	200.0	197.5	4.3	12.7	7.9	8.5	15	95.6	59
1049	8.5	51.9	1362	200.0	197.5	6.0	13.0	8.6	7.7	15	95.6	59
1050			1333	200.0	197.5	5.6	12.8	8.4	6.1	15	95.6	59
1051	9.6	52.0	1360	200.0	197.5	7.7	13.2	9.8	6.3	15	95.6	59
1052	12.0	51.9	1332	200.0	197.5	9.2	12.9	12.2	8.3	15	95.6	59
1053	10.1	51.5	1342	200.0	197.5	7.4	12.8	10.3	9.0	15	95.6	59
1054			1324	200.0	197.5	5.8	12.5	7.6	8.9	15	95.6	58
1055	9.6	51.3	1355	200.0	197.5	7.6	13.1	9.8	8.3	15	95.6	58
1056	9.4	53.4	1253	200.0	197.5	10.5	13.2	9.6	6.6	15	95.6	58

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
1057	9.2	53.5	1280	200.0	197.5	8.3	12.9	9.4	7.3	15	95.6	58
1058	8.1	53.6	1229	200.0	197.5	9.4	12.9	8.8	7.4	15	95.6	58
1059	8.0	52.3	1207	200.0	197.5	10.0	12.9	11.9	6.4	15	95.6	58
1060	8.1	53.2	1231	200.0	197.5	9.2	12.8	9.9	6.8	15	95.6	58
1061	8.1	53.0	1230	200.0	197.5	9.0	12.8	9.5	6.8	15	95.6	58
1062	8.9	52.5	1263	200.0	197.5	8.4	12.8	9.1	6.3	15	95.6	58
1063	9.1	52.6	1305	200.0	197.5	6.9	12.6	9.3	6.6	15	95.6	58
1064	8.6	52.5	1357	200.0	197.5	5.0	12.7	8.8	7.2	15	95.6	58
1065	11.8	53.6	1347	200.0	197.5	10.2	13.1	12.0	7.3	15	95.6	58
1066	11.0	53.9	1340	200.0	197.5	10.7	12.9	11.2	7.6	15	95.6	58
1067	11.5	54.0	1338	200.0	197.5	9.8	12.8	11.7	7.5	15	95.6	58
1068	9.5	54.7	1343	200.0	197.5	7.1	12.7	9.7	7.0	15	95.6	58
1069	8.5	53.9	1354	200.0	197.5	8.5	12.9	8.7	8.0	15	95.6	58
1070	11.0	53.1	1339	200.0	197.5	8.5	12.8	11.2	7.9	15	95.6	58
1071	9.8	53.0	1348	200.0	197.5	7.9	12.9	10.0	7.1	15	95.6	58
1072	9.4	53.5	1338	200.0	197.5	8.0	12.8	9.5	7.9	15	95.6	58
1073	10.3	53.0	1348	200.0	197.5	8.0	12.9	10.5	9.6	15	95.6	58
1074	10.6	52.8	1347	200.0	197.5	9.1	13.0	10.8	9.6	15	95.6	58
1075	11.6	52.5	1343	200.0	197.5	9.2	12.9	11.9	9.2	15	95.6	58
1076	11.8	53.2	1335	200.0	197.5	9.4	12.8	12.1	9.6	15	95.6	58
1077	11.4	53.2	1344	200.0	197.5	6.8	12.7	11.7	7.2	15	95.6	58
1078	9.6	53.0	1351	200.0	197.5	6.9	12.8	9.7	7.6	15	95.6	58
1079	10.9	53.0	1350	200.0	197.5	9.2	13.0	11.1	7.1	15	95.6	58
1080	9.9	52.8	1343	200.0	197.5	8.8	12.9	10.0	6.4	15	95.6	58
1081	10.7	52.8	1341	200.0	197.5	10.1	12.9	10.9	6.1	15	95.6	58
1082	10.8	53.6	1342	200.0	197.5	9.9	12.9	11.0	7.7	15	95.6	58
1083	12.8	52.9	1344	200.0	197.5	10.3	12.9	13.1	7.3	15	95.6	58
1084	12.9	53.2	1350	200.0	197.5	11.9	13.0	13.2	7.2	15	95.6	57
1085	12.8	53.3	1336	200.0	197.5	10.5	12.7	13.1	9.1	15	95.6	57
1086	11.4	52.7	1343	200.0	197.5	9.2	12.8	11.6	8.0	15	95.6	57
1087	8.6	52.5	1341	200.0	197.5	7.4	12.7	8.7	7.6	15	95.6	57
1088	9.5	52.7	1362	200.0	197.5	8.6	13.0	9.6	8.1	15	95.6	57
1089	9.6	54.1	1326	200.0	197.5	8.4	12.7	9.8	8.5	15	95.6	57
1090	8.2	52.5	1244	200.0	197.5	7.3	12.6	10.3	6.3	15	95.6	57
1091	8.1	52.6	1229	200.0	197.5	7.8	12.7	9.0	6.5	15	95.6	57
1092	8.5	53.4	1293	200.0	197.5	6.2	12.7	8.7	6.7	15	95.6	57
1093	10.1	53.2	1354	200.0	197.5	7.0	12.9	10.3	6.7	15	95.6	57
1094	9.2	53.3	1347	200.0	197.5	8.6	13.0	9.4	7.7	15	95.6	57
1095	10.2	52.9	1341	200.0	197.5	8.5	12.9	10.4	6.8	15	95.6	57
1096	9.8	53.0	1345	200.0	197.5	9.2	12.9	10.0	8.0	15	95.6	57
1097	9.9	52.7	1343	200.0	197.5	10.0	12.9	10.1	8.8	15	95.6	57
1098	11.4	52.6	1345	200.0	197.5	11.5	13.0	11.6	8.7	15	95.6	57
1099	11.1	53.4	1340	200.0	197.5	11.7	12.9	11.3	9.5	15	95.6	57
1100	9.0	53.8	1339	200.0	197.5	9.7	12.7	9.2	9.2	15	95.6	57
1101	9.6	54.3	1251	200.0	197.5	7.1	12.4	9.8	9.2	15	95.6	57
1102	8.5	54.7	1292	200.0	197.5	4.4	12.2	8.7	7.3	15	95.6	57
1103			1365	200.0	197.5	3.2	12.6	8.1	6.3	15	95.6	57
1104	8.6	53.2	1372	200.0	197.5	5.6	13.0	8.7	6.3	15	95.6	57
1105	9.6	52.8	1344	200.0	197.5	7.4	13.1	9.8	6.7	15	95.6	57
1106	9.6	52.8	1344	200.0	197.5	9.1	13.1	9.8	9.1	15	95.6	57
1107	9.1	53.0	1342	200.0	197.5	10.0	13.0	9.2	9.4	15	95.6	57
1108	9.9	52.4	1336	200.0	197.5	10.2	12.8	10.1	6.5	15	95.6	57
1109	10.8	52.7	1345	200.0	197.5	10.8	12.9	11.0	6.0	15	95.6	56
1110			1342	200.0	197.5	10.0	12.8	8.3	7.4	15	95.6	56
1111	9.2	53.3	1345	200.0	197.5	9.7	12.8	9.4	7.8	15	95.6	56
1112	12.2	52.9	1347	200.0	197.5	10.6	12.9	12.4	7.9	15	95.6	56
1113	11.4	52.8	1340	200.0	197.5	9.4	12.8	11.6	7.8	15	95.6	56
1114	10.4	53.4	1348	200.0	197.5	9.7	12.9	10.6	9.1	15	95.6	56
1115	10.6	53.1	1333	200.0	197.5	8.8	12.7	10.8	7.9	15	95.6	56
1116	9.6	52.4	1348	200.0	197.5	6.3	12.7	9.8	8.2	15	95.6	56
1117	10.0	53.0	1348	200.0	197.5	7.4	12.8	10.2	7.7	15	95.6	56
1118	8.9	52.1	1335	200.0	197.5	5.5	12.6	9.1	8.3	15	95.6	56
1119	10.7	52.5	1358	200.0	197.5	10.0	13.2	10.9	9.3	15	95.6	56
1120	12.8	53.5	1331	200.0	197.5	9.3	12.8	13.0	8.5	15	95.6	56
1121	9.4	52.8	1338	200.0	197.5	6.1	12.6	9.6	6.5	15	95.6	56
1122	8.9	52.9	1361	200.0	197.5	8.1	13.0	9.1	6.0	15	95.6	56
1123	8.9	53.3	1344	200.0	197.5	8.9	12.9	9.1	6.7	15	95.6	56
1124	9.3	52.9	1345	200.0	197.5	10.7	13.0	9.5	7.4	15	95.6	56
1125	10.6	52.5	1335	200.0	197.5	9.8	12.8	10.8	8.1	15	95.6	56
1126	11.4	52.9	1354	200.0	197.5	10.5	13.0	11.6	9.2	15	95.6	56
1127	12.1	52.9	1334	200.0	197.5	10.7	12.8	12.3	6.9	15	95.6	56
1128	9.8	52.9	1353	200.0	197.5	10.2	12.9	10.0	6.9	15	95.6	56
1129	12.1	53.5	1338	200.0	197.5	12.6	12.9	12.3	8.2	15	95.6	56
1130	10.5	53.3	1341	200.0	197.5	8.8	12.7	10.7	9.8	15	95.6	56
1131	9.4	52.2	1345	200.0	197.5	9.3	12.9	9.6	9.4	15	95.6	56
1132	9.5	52.4	1347	200.0	197.5	9.5	12.9	9.7	10.0	15	95.6	56
1133	10.2	52.3	1339	200.0	197.5	8.6	12.7	10.3	7.9	15	95.6	56
1134	11.0	52.6	1339	200.0	197.5	6.9	12.7	11.2	7.3	15	95.6	56
1135	9.9	52.4	1353	200.0	197.5	5.8	12.8	10.0	6.7	15	95.6	56
1136	9.1	52.5	1347	200.0	197.5	7.1	12.9	9.3	6.7	15	95.6	56
1137	10.8	53.4	1345	200.0	197.5	8.6	13.0	11.0	6.2	15	95.6	56
1138	10.8	53.5	1340	200.0	197.5	7.7	12.8	11.0	6.4	15	95.6	56
1139	9.4	53.1	1339	200.0	197.5	7.4	12.8	9.5	6.4	15	95.6	56
1140	10.4	52.2	1345	200.0	197.5	6.8	12.8	10.6	5.7	15	95.6	56
1141	12.0	52.6	1356	200.0	197.5	9.7	13.1	12.3	6.6	15	95.6	56
1142	10.6	53.1	1336	200.0	197.5	9.5	12.8	10.8	9.1	15	95.6	56
1143	9.7	52.8	1347	200.0	197.5	9.8	12.9	9.9	9.8	15	95.6	56
1144	12.2	52.8	1345	200.0	197.5	10.8	13.0	12.5	8.3	15	95.6	56

***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 (%)
1145	13.5	53.4	1338	200.0	197.5	11.5	12.9	13.7	7.8	15	95.6	56
1146	11.9	53.0	1345	200.0	197.5	11.2	12.9	12.1	7.4	15	95.6	56
1147	11.4	52.5	1343	200.0	197.5	10.5	12.8	11.7	7.5	15	95.6	56
1148	8.6	52.5	1338	200.0	197.5	7.5	12.6	8.8	7.8	15	95.6	56
1149			1355	200.0	197.5	6.8	12.8	7.6	7.1	15	95.6	56
1150	11.6	53.6	1349	200.0	197.5	10.4	13.0	11.8	7.7	15	95.6	56
1151	10.0	53.2	1338	200.0	197.5	7.9	12.7	10.2	7.8	15	95.6	56
1152	8.3	52.2	1349	200.0	197.5	7.2	12.8	8.5	8.8	15	95.6	56
1153	9.8	51.9	1350	200.0	197.5	10.4	13.1	10.0	8.9	15	95.6	56
1154	11.3	52.2	1342	200.0	197.5	11.1	12.9	11.5	11.2	15	95.6	56
1155	10.1	52.2	1338	200.0	197.5	10.7	12.8	10.2	9.2	15	95.6	56
1156	10.2	52.7	1349	200.0	197.5	9.8	12.9	10.3	8.9	15	95.6	56
1157	10.3	53.5	1341	200.0	197.5	10.9	12.9	10.5	10.2	15	95.6	55
1158	10.5	53.7	1342	200.0	197.5	10.0	12.8	10.7	7.8	15	95.6	55
1159	8.7	52.4	1351	200.0	197.5	9.4	12.9	8.9	8.2	15	95.6	55
1160	10.9	52.6	1343	200.0	197.5	12.2	13.0	11.1	6.8	15	95.6	55
1161	10.7	52.6	1337	200.0	197.5	10.1	12.7	10.9	6.3	15	95.6	55
1162	12.9	52.8	1348	200.0	197.5	10.5	12.9	13.2	6.2	15	95.6	56
1163	9.0	53.2	1342	200.0	197.5	9.6	12.8	9.2	6.8	15	95.6	56
1164	10.5	53.7	1343	200.0	197.5	10.2	12.9	10.7	6.6	15	95.6	56
1165	9.8	52.5	1343	200.0	197.5	7.4	12.7	10.0	6.5	15	95.6	56
1166			1345	200.0	197.5	7.5	12.8	8.2	7.7	15	95.6	56
1167	10.5	52.8	1344	200.0	197.5	8.8	12.9	10.7	6.4	15	95.6	56
1168	9.1	51.9	1347	200.0	197.5	8.4	12.9	9.3	5.9	15	95.6	56
1169	11.4	52.1	1338	200.0	197.5	10.1	12.9	11.6	6.1	15	95.6	56
1170	10.0	51.5	1344	200.0	197.5	7.9	12.7	10.2	7.4	15	95.6	56
1171	11.5	51.1	1345	200.0	197.5	9.0	12.9	11.8	7.2	15	95.6	56
1172	8.7	51.4	1341	200.0	197.5	7.5	12.7	8.8	7.5	15	95.6	56
1173			1343	200.0	197.5	7.0	12.8	7.8	6.6	15	95.6	56
1174	11.2	51.2	1350	200.0	197.5	7.6	12.9	11.4	6.3	15	95.6	56
1175	10.4	51.2	1339	200.0	197.5	8.0	12.9	10.6	8.3	15	95.6	56
1176			1338	200.0	197.5	5.8	12.6	7.9	5.6	15	95.6	56
1177	10.9	51.9	1352	200.0	197.5	9.5	13.1	11.1	5.2	15	95.6	56
1178			1329	200.0	197.5	7.1	12.6	7.4	5.2	15	95.6	56
1179	8.8	51.3	1358	200.0	197.5	8.2	13.0	9.0	5.9	15	95.6	56
1180	10.3	51.7	1338	200.0	197.5	10.0	12.9	10.5	6.0	15	95.6	56
1181	10.3	50.9	1343	200.0	197.5	8.0	12.8	10.5	6.0	15	95.6	56
1182	9.8	52.0	1346	200.0	197.5	8.4	12.9	10.0	6.3	15	95.6	56
1183	9.7	52.4	1347	200.0	197.5	9.4	12.9	9.9	6.7	15	95.6	56
1184	9.5	52.1	1345	200.0	197.5	10.2	12.9	9.6	8.3	15	95.6	56
1185	11.7	51.8	1337	200.0	197.5	9.8	12.8	11.9	7.0	15	95.6	56
1186	9.7	51.7	1343	200.0	197.5	7.8	12.7	9.9	9.0	15	95.6	56
1187	8.4	52.2	1357	200.0	197.5	8.9	13.0	8.6	9.7	15	95.6	56
1188	10.8	52.4	1345	200.0	197.5	11.7	13.0	11.0	8.4	15	95.6	56
1189	13.2	54.0	1334	200.0	197.5	12.1	12.8	13.4	9.1	15	95.6	56
1190	9.4	52.5	1341	200.0	197.5	8.4	12.7	9.6	9.6	15	95.6	56
1191	8.5	52.1	1351	200.0	197.5	8.9	12.9	8.6	7.4	15	95.6	56
1192	10.2	52.0	1345	200.0	197.5	8.9	12.9	10.4	6.6	15	95.6	56
1193	11.8	52.0	1345	200.0	197.5	11.0	13.0	12.0	7.8	15	95.6	56
1194	10.0	52.2	1335	200.0	197.5	9.0	12.7	10.2	7.7	15	95.6	56
1195			1354	200.0	197.5	8.5	12.9	8.0	8.4	15	95.6	56
1196	9.3	52.0	1344	200.0	197.5	10.4	13.0	9.5	7.5	15	95.6	56
1197			1335	200.0	197.5	8.2	12.7	7.5	6.0	15	95.6	56
1198			1347	200.0	197.5	7.3	12.8	8.4	6.9	15	95.6	56
1199	10.1	52.6	1354	200.0	197.5	9.5	13.0	10.3	6.7	15	95.6	56
1200	9.7	53.2	1338	200.0	197.5	10.7	12.9	9.9	8.5	15	95.6	56
1201	9.7	52.3	1344	200.0	197.5	10.2	12.9	9.8	5.9	15	95.6	56
1202	10.7	51.8	1345	200.0	197.5	11.2	12.9	10.9	6.3	15	95.6	56
1203	11.7	52.5	1343	200.0	197.5	12.1	12.9	11.9	8.7	15	95.6	56
1204	10.6	52.9	1343	200.0	197.5	11.3	12.8	10.8	6.7	15	95.6	55
1205	12.0	52.5	1344	200.0	197.5	11.1	12.8	12.3	7.7	15	95.6	55
1206	11.5	53.4	1348	200.0	197.5	12.5	13.0	11.7	7.6	15	95.6	55
1207	12.4	54.1	1337	200.0	197.5	12.4	12.8	12.7	8.4	15	95.6	55
1208	10.1	52.4	1343	200.0	197.5	9.9	12.7	10.3	7.5	15	95.6	55
1209			1336	200.0	197.5	7.5	12.6	7.4	7.7	15	95.6	55
1210	10.8	51.9	1356	200.0	197.5	8.6	12.9	11.0	8.4	15	95.6	55
1211	9.4	52.2	1337	200.0	197.5	8.1	12.8	9.5	8.7	15	95.6	55
1212	10.2	51.7	1345	200.0	197.5	7.3	12.8	10.4	9.2	15	95.6	55
1213			1355	200.0	197.5	8.3	13.0	8.3	8.1	15	95.6	55
1214	8.3	52.4	1340	200.0	197.5	10.3	13.0	8.5	7.4	15	95.6	55
1215	10.2	52.3	1339	200.0	197.5	9.7	12.8	10.4	6.7	15	95.6	55
1216	8.4	52.2	1345	200.0	197.5	8.3	12.8	8.6	7.4	15	95.6	55
1217	9.8	51.8	1349	200.0	197.5	10.2	13.0	10.0	7.5	15	95.6	55
1218	10.1	51.6	1337	200.0	197.5	9.4	12.8	10.3	7.4	15	95.6	55
1219	8.5	51.7	1338	200.0	197.5	8.2	12.7	8.6	7.4	15	95.6	55
1220	9.8	52.2	1359	200.0	197.5	9.7	13.0	9.9	9.4	15	95.6	55
1221	10.8	52.6	1334	200.0	197.5	11.4	12.9	11.0	9.2	15	95.6	55
1222	8.5	52.7	1342	200.0	197.5	9.1	12.8	8.6	8.9	15	95.6	55
1223	11.0	53.0	1352	200.0	197.5	11.6	13.0	11.2	9.3	15	95.6	55
1224	10.6	53.2	1338	200.0	197.5	11.9	12.8	10.8	9.1	15	95.6	55
1225	11.4	53.5	1347	200.0	197.5	12.6	12.9	11.6	7.3	15	95.6	55
1226	10.5	54.5	1340	200.0	197.5	12.6	12.8	10.7	7.8	15	95.6	55
1227	10.2	55.3	1344	200.0	197.5	11.1	12.8	10.4	8.8	15	95.6	55
1228	10.9	53.1	1343	200.0	197.5	11.2	12.8	11.1	8.5	15	95.6	55
1229	10.7	53.4	1342	200.0	197.5	9.6	12.8	10.9	8.8	15	95.6	55
1230	9.6	53.5	1343	200.0	197.5	7.9	12.7	9.8	8.1	15	95.6	55
1231	8.9	52.2	1353	200.0	197.5	9.3	13.0	9.1	6.9	15	95.6	55
1232	11.4	52.6	1341	200.0	197.5	11.4	13.0	11.6	9.2	15	95.6	55

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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	10.8	52.5	1345	200.0	197.5	11.0	12.9	11.0	7.7	15	95.6	55
1234	12.0	52.5	1343	200.0	197.5	12.4	12.9	12.2	6.7	15	95.6	55
1235	12.8	52.5	1344	200.0	197.5	11.5	12.9	13.0	6.3	15	95.6	55
1236	11.0	52.8	1340	200.0	197.5	9.9	12.7	11.2	7.7	15	95.6	55
1237	11.3	52.9	1346	200.0	197.5	9.7	12.8	11.5	7.3	15	95.6	55
1238	10.8	52.5	1347	200.0	197.5	9.4	12.9	11.0	8.8	15	95.6	55
1239	8.8	51.7	1340	200.0	197.5	9.3	12.8	8.9	8.5	15	95.6	55
1240			1345	200.0	197.5	8.2	12.8	8.1	8.0	15	95.6	55
1241	9.8	51.3	1346	200.0	197.5	8.5	12.9	10.0	7.7	15	95.6	55
1242	8.6	51.3	1341	200.0	197.5	7.6	12.8	8.8	7.3	15	95.6	55
1243	9.0	51.3	1343	200.0	197.5	7.3	12.8	9.1	6.6	15	95.6	55
1244	8.9	51.1	1340	200.0	197.5	6.5	12.7	9.1	6.7	15	95.6	55
1245			1344	200.0	197.5	5.4	12.7	7.1	7.1	15	95.6	55
1246			1357	200.0	197.5	6.2	13.0	8.0	7.8	15	95.6	55
1247	8.4	51.9	1337	200.0	197.5	6.8	12.9	8.6	9.8	15	95.6	55
1248	9.9	52.0	1355	200.0	197.5	9.8	13.2	10.1	8.3	15	95.6	55
1249	9.9	52.3	1334	200.0	197.5	9.6	12.9	10.1	7.8	15	95.6	55
1250	9.2	52.6	1337	200.0	197.5	8.0	12.7	9.4	6.7	15	95.6	55
1251			1347	200.0	197.5	7.5	12.8	7.8	5.4	15	95.6	55
1252			1344	200.0	197.5	6.9	12.8	8.0	5.8	15	95.6	55
1253	8.9	51.9	1355	200.0	197.5	7.7	13.0	9.1	7.1	15	95.6	55
1254	9.7	52.4	1333	200.0	197.5	8.1	12.8	9.9	8.1	15	95.6	55
1255	10.1	52.5	1352	200.0	197.5	9.5	13.0	10.3	8.2	15	95.6	55
1256	9.8	52.5	1340	200.0	197.5	10.9	12.9	10.0	7.5	15	95.6	55
1257	12.4	52.6	1340	200.0	197.5	10.8	12.9	12.6	7.1	15	95.6	55
1258	10.6	52.1	1343	200.0	197.5	10.2	12.8	10.8	8.5	15	95.6	55
1259	10.4	52.1	1333	200.0	197.5	7.6	12.6	10.6	7.5	15	95.5	55
1260	8.6	51.7	1352	200.0	197.5	5.9	12.7	8.7	7.0	15	95.5	55
1261	8.3	51.9	1353	200.0	197.5	6.9	12.9	8.4	8.1	15	95.5	55
1262	8.5	51.7	1330	200.0	197.5	5.7	12.6	8.6	8.6	15	95.5	55
1263			1347	200.0	197.5	4.7	12.7	7.9	7.9	15	95.5	55
1264	9.0	51.9	1363	200.0	197.5	6.8	13.1	9.2	6.8	15	95.6	55
1265	9.3	51.9	1346	200.0	197.5	8.3	13.1	9.4	7.2	15	95.6	55
1266	12.6	52.3	1337	200.0	197.5	10.9	13.0	12.8	6.6	15	95.6	55
1267	9.3	51.5	1341	200.0	197.5	9.4	12.8	9.5	6.9	15	95.6	55
1268	9.7	51.4	1342	200.0	197.5	8.4	12.8	9.9	7.0	15	95.6	55
1269	10.2	52.1	1350	200.0	197.5	9.5	13.0	10.4	6.7	15	95.6	55
1270	9.7	52.1	1339	200.0	197.5	9.6	12.8	9.9	7.8	15	95.6	55
1271	12.3	51.8	1286	200.0	197.5	9.0	12.8	12.6	8.1	15	95.5	55
1272	9.3	51.5	1248	200.0	197.5	7.9	12.8	9.5	8.6	15	95.5	55
1273	7.9	51.9	1197	200.0	197.5	7.8	12.8	7.4	6.6	15	95.5	55
1274	8.1	52.0	1230	200.0	197.5	9.5	13.1	8.1	7.5	15	95.5	55
1275	10.4	53.0	1268	200.0	197.5	11.8	13.0	10.6	8.6	15	95.5	55
1276	11.4	52.3	1326	200.0	197.5	10.2	12.8	11.6	8.1	15	95.6	55
1277	10.4	51.7	1343	200.0	197.5	9.1	12.8	10.6	8.6	15	95.6	55
1278	8.4	51.6	1337	200.0	197.5	8.1	12.7	8.6	7.3	15	95.6	55
1279	9.5	51.2	1350	200.0	197.5	7.7	12.9	9.7	7.3	15	95.6	55
1280			1339	200.0	197.5	6.7	12.7	7.3	8.0	15	95.6	55
1281	9.1	51.8	1357	200.0	197.5	7.7	13.0	9.2	8.1	15	95.6	55
1282	9.9	51.9	1335	200.0	197.5	9.4	12.9	10.1	7.4	15	95.6	55
1283	9.9	51.7	1341	200.0	197.5	7.5	12.8	10.1	7.4	15	95.6	55
1284	9.2	51.3	1343	200.0	197.5	6.6	12.7	9.4	8.1	15	95.6	55
1285	9.1	51.5	1326	200.0	197.5	7.4	13.0	9.3	7.3	15	95.6	55
1286	8.0	52.6	1220	200.0	197.5	9.4	13.0	9.9	7.6	15	95.6	55
1287	8.0	51.6	1205	200.0	197.5	9.8	12.9	10.0	9.6	15	95.6	55
1288	7.9	51.5	1172	200.0	197.5	9.6	12.8	8.2	9.2	15	95.6	55
1289	7.9	51.8	1166	200.0	197.5	7.1	12.6	6.3	7.4	15	95.5	55
1290	7.8	51.5	1153	200.0	197.5	5.3	12.5	8.0	7.2	15	95.5	55
1291	9.7	51.8	1258	200.0	197.5	8.0	13.2	9.8	7.9	15	95.5	55
1292	7.9	51.9	1193	200.0	197.5	10.0	13.1	9.9	9.4	15	95.5	55
1293	8.8	51.7	1247	200.0	197.5	10.7	12.9	8.9	9.1	15	95.5	55
1294	10.5	51.3	1319	200.0	197.5	10.5	12.9	10.7	8.6	15	95.5	55
1295	10.8	51.4	1341	200.0	197.5	10.5	12.8	11.0	7.8	15	95.5	55
1296	10.9	52.8	1342	200.0	197.5	10.5	12.8	11.1	8.4	15	95.5	55
1297	10.2	52.9	1256	200.0	197.5	11.6	12.9	10.4	6.9	15	95.5	55
1298	11.5	52.7	1253	200.0	197.5	12.7	12.9	11.7	6.6	15	95.5	55
1299			1326	200.0	197.5	10.3	12.7	8.2	8.4	15	95.5	55
1300	11.4	51.9	1349	200.0	197.5	9.9	12.8	11.6	9.7	15	95.5	55
1301	8.8	52.0	1339	200.0	197.5	9.1	12.8	8.9	9.0	15	95.5	55
1302	9.5	52.2	1356	200.0	197.5	9.3	13.0	9.7	8.7	15	95.5	55
1303	12.0	53.1	1338	200.0	197.5	12.9	13.0	12.2	8.9	15	95.5	55
1304	9.5	53.2	1345	200.0	197.5	10.9	12.8	9.7	8.6	15	95.5	55
1305	10.8	53.5	1341	200.0	197.5	10.7	12.8	11.0	8.1	15	95.5	55
1306	9.3	52.9	1344	200.0	197.5	11.4	12.9	9.5	6.9	15	95.6	55
1307	9.2	53.3	1343	200.0	197.5	8.9	12.7	9.4	6.2	15	95.6	55
1308	8.7	53.1	1348	200.0	197.5	8.5	12.8	8.8	6.8	15	95.6	55
1309	10.4	52.7	1346	200.0	197.5	10.5	13.0	10.6	5.6	15	95.6	55
1310	10.9	52.8	1343	200.0	197.5	10.7	12.9	11.1	6.2	15	95.6	55
1311	10.4	53.0	1340	200.0	197.5	10.7	12.9	10.6	6.9	15	95.6	55
1312	9.7	52.6	1336	200.0	197.5	8.1	12.7	9.9	7.1	15	95.6	55
1313			1358	200.0	197.5	7.1	12.8	8.2	6.5	15	95.6	55
1314	11.0	52.5	1349	200.0	197.5	10.7	13.0	11.2	6.0	15	95.6	55
1315	9.7	53.0	1333	200.0	197.5	9.6	12.8	9.9	7.7	15	95.6	55
1316	10.7	52.4	1350	200.0	197.5	9.8	12.9	10.9	8.0	15	95.6	55
1317	10.3	52.6	1344	200.0	197.5	7.2	12.8	10.5	9.1	15	95.6	55
1318			1339	200.0	197.5	5.3	12.6	7.6	8.0	15	95.6	55
1319			1357	200.0	197.5	7.5	13.0	8.3	6.1	15	95.6	55
1320			1337	200.0	197.5	7.2	12.8	8.4	6.2	15	95.6	55

***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			1258	200.0	197.5	8.6	13.0	7.7	6.0	15	95.6	55
1322	8.2	52.5	1236	200.0	197.5	9.4	12.9	9.7	8.2	15	95.6	55
1323	7.9	52.8	1195	200.0	197.5	12.0	13.0	11.9	8.1	15	95.6	55
1324	7.9	53.6	1173	200.0	197.5	12.0	12.9	11.7	9.4	15	95.6	55
1325	7.9	53.3	1180	200.0	197.5	9.9	12.7	11.7	8.0	15	95.6	55
1326	8.0	52.7	1220	200.0	197.5	8.9	12.8	9.2	6.7	15	95.6	55
1327	7.9	53.3	1187	200.0	197.5	9.2	12.8	10.7	6.8	15	95.6	55
1328	8.0	52.3	1205	200.0	197.5	8.7	12.8	8.6	6.7	15	95.6	55
1329	8.2	52.4	1245	200.0	197.5	9.8	13.0	10.3	7.8	15	95.6	55
1330	8.0	52.9	1213	200.0	197.5	9.7	12.8	9.9	6.4	15	95.6	55
1331	8.0	52.6	1201	200.0	197.5	9.3	12.8	11.4	9.0	15	95.6	55
1332	8.0	53.1	1219	200.0	197.5	9.6	12.9	10.2	8.9	15	95.6	55
1333	8.1	53.2	1233	200.0	197.5	8.9	12.8	10.4	8.0	15	95.6	55
1334	11.0	53.9	1254	200.0	197.5	9.7	13.0	11.2	7.2	15	95.6	55
1335	8.0	53.5	1200	200.0	197.5	10.1	12.8	10.9	6.6	15	95.6	55
1336	9.6	53.5	1257	200.0	197.5	8.4	12.7	9.8	6.0	15	95.6	55
1337	10.4	53.1	1339	200.0	197.5	9.9	13.0	10.6	7.4	15	95.6	55
1338	9.8	52.6	1335	200.0	197.5	9.4	12.8	10.0	7.6	15	95.6	55
1339	9.5	52.6	1346	200.0	197.5	9.2	12.9	9.6	7.6	15	95.6	55
1340	11.6	52.8	1348	200.0	197.5	10.4	13.0	11.9	7.2	15	95.6	55
1341	12.2	53.3	1339	200.0	197.5	11.6	12.9	12.4	6.9	15	95.6	55
1342	10.9	52.8	1344	200.0	197.5	9.4	12.8	11.2	9.8	15	95.6	54
1343	9.6	52.8	1345	200.0	197.5	9.7	12.9	9.7	9.0	15	95.6	54
1344	9.7	52.6	1340	200.0	197.5	9.7	12.8	9.9	10.2	15	95.6	54
1345	10.4	53.2	1345	200.0	197.5	9.9	12.9	10.6	10.8	15	95.6	54
1346	10.1	53.8	1346	200.0	197.5	10.4	12.9	10.3	10.2	15	95.6	54
1347	11.9	53.4	1342	200.0	197.5	11.2	12.9	12.2	8.3	15	95.6	54
1348	11.9	54.3	1341	200.0	197.5	11.2	12.9	12.2	6.9	15	95.6	54
1349	8.7	53.3	1340	200.0	197.5	8.0	12.6	8.9	6.1	15	95.6	54
1350			1338	200.0	197.5	5.9	12.6	7.6	6.3	15	95.6	54
1351			1366	200.0	197.5	6.9	12.9	8.0	6.7	15	95.6	54
1352	8.3	52.9	1355	200.0	197.5	10.0	13.1	8.5	8.0	15	95.6	54
1353	11.1	52.9	1333	200.0	197.5	11.2	12.9	11.3	7.7	15	95.6	54
1354	9.8	52.6	1340	200.0	197.5	9.2	12.8	9.9	8.8	15	95.6	54
1355	8.8	52.5	1345	200.0	197.5	8.3	12.8	9.0	7.9	15	95.6	54
1356	10.9	52.9	1341	200.0	197.5	8.4	12.8	11.1	6.9	15	95.6	54
1357	9.5	52.5	1346	200.0	197.5	6.8	12.7	9.6	7.2	15	95.6	54
1358	9.7	53.2	1349	200.0	197.5	10.0	13.1	9.9	9.6	15	95.6	54
1359	11.2	53.0	1341	200.0	197.5	9.6	12.9	11.4	8.5	15	95.6	54
1360	10.0	53.5	1347	200.0	197.5	10.7	13.0	10.2	8.8	15	95.6	54
1361	10.5	53.7	1339	200.0	197.5	12.1	12.9	10.7	8.0	15	95.6	54
1362	10.9	53.5	1335	200.0	197.5	10.9	12.7	11.1	6.8	15	95.6	54
1363			1347	200.0	197.5	7.7	12.7	8.3	6.5	15	95.6	54
1364	8.7	52.6	1340	200.0	197.5	6.6	12.6	8.8	6.9	15	95.6	54
1365			1346	200.0	197.5	4.8	12.6	8.2	8.0	15	95.6	54
1366	9.6	52.6	1372	200.0	197.5	8.9	13.2	9.8	7.2	15	95.6	54
1367	12.0	53.3	1336	200.0	197.5	10.2	13.0	12.3	5.9	15	95.6	54
1368	11.4	52.6	1343	200.0	197.5	9.0	12.9	11.6	6.0	15	95.6	54
1369	10.2	52.5	1341	200.0	197.5	9.6	12.9	10.4	5.9	15	95.6	54
1370	10.5	53.2	1347	200.0	197.5	9.7	12.9	10.7	6.7	15	95.6	54
1371	12.0	52.3	1344	200.0	197.5	10.9	12.9	12.2	8.2	15	95.6	54
1372	12.0	53.2	1341	200.0	197.5	11.6	12.9	12.2	7.6	15	95.6	54
1373	12.1	53.1	1343	200.0	197.5	11.4	12.9	12.3	7.1	15	95.6	54
1374	9.3	53.0	1341	200.0	197.5	9.0	12.7	9.4	6.5	15	95.6	54
1375	10.7	53.1	1344	200.0	197.5	9.4	12.8	10.9	6.2	15	95.6	54
1376	10.0	52.8	1349	200.0	197.5	9.4	12.9	10.1	8.4	15	95.6	54
1377	12.1	52.9	1342	200.0	197.5	10.0	12.9	12.3	8.5	15	95.6	54
1378	11.8	53.0	1344	200.0	197.5	10.3	12.9	12.1	7.7	15	95.6	54
1379	9.9	52.5	1337	200.0	197.5	8.5	12.7	10.1	7.9	15	95.6	54
1380			1346	200.0	197.5	7.1	12.7	8.0	7.0	15	95.6	54
1381	9.4	52.0	1328	200.0	197.5	5.2	12.5	9.6	6.7	15	95.6	54
1382	8.5	52.4	1351	200.0	197.5	3.9	12.6	8.7	6.0	15	95.6	54
1383	8.9	53.0	1365	200.0	197.5	4.8	13.0	9.0	5.9	15	95.6	54
1384	10.3	53.1	1355	200.0	197.5	6.9	13.1	10.5	6.6	15	95.6	54
1385	10.7	52.6	1339	200.0	197.5	7.1	13.0	10.9	7.6	15	95.6	54
1386	10.5	52.8	1347	200.0	197.5	9.4	13.1	10.7	8.7	15	95.6	54
1387	11.5	52.5	1336	200.0	197.5	10.0	12.9	11.7	8.5	15	95.6	54
1388	9.0	52.1	1330	200.0	197.5	8.0	12.6	9.2	8.8	15	95.6	54
1389	9.2	51.8	1347	200.0	197.5	5.1	12.6	9.4	6.6	15	95.6	54
1390	9.5	52.7	1355	200.0	197.5	8.0	13.0	9.7	6.3	15	95.6	54
1391	8.9	52.4	1321	200.0	197.5	5.2	12.5	9.0	7.7	15	95.6	54
1392	8.4	52.8	1345	200.0	197.5	2.7	12.5	8.6	6.3	15	95.6	54
1393	8.9	53.6	1378	200.0	197.5	7.9	13.3	9.1	6.6	15	95.6	54
1394	10.1	53.0	1347	200.0	197.5	11.5	13.2	10.3	8.8	15	95.6	54
1395	12.5	53.1	1333	200.0	197.5	12.6	13.0	12.8	8.8	15	95.6	54
1396	11.9	52.7	1338	200.0	197.5	9.8	12.7	12.1	6.6	15	95.6	54
1397	9.4	52.7	1339	200.0	197.5	7.7	12.7	9.5	7.4	15	95.6	53
1398	8.9	52.6	1341	200.0	197.5	5.9	12.6	9.0	7.5	15	95.6	53
1399	9.8	52.3	1363	200.0	197.5	6.2	12.9	10.0	8.8	15	95.6	53
1400	10.1	52.7	1354	200.0	197.5	8.9	13.1	10.3	7.7	15	95.6	53
1401	11.8	53.2	1340	200.0	197.5	10.3	13.0	12.1	8.1	15	95.6	53
1402	10.2	52.9	1337	200.0	197.5	8.6	12.7	10.4	6.4	15	95.6	54
1403	10.1	52.8	1347	200.0	197.5	9.0	12.9	10.3	7.4	15	95.6	54
1404	8.9	52.2	1340	200.0	197.5	8.3	12.8	9.0	6.0	15	95.6	54
1405	8.9	51.6	1337	200.0	197.5	6.2	12.6	9.0	6.9	15	95.6	54
1406	9.2	51.5	1363	200.0	197.5	7.7	13.0	9.4	6.7	15	95.6	54
1407	10.2	51.8	1340	200.0	197.5	9.8	13.0	10.4	6.9	15	95.6	54
1408			1337	200.0	197.5	7.2	12.7	7.7	6.3	15	95.6	54

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
1409	9.4	51.6	1331	200.0	197.5	4.6	12.5	9.6	6.7	15	95.6	54
1410	8.7	51.7	1370	200.0	197.5	5.6	13.0	8.8	7.1	15	95.6	54
1411	9.7	52.3	1356	200.0	197.5	10.0	13.2	9.8	7.6	15	95.6	54
1412	9.2	52.0	1326	200.0	197.5	7.8	12.7	9.4	8.2	15	95.6	54
1413			1345	200.0	197.5	5.9	12.7	7.5	8.2	15	95.6	54
1414	8.9	51.4	1362	200.0	197.5	7.0	13.0	9.0	8.4	15	95.6	53
1415	10.0	52.3	1343	200.0	197.5	10.3	13.1	10.2	8.2	15	95.6	53
1416	11.8	51.8	1331	200.0	197.5	8.1	12.7	12.0	7.8	15	95.6	53
1417	9.3	52.1	1351	200.0	197.5	7.5	12.8	9.5	5.6	15	95.6	53
1418	10.2	52.1	1347	200.0	197.5	8.2	12.9	10.4	6.3	15	95.6	53
1419	9.2	52.9	1326	200.0	197.5	7.5	12.7	9.3	5.7	15	95.6	53
1420	8.9	52.7	1346	200.0	197.5	6.7	12.8	9.1	5.9	15	95.6	53
1421	8.8	51.8	1341	200.0	197.5	7.1	12.8	9.0	7.0	15	95.6	53
1422	9.0	51.2	1351	200.0	197.5	8.0	13.0	9.2	5.4	15	95.6	53
1423	10.1	51.6	1347	200.0	197.5	9.4	13.0	10.3	7.1	15	95.6	53
1424	12.0	52.1	1342	200.0	197.5	11.3	13.0	12.2	8.3	15	95.6	53
1425	11.9	52.3	1341	200.0	197.5	11.5	12.9	12.2	7.6	15	95.6	53
1426	9.2	52.4	1340	200.0	197.5	10.5	12.8	9.4	8.3	15	95.6	53
1427	10.9	51.9	1348	200.0	197.5	10.8	12.9	11.1	8.9	15	95.6	53
1428	10.7	51.5	1344	200.0	197.5	10.5	12.9	10.9	9.9	15	95.6	53
1429	10.0	51.7	1341	200.0	197.5	9.3	12.8	10.2	9.4	15	95.6	53
1430	9.4	52.0	1345	200.0	197.5	8.6	12.8	9.6	8.0	15	95.6	53
1431	10.1	52.1	1333	200.0	197.5	6.6	12.6	10.3	7.8	15	95.6	53
1432	9.5	52.1	1351	200.0	197.5	5.3	12.7	9.6	8.2	15	95.6	53
1433	9.2	51.8	1351	200.0	197.5	6.8	12.9	9.3	7.9	15	95.6	53
1434			1314	200.0	197.5	4.3	12.4	8.3	7.3	15	95.6	53
1435			1313	200.0	197.5	0.3	12.2	7.9	7.8	15	95.6	53
1436	9.5	54.8	1386	200.0	197.5	6.7	13.5	9.7	7.3	15	95.6	53
1437	9.4	52.0	1324	200.0	197.5	8.3	13.0	9.6	8.2	15	95.6	53
1438	8.9	52.1	1319	200.0	197.5	6.5	12.7	9.1	7.7	15	95.6	53
1439	8.5	51.7	1331	200.0	197.5	3.1	12.4	8.6	6.8	15	95.6	53
1440	8.9	52.1	1365	200.0	197.5	4.0	12.8	9.1	7.1	15	95.6	53
1441	9.1	52.1	1357	200.0	197.5	5.8	13.1	9.3	6.1	15	95.6	53
1442	8.8	52.3	1352	200.0	197.5	6.8	13.1	8.9	6.0	15	95.6	53
1443			1320	200.0	197.5	6.1	12.7	7.7	7.1	15	95.6	53
1444			1330	200.0	197.5	2.9	12.4	7.0	7.6	16	95.6	53
1445	11.2	52.2	1367	200.0	197.5	7.2	13.2	11.4	8.1	16	95.6	53
1446	8.4	52.5	1333	200.0	197.5	8.0	12.9	8.5	8.3	16	95.6	53
1447			1323	200.0	197.5	5.8	12.6	8.1	10.1	16	95.6	53
1448	8.3	51.6	1350	200.0	197.5	5.0	12.7	8.4	7.5	16	95.6	53
1449			1352	200.0	197.5	5.8	12.9	8.0	8.2	16	95.6	53
1450	8.4	51.7	1343	200.0	197.5	5.7	12.8	8.6	8.6	16	95.6	53
1451			1331	200.0	197.5	4.8	12.7	8.1	7.5	16	95.6	53
1452			1351	200.0	197.5	3.9	12.8	8.0	9.6	16	95.6	53
1453	9.7	51.6	1365	200.0	197.5	6.8	13.2	9.9	7.7	16	95.6	53
1454	9.4	51.9	1320	200.0	197.5	6.3	12.7	9.6	8.6	16	95.6	53
1455	10.9	51.8	1345	200.0	197.5	10.9	13.2	11.1	7.0	16	95.6	53
1456	12.7	52.5	1337	200.0	197.5	12.6	13.0	13.0	6.3	16	95.6	53
1457	11.9	52.9	1337	200.0	197.5	10.5	12.8	12.1	7.8	16	95.6	53
1458	10.6	53.1	1357	200.0	197.5	11.3	13.0	10.8	7.5	16	95.6	53
1459	13.1	53.8	1334	200.0	197.5	12.0	12.8	13.3	11.5	16	95.6	53
1460	11.2	53.7	1342	200.0	197.5	10.4	12.8	11.4	10.2	16	95.6	53
1461	9.7	52.8	1343	200.0	197.5	9.0	12.8	9.8	7.7	16	95.6	53
1462	9.0	55.7	1346	200.0	197.5	7.8	12.8	9.2	9.1	16	95.6	52
1463	10.8	55.1	1351	200.0	197.5	9.0	12.9	11.0	8.2	16	95.6	52
1464	8.5	53.3	1327	200.0	197.5	7.4	12.6	8.7	10.0	16	95.6	52
1465			1357	200.0	197.5	8.5	13.0	7.6	8.3	16	95.6	52
1466	10.1	52.3	1332	200.0	197.5	8.6	12.7	10.2	7.8	16	95.6	52
1467			1325	200.0	197.5	5.0	12.4	7.8	6.1	16	95.6	52
1468	9.3	52.8	1352	200.0	197.5	3.6	12.6	9.5	7.2	16	95.6	52
1469	8.4	53.3	1360	200.0	197.5	4.7	12.9	8.6	8.2	16	95.6	52
1470	9.5	52.2	1352	200.0	197.5	5.2	12.9	9.7	8.7	16	95.6	52
1471	10.7	52.4	1361	200.0	197.5	11.0	13.4	10.9	9.3	16	95.6	52
1472	12.3	52.2	1335	200.0	197.5	11.7	12.9	12.6	11.1	16	95.6	52
1473	9.2	52.7	1333	200.0	197.5	8.5	12.7	9.4	9.9	16	95.6	52
1474			1351	200.0	197.5	6.4	12.7	7.5	9.2	16	95.6	52
1475			1351	200.0	197.5	9.6	13.0	9.5	8.0	16	95.6	52
1476			1346	200.0	197.5	9.6	12.9	10.0	7.0	16	95.6	52
1477			1336	200.0	197.5	11.5	12.9	11.5	5.7	16	95.6	52
1478	11.2	53.2	1343	200.0	197.5	9.6	12.8	11.4	6.2	16	95.6	52
1479	9.5	52.6	1342	200.0	197.5	8.7	12.8	9.7	7.5	16	95.6	52
1480	9.7	52.5	1347	200.0	197.5	8.2	12.8	9.9	8.5	16	95.6	52
1481	10.9	52.9	1351	200.0	197.5	10.4	13.0	11.1	7.9	16	95.6	52
1482	12.1	52.7	1342	200.0	197.5	12.2	13.0	12.4	9.6	16	95.6	52
1483	11.4	52.7	1341	200.0	197.5	11.2	12.8	11.6	9.8	16	95.6	52
1484	11.1	52.2	1340	200.0	197.5	9.6	12.7	11.3	9.1	16	95.6	52
1485	10.1	52.2	1345	200.0	197.5	8.4	12.8	10.3	9.0	16	95.6	52
1486	8.3	53.4	1347	200.0	197.5	8.5	12.8	8.5	7.8	16	95.6	52
1487	10.5	53.1	1339	200.0	197.5	7.8	12.8	10.7	8.0	16	95.6	52
1488	9.1	52.2	1352	200.0	197.5	7.7	12.9	9.3	8.2	16	95.6	52
1489	11.8	52.4	1349	200.0	197.5	9.6	13.0	12.0	7.1	16	95.6	52
1490	11.0	52.8	1332	200.0	197.5	9.7	12.8	11.2	6.8	16	95.6	52
1491	8.9	51.9	1349	200.0	197.5	9.3	12.9	9.1	5.8	16	95.6	52
1492	10.5	52.8	1345	200.0	197.5	10.5	12.9	10.7	6.5	16	95.6	52
1493	12.7	53.6	1347	200.0	197.5	12.4	13.0	13.0	8.0	16	95.6	52
1494	12.2	53.0	1333	200.0	197.5	11.5	12.8	12.4	8.9	16	95.6	52
1495	9.7	52.2	1352	200.0	197.5	9.8	12.8	9.9	7.9	16	95.6	52
1496	10.7	52.8	1337	200.0	197.5	11.4	12.8	10.9	7.7	16	95.6	52

***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 (%)
1497	10.7	52.4	1350	200.0	197.5	11.4	12.9	10.9	8.2	16	95.6	52
1498	10.9	52.1	1343	200.0	197.5	10.0	12.8	11.1	8.2	16	95.6	52
1499	8.8	51.6	1341	200.0	197.5	9.8	12.8	9.0	7.1	16	95.6	52
1500	10.2	52.3	1347	200.0	197.5	9.4	12.9	10.4	7.1	16	95.6	52
1501	9.7	52.5	1339	200.0	197.5	8.5	12.8	9.9	8.0	16	95.6	52
1502	9.2	51.7	1339	200.0	197.5	7.7	12.7	9.4	7.4	16	95.6	52
1503	9.7	51.0	1362	200.0	197.5	8.0	13.0	9.9	7.8	16	95.6	52
1504	10.4	52.1	1338	200.0	197.5	10.9	13.0	10.6	9.4	16	95.6	52
1505	11.6	52.4	1343	200.0	197.5	12.4	13.0	11.8	10.9	16	95.6	52
1506	13.1	53.3	1340	200.0	197.5	13.3	12.9	13.3	10.6	16	95.6	52
1507	11.2	52.4	1337	200.0	197.5	12.0	12.7	11.4	9.4	16	95.6	52
1508			1339	200.0	197.5	8.1	12.6	9.8	8.9	16	95.6	52
1509	9.2	54.0	1366	200.0	197.5	9.3	13.0	9.4	9.7	16	95.6	52
1510	11.2	53.4	1331	200.0	197.5	10.9	12.8	11.4	8.8	16	95.6	52
1511	9.4	54.0	1331	200.0	197.5	5.5	12.4	9.6	7.8	16	95.6	52
1512	8.9	53.9	1360	200.0	197.5	4.6	12.7	9.1	6.3	16	95.6	52
1513			1339	200.0	197.5	4.8	12.7	8.0	5.8	16	95.6	52
1514	9.4	53.2	1373	200.0	197.5	7.0	13.2	9.6	6.9	16	95.6	52
1515	10.9	52.3	1328	200.0	197.5	9.9	13.0	11.1	8.6	16	95.6	52
1516	9.7	52.0	1339	200.0	197.5	7.5	12.8	9.9	9.7	16	95.6	52
1517	9.1	51.5	1346	200.0	197.5	8.8	12.9	9.3	7.9	16	95.6	52
1518	9.4	51.4	1331	200.0	197.5	7.2	12.6	9.6	7.1	16	95.6	52
1519	8.5	51.4	1347	200.0	197.5	6.5	12.8	8.6	6.6	16	95.6	52
1520			1340	200.0	197.5	5.7	12.7	8.1	7.3	16	95.6	52
1521	9.9	52.3	1362	200.0	197.5	7.4	13.1	10.1	6.5	16	95.6	52
1522	9.6	52.2	1323	200.0	197.5	7.4	12.7	9.8	6.3	16	95.6	52
1523	10.2	51.2	1349	200.0	197.5	6.2	12.8	10.4	5.4	16	95.6	52
1524	8.7	51.3	1336	200.0	197.5	5.8	12.7	8.9	5.1	16	95.6	52
1525			1333	200.0	197.5	4.4	12.6	8.1	5.6	16	95.6	52
1526			1329	200.0	197.5	1.9	12.3	8.3	5.9	16	95.6	52
1527	8.6	52.3	1381	200.0	197.5	3.2	13.0	8.7	6.0	16	95.6	52
1528			1345	200.0	197.5	5.9	13.1	8.2	6.9	16	95.6	52
1529			1344	200.0	197.5	5.8	13.0	7.8	6.8	16	95.6	52
1530			1337	200.0	197.5	6.4	12.9	8.3	7.8	16	95.6	52
1531	11.3	52.1	1348	200.0	197.5	10.7	13.2	11.6	7.9	16	95.6	52
1532	11.5	52.3	1338	200.0	197.5	11.4	12.9	11.7	8.9	16	95.6	52
1533	11.9	52.2	1342	200.0	197.5	12.4	12.9	12.1	10.4	16	95.6	52
1534	10.4	51.9	1336	200.0	197.5	10.4	12.7	10.6	9.8	16	95.6	52
1535	9.9	51.5	1348	200.0	197.5	9.3	12.8	10.1	7.8	16	95.6	52
1536	8.7	52.2	1345	200.0	197.5	9.5	12.8	8.9	6.1	16	95.6	52
1537	10.3	52.7	1347	200.0	197.5	9.8	12.9	10.5	8.4	16	95.6	52
1538	11.2	53.0	1346	200.0	197.5	11.8	13.0	11.4	9.1	16	95.6	52
1539	12.1	52.3	1339	200.0	197.5	11.9	12.9	12.4	7.1	16	95.6	52
1540	11.3	52.2	1343	200.0	197.5	10.3	12.8	11.5	7.8	16	95.6	52
1541	10.1	52.0	1337	200.0	197.5	7.8	12.6	10.3	7.2	16	95.6	52
1542	9.4	51.7	1345	200.0	197.5	6.3	12.7	9.6	9.4	16	95.6	52
1543	9.3	51.6	1338	200.0	197.5	4.8	12.6	9.5	8.1	16	95.6	52
1544			1333	200.0	197.5	3.0	12.5	7.7	7.8	16	95.6	52
1545			1324	200.0	197.5	0.3	12.3	7.0	7.3	16	95.6	52
1546			1391	200.0	197.5	2.0	13.2	9.1	6.4	16	95.6	52
1547	9.4	54.1	1357	200.0	197.5	6.4	13.4	9.6	7.4	16	95.6	52
1548			1333	200.0	197.5	5.9	13.1	8.0	7.3	16	95.6	52
1549	8.8	53.1	1344	200.0	197.5	7.4	13.2	8.9	6.8	16	95.6	52
1550	9.3	52.9	1336	200.0	197.5	9.2	13.0	9.5	6.8	16	95.6	52
1551	10.9	52.3	1326	200.0	197.5	9.0	12.8	11.1	6.5	16	95.6	52
1552	8.6	51.3	1339	200.0	197.5	6.0	12.6	8.8	6.6	16	95.6	52
1553	8.7	51.3	1373	200.0	197.5	8.9	13.1	8.8	6.4	16	95.6	52
1554	10.0	52.6	1332	200.0	197.5	10.5	12.9	10.2	6.1	16	95.6	52
1555	11.4	51.6	1339	200.0	198.6	8.6	12.7	11.6	7.7	16	95.6	52
1556	9.0	51.5	1342	200.0	198.2	8.5	12.8	9.2	6.5	16	95.6	52
1557	9.6	51.7	1350	200.0	202.6	7.8	12.8	9.8	7.0	16	95.6	52
1558	11.7	51.8	1336	200.0	203.4	10.8	12.9	11.9	9.8	16	95.6	52
1559	9.8	51.2	1332	200.0	203.4	8.2	12.7	10.0	8.0	16	95.6	52
1560			1317	200.0	203.4	3.2	12.1	7.7	7.0	16	95.6	52
1561	8.0	53.1	1217	200.0	203.4	0.1	12.2	6.4	6.7	16	95.6	52
1562			1392	200.0	203.4	4.7	13.5	8.6	6.2	16	95.6	52
1563			1319	200.0	203.4	6.9	13.1	7.3	6.4	16	95.6	52
1564			1337	200.0	203.4	11.9	13.4	9.9	8.6	16	95.6	52
1565			1330	200.0	203.4	11.7	12.9	12.5	9.0	16	95.6	52
1566			1343	200.0	203.4	10.4	12.8	10.1	10.1	16	95.6	52
1567			1345	200.0	203.4	11.3	12.9	11.6	9.2	16	95.6	52
1568			1341	200.0	203.4	13.7	13.0	13.3	8.0	16	95.6	52
1569			1338	200.0	203.4	10.4	12.7	13.1	7.6	16	95.6	52
1570			1351	200.0	203.4	10.8	12.9	12.1	8.7	16	95.6	52
1571			1331	200.0	203.4	8.2	12.6	11.9	7.8	16	95.6	52
1572			1343	200.0	203.4	5.5	12.5	8.8	6.6	16	95.6	52
1573			1344	200.0	203.4	4.2	12.6	7.9	6.4	16	95.6	52
1574			1253	200.0	203.4	8.7	13.1	9.2	6.9	16	95.6	52
1575			1249	200.0	203.4	12.1	13.3	10.7	7.6	16	95.6	52
1576			1224	200.0	203.4	11.7	13.1	11.9	8.0	16	95.6	52
1577			1286	200.0	203.4	9.5	12.8	9.0	7.6	16	95.6	52
1578			1353	200.0	203.4	10.2	13.0	7.4	8.4	16	95.6	52
1579			1222	200.0	203.4	14.4	13.2	14.5	8.8	16	95.6	52
1580			1314	200.0	203.4	13.0	12.9	13.7	8.2	16	95.6	52
1581			1352	200.0	203.4	14.3	13.0	13.1	9.2	16	95.6	52
1582			1330	200.0	203.4	14.5	12.8	15.2	11.6	16	95.6	52
1583			1339	200.0	203.4	11.5	12.7	12.1	10.2	16	95.6	52
1584			1338	200.0	203.4	8.1	12.6	9.7	8.4	16	95.6	52

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
1585			1342	200.0	203.4	4.9	12.4	9.5	9.2	16	95.6	52
1586			1378	200.0	203.4	9.1	13.2	11.3	8.1	16	95.6	52
1587			1335	200.0	203.4	12.5	13.0	13.0	9.3	16	95.6	52
1588			1346	200.0	203.4	9.3	12.8	10.3	7.3	16	95.6	52
1589			1334	200.0	203.4	9.3	12.8	11.3	8.0	16	95.6	52
1590			1353	200.0	203.4	7.4	12.8	10.9	5.6	16	95.6	52
1591			1338	200.0	203.4	8.9	12.8	10.1	8.2	16	95.6	52
1592			1341	200.0	203.4	7.2	12.7	9.4	9.5	16	95.6	52
1593			1347	200.0	203.4	7.6	12.9	8.9	7.8	16	95.6	52
1594			1342	200.0	203.4	6.5	12.8	8.7	7.2	16	95.6	52
1595			1341	200.0	203.4	8.4	12.9	8.2	7.7	16	95.6	52
1596			1341	200.0	203.4	7.3	12.8	9.9	6.3	16	95.6	52
1597			1356	200.0	203.4	10.5	13.1	11.6	6.0	16	95.6	52
1598			1329	200.0	203.4	10.1	12.8	11.3	5.7	16	95.6	52
1599			1346	200.0	203.4	9.2	12.8	9.4	6.8	16	95.6	52
1600			1342	200.0	203.4	8.0	12.8	9.3	7.2	16	95.6	52
1601			1357	200.0	203.4	10.4	13.1	10.9	6.7	16	95.6	52
1602			1341	200.0	203.4	12.8	13.0	11.4	6.2	16	95.6	52
1603			1342	200.0	203.4	15.3	13.0	12.8	7.5	16	95.6	52
1604			1328	200.0	203.4	12.0	12.6	10.8	8.7	16	95.6	52
1605			1354	200.0	203.4	10.0	12.8	9.9	7.7	16	95.6	52
1606			1341	200.0	203.4	9.2	12.7	9.3	6.3	16	95.6	52
1607			1351	200.0	203.4	8.3	12.8	8.6	8.3	16	95.6	52
1608			1347	200.0	203.4	10.1	13.0	11.3	6.7	16	95.6	52
1609			1341	200.0	203.4	11.1	12.9	11.5	7.5	16	95.6	52
1610			1336	200.0	203.4	9.7	12.8	11.3	7.4	16	95.6	52
1611			1354	200.0	203.4	8.2	12.8	10.3	6.9	16	95.6	52
1612			1342	200.0	203.4	11.4	13.0	11.3	8.1	16	95.6	52
1613			1333	200.0	203.4	10.5	12.7	11.6	7.2	16	95.6	52
1614			1339	200.0	203.4	6.1	12.5	9.2	6.1	16	95.6	52
1615			1346	200.0	203.4	5.6	12.7	7.3	6.0	16	95.6	52
1616			1351	200.0	203.4	4.9	12.7	7.5	8.9	16	95.6	52
1617			1353	200.0	203.4	6.4	13.0	8.6	7.0	16	95.6	52
1618			1352	200.0	203.4	7.3	13.1	9.4	7.5	16	95.6	52
1619			1340	200.0	203.4	9.9	13.0	9.3	8.5	16	95.6	52
1620			1343	200.0	203.4	11.1	13.0	9.9	6.2	16	95.6	52
1621			1339	200.0	203.4	10.8	12.9	10.1	7.3	16	95.6	52
1622			1341	200.0	203.4	11.8	12.9	11.8	7.9	16	95.6	52
1623			1341	200.0	203.4	10.8	12.8	11.7	7.4	16	95.6	52
1624			1351	200.0	203.4	10.6	12.9	11.8	7.8	16	95.6	52
1625			1342	200.0	203.4	10.7	12.8	11.1	8.8	16	95.6	52
1626			1337	200.0	203.4	11.6	12.9	12.0	8.1	16	95.6	52
1627			1325	200.0	203.4	5.7	12.3	8.2	6.9	16	95.6	52
1628			1370	200.0	203.4	6.3	12.9	8.8	7.3	16	95.6	52
1629			1357	200.0	203.4	9.7	13.1	9.3	7.9	16	95.6	52
1630			1342	200.0	203.4	16.1	13.3	14.0	7.3	16	95.6	52
1631			1329	200.0	205.6	15.5	12.8	13.4	8.7	16	95.6	52
1632			1337	200.0	206.3	12.9	12.7	11.5	12.3	16	95.6	52
1633			1350	200.0	206.3	8.8	12.6	10.3	10.1	16	95.6	52
1634			1336	200.0	206.3	8.6	12.7	10.0	9.7	16	95.6	52
1635			1336	200.0	206.3	4.8	12.4	8.5	7.9	16	95.6	52
1636			1368	200.0	206.3	13.8	13.4	11.6	7.9	16	95.6	51
1637			1328	200.0	206.3	14.0	12.8	12.1	7.0	16	95.6	51
1638			1351	200.0	206.3	15.1	13.0	12.9	9.5	16	95.6	51
1639			1325	200.0	206.3	11.4	12.5	13.1	8.2	16	95.6	51
1640			1353	200.0	206.3	7.3	12.6	8.2	7.7	16	95.6	51
1641			1346	200.0	206.3	9.5	12.9	10.9	9.4	16	95.6	51
1642			1352	200.0	206.3	10.6	13.0	10.6	6.6	16	95.6	51
1643			1338	200.0	206.3	11.0	12.9	9.2	6.7	16	95.6	51
1644			1342	200.0	206.3	13.5	13.0	14.6	9.2	16	95.6	51
1645			1337	200.0	206.3	11.8	12.7	13.2	7.5	16	95.6	51
1646			1337	200.0	206.3	5.9	12.4	11.1	6.7	16	95.6	51
1647			1324	200.0	206.3	4.0	12.3	8.9	7.1	16	95.6	51
1648			1229	200.0	206.3	0.8	11.8	7.4	7.1	16	95.6	51
1649			519	218.0	232.6	0.3	11.3	5.6	4.9	16	96.6	-
1650			501	218.0	232.6	0.2	11.3	5.7	4.3	16	96.6	-
1651			478	218.0	232.6	0.3	11.0	5.8	5.1	16	96.6	-
1652			432	218.0	232.6	0.3	10.6	5.5	5.3	16	96.6	-
1653			462	218.0	232.6	0.0	10.6	5.7	4.5	16	96.6	-
1654			521	218.0	232.6	-0.3	10.7	6.2	4.2	16	96.6	-
1655			697	218.0	232.6	-0.5	11.1	6.5	4.4	16	96.6	-
1656	6.6	53.2	718	218.0	232.6	-0.6	11.3	7.7	4.4	16	96.6	-
1657	6.5	53.0	671	218.0	232.6	-0.5	11.6	5.7	3.4	16	96.6	-
1658	6.3	53.4	622	218.0	232.6	-0.2	12.0	5.7	4.0	16	96.6	-
1659	6.4	51.9	658	218.0	232.6	0.0	12.3	7.0	3.8	16	96.6	-
1660	6.5	51.4	684	218.0	232.6	0.1	12.5	6.7	3.2	16	96.5	-
1661	6.4	51.5	651	218.0	232.6	0.3	12.2	5.6	4.1	16	96.5	-
1662	6.2	51.0	592	218.0	232.6	0.3	11.7	5.5	5.3	16	96.5	-
1663	6.1	50.2	543	218.0	232.6	0.3	11.6	5.9	5.1	16	96.5	-
1664	6.1	50.0	547	218.0	232.6	0.1	11.6	5.3	5.4	16	96.5	-
1665	6.1	50.3	570	218.0	232.6	0.0	11.8	4.8	5.2	16	96.5	-
1666	6.5	51.4	683	218.0	232.6	0.0	12.5	6.7	5.3	16	96.4	-
1667	8.0	52.6	1207	218.0	232.6	-0.3	13.1	8.5	5.1	16	96.4	-
1668	8.8	52.7	1345	218.0	232.6	0.9	13.2	8.9	5.1	16	96.4	-
1669	7.9	52.1	1193	218.0	232.6	0.0	12.7	8.5	4.9	16	96.4	-
1670	7.6	52.2	1081	218.0	232.6	-0.3	12.8	8.6	4.7	16	96.4	-
1671	7.4	53.3	983	218.0	232.6	0.8	13.1	7.6	4.2	16	96.5	-
1672	7.1	53.3	865	218.0	232.6	1.2	12.9	6.7	5.4	17	96.5	

***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 (%)
1673	7.1	51.1	874	218.0	232.6	0.7	12.8	7.3	6.1	17	96.5	-
1674	7.1	51.1	861	218.0	232.6	-0.2	12.7	7.5	6.1	17	96.5	-
1675	7.0	51.8	848	218.0	232.6	-0.2	12.8	7.0	6.8	17	96.5	-
1676	6.8	51.6	768	218.0	232.6	0.1	12.8	6.7	6.6	17	96.5	-
1677	6.5	50.1	691	218.0	232.6	0.4	12.4	6.4	5.6	17	96.4	-
1678	6.3	49.8	630	218.0	232.6	0.3	12.1	5.9	5.2	17	96.4	-
1679	6.2	49.3	579	218.0	232.6	0.4	11.7	6.4	4.8	17	96.4	-
1680	5.8	47.8	482	218.0	232.6	0.8	10.6	4.6	4.9	17	96.4	-
1681	5.3	47.9	344	218.0	232.6	0.4	9.8	4.3	5.1	17	96.4	-
1682	5.2	49.6	336	218.0	232.6	-0.1	10.2	5.5	6.0	17	96.4	-
1683	5.8	50.6	476	218.0	232.6	-0.2	11.4	6.1	6.2	17	96.3	-
1684	6.4	51.5	643	218.0	232.6	-0.1	12.4	6.9	5.9	17	96.3	-
1685	6.6	51.8	711	218.0	232.6	0.2	12.6	6.7	6.5	17	96.3	-
1686	6.5	51.6	695	218.0	232.6	0.4	12.4	5.9	6.6	17	96.3	-
1687			619	218.0	232.6	0.4	12.0	6.0	5.5	17	96.3	-
1688			607	218.0	232.6	0.2	12.0	5.6	5.5	17	96.3	-
1689	7.1	53.4	887	218.0	232.6	-0.1	12.8	7.9	4.3	17	96.3	-
1690	7.6	53.1	1056	218.0	232.6	-0.4	12.9	8.2	4.2	17	96.3	-
1691	7.5	52.5	1020	218.0	232.6	-0.4	12.9	6.9	4.6	17	96.3	-
1692	7.7	52.2	1088	218.0	232.6	-0.4	12.9	7.4	5.7	17	96.3	-
1693	6.8	51.5	783	218.0	232.6	-0.1	12.7	6.2	6.1	17	96.3	-
1694	6.4	50.5	663	218.0	232.6	0.6	12.1	5.2	8.3	17	96.3	-
1695	6.0	49.5	523	218.0	232.6	0.6	11.1	5.5	6.7	17	96.3	-
1696	5.7	47.9	443	218.0	232.6	0.3	10.8	5.9	7.2	17	96.3	-
1697	5.5	47.8	404	218.0	232.6	0.3	10.3	5.2	7.7	17	96.3	-
1698	5.5	47.8	395	218.0	232.6	0.1	10.4	5.4	7.2	17	96.3	-
1699	5.9	48.2	503	218.0	232.6	-0.2	10.6	5.1	6.3	17	96.3	-
1700	5.7	48.5	442	218.0	232.6	-0.1	10.7	5.8	5.6	17	96.2	-
1701	5.6	48.8	435	218.0	232.6	0.1	10.8	6.2	6.0	17	96.2	-
1702	5.7	49.3	462	218.0	232.6	0.1	11.1	6.5	5.8	17	96.2	-
1703	5.9	49.8	495	218.0	232.6	0.3	11.1	5.9	6.0	17	96.2	-
1704	6.2	50.4	584	218.0	232.6	-0.1	11.7	6.7	5.1	17	96.2	-
1705	6.7	51.4	732	218.0	232.6	0.1	12.4	7.1	5.2	17	96.2	-
1706	6.4	51.0	642	218.0	232.6	0.5	12.1	6.8	5.4	17	96.2	-
1707	6.0	49.3	519	218.0	232.6	0.6	11.0	6.2	6.7	17	96.3	-
1708	5.6	49.2	435	218.0	232.6	0.2	10.8	5.4	6.8	17	96.3	-
1709	5.6	48.8	435	218.0	232.6	0.2	10.8	5.5	6.3	17	96.3	-
1710	5.6	48.3	425	218.0	232.6	0.4	10.5	5.2	6.2	17	96.3	-
1711	5.5	47.9	392	218.0	232.6	0.2	10.5	6.3	5.5	17	96.3	-
1712	5.5	48.0	402	218.0	232.6	0.3	10.4	5.3	5.0	17	96.3	-
1713	5.3	47.5	359	218.0	232.6	0.6	9.8	4.6	4.8	17	96.3	-
1714	5.0	47.4	280	218.0	232.6	0.3	9.2	5.0	4.8	17	96.3	-
1715	5.2	48.2	326	218.0	232.6	-0.4	10.4	6.1	4.6	17	96.3	-
1716	6.1	50.1	542	218.0	232.6	-0.2	12.0	7.2	5.2	17	96.3	-
1717	6.4	50.1	644	218.0	232.6	0.3	12.1	6.5	6.2	17	96.3	-
1718	6.2	49.2	581	218.0	232.6	0.3	11.7	5.3	5.5	17	96.3	-
1719	6.2	49.6	574	218.0	232.6	0.1	11.8	7.3	5.5	17	96.3	-
1720	6.4	50.1	643	218.0	232.6	0.0	12.3	7.1	5.1	17	96.3	-
1721	6.5	50.3	684	218.0	232.6	0.2	12.4	6.8	4.8	17	96.3	-
1722	6.9	50.9	816	218.0	232.6	0.0	12.7	7.5	5.0	17	96.3	-
1723	6.8	51.0	775	218.0	232.6	0.1	12.7	7.1	4.7	17	96.3	-
1724	6.5	49.8	670	218.0	232.6	0.5	12.2	5.9	6.0	17	96.3	-
1725	6.2	49.2	595	218.0	232.6	0.5	11.8	6.0	7.0	17	96.3	-
1726	5.9	47.8	509	218.0	232.6	0.6	10.9	5.4	5.5	17	96.3	-
1727	5.5	47.5	394	218.0	232.6	0.4	10.2	4.9	5.4	17	96.3	-
1728	5.5	48.4	415	218.0	232.6	-0.2	11.0	6.2	5.5	17	96.3	-
1729	6.3	50.4	620	218.0	232.6	-0.2	12.2	7.2	5.3	17	96.3	-
1730	6.4	50.1	653	218.0	232.6	0.3	12.2	6.2	6.2	17	96.2	-
1731	6.2	48.8	574	218.0	232.6	0.5	11.5	5.9	5.5	17	96.2	-
1732	5.7	47.5	463	218.0	232.6	0.6	10.8	5.8	5.7	17	96.2	-
1733	5.5	47.5	403	218.0	232.6	0.4	10.4	5.3	5.4	17	96.2	-
1734	5.4	47.4	376	218.0	232.6	0.2	10.2	5.6	5.0	17	96.2	-
1735	5.8	47.8	488	218.0	232.6	-0.1	10.4	6.2	5.1	17	96.2	-
1736	6.0	48.1	535	218.0	232.6	-0.4	10.6	6.4	4.9	17	96.2	-
1737	6.4	48.6	663	218.0	232.6	-0.5	10.9	6.5	4.1	17	96.2	-
1738	6.4	48.9	646	218.0	232.6	-0.6	11.2	6.7	4.4	17	96.2	-
1739	6.3	49.6	631	218.0	232.6	-0.4	11.5	6.7	4.5	17	96.2	-
1740	6.4	50.1	638	218.0	232.6	-0.3	11.8	6.0	4.1	17	96.2	-
1741	6.3	50.0	611	218.0	232.6	0.1	12.1	6.0	3.8	17	96.2	-
1742	6.2	49.4	589	218.0	232.6	0.4	11.7	5.8	4.4	17	96.2	-
1743	6.0	49.3	537	218.0	232.6	0.3	11.4	5.6	4.4	17	96.2	-
1744	6.2	50.3	575	218.0	232.6	-0.1	12.0	6.9	4.2	17	96.2	-
1745	6.4	50.3	642	218.0	232.6	0.4	12.1	6.3	4.3	17	96.2	-
1746	6.2	49.8	599	218.0	232.6	0.3	11.9	6.3	4.6	17	96.2	-
1747	6.4	50.3	636	218.0	232.6	0.1	12.3	6.6	4.8	17	96.2	-
1748	6.4	50.0	659	218.0	232.6	0.3	12.2	6.4	4.2	17	96.1	-
1749	6.2	48.9	595	218.0	232.6	0.4	11.8	6.4	4.5	17	96.1	-
1750	6.1	48.8	555	218.0	232.6	0.4	11.6	6.7	4.2	17	96.1	-
1751	6.0	49.3	530	218.0	232.6	0.4	11.4	5.8	4.4	17	96.1	-
1752	5.9	48.9	498	218.0	232.6	0.4	11.2	5.5	3.9	17	96.1	-
1753	5.9	48.7	490	218.0	232.6	0.3	11.2	5.1	3.7	17	96.1	-
1754	6.0	49.5	535	218.0	232.6	0.0	11.7	6.0	4.2	17	96.0	-
1755	6.3	50.3	615	218.0	232.6	0.1	12.1	6.2	4.2	17	96.0	-
1756	6.3	49.8	612	218.0	232.6	0.3	11.9	4.9	3.4	17	96.0	-
1757	6.1	49.1	542	218.0	232.6	0.5	11.3	4.8	3.0	17	96.0	-
1758	6.0	49.5	537	218.0	232.6	-0.1	11.8	6.6	3.2	17	96.0	-
1759	6.6	51.2	700	218.0	232.6	-0.2	12.6	7.6	3.9	17	96.0	-
1760	6.7	51.6	735	218.0	232.6	0.1	12.7	6.4	3.7	17	96.1	

Table E.01 Measurement data - Turbine ON

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (%)
1761	6.6	51.0	727	218.0	232.6	0.2	12.7	6.9	2.9	17	96.5	-
1762	6.6	50.7	726	218.0	232.6	0.3	12.7	6.1	3.4	17	96.5	-
1763	6.5	50.9	672	218.0	232.6	0.4	12.6	6.8	4.0	17	96.5	-
1764	6.4	49.2	641	218.0	232.6	0.6	11.9	6.2	4.0	17	96.5	-
1765	6.0	48.7	515	218.0	232.6	0.4	11.2	5.8	4.5	17	96.4	-
1766	5.8	48.3	468	218.0	232.6	0.3	11.0	5.4	4.6	17	96.4	-
1767	5.7	47.8	442	218.0	232.6	0.3	10.8	5.4	4.4	17	96.4	-
1768	5.5	48.2	392	218.0	232.6	0.5	10.8	4.8	3.7	17	96.4	-
1769	5.5	49.2	399	218.0	232.6	2.5	11.0	5.0	3.7	17	96.4	-
1770												
1771												
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***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 (%)
1849												
1850												
1851												
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Table E.02 Measurement data - Background

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
1	7.3	43.9	0.4	5.9	16	95.7	55
2	8.4	45.0	0.3	6.9	16	95.7	55
3	8.2	44.1	0.3	6.7	16	95.7	55
4	9.4	45.3	0.0	7.7	16	95.7	55
5	9.7	49.2	0.0	7.9	16	95.7	55
6	9.3	45.1	0.0	7.6	16	95.7	55
7	9.6	43.8	0.0	7.8	16	95.7	55
8	8.7	44.6	0.0	7.1	16	95.7	55
9	7.8	45.1	0.0	6.4	16	95.7	55
10	6.9	43.8	0.0	5.7	16	95.7	55
11	7.6	44.5	0.0	6.2	16	95.7	55
12	6.8	45.0	0.0	5.6	16	95.7	55
13	6.8	44.5	0.0	5.6	16	95.7	55
14	6.6	44.3	0.0	5.4	16	95.7	56
15	6.2	44.7	0.0	5.0	16	95.7	56
16	6.0	44.9	0.0	4.9	16	95.7	56
17	6.9	45.8	0.0	5.6	16	95.7	56
18	6.6	45.9	0.0	5.4	16	95.7	56
19	8.0	45.8	0.0	6.5	16	95.7	56
20	7.4	46.2	0.0	6.1	16	95.7	56
21	8.1	46.3	0.0	6.6	16	95.7	56
22	8.3	46.4	0.0	6.8	16	95.7	56
23	7.9	44.2	0.0	6.4	16	95.7	56
24	7.8	43.1	0.0	6.4	16	95.7	56
25	9.1	43.9	0.0	7.4	16	95.7	56
26	8.0	43.0	0.0	6.6	16	95.7	56
27	6.8	44.3	0.0	5.5	16	95.7	56
28	6.7	47.7	0.0	5.5	16	95.7	56
29	7.2	41.6	0.0	5.9	16	95.7	56
30	8.2	42.4	0.0	6.7	16	95.7	56
31	8.0	44.0	0.0	6.6	16	95.7	56
32	8.3	44.5	0.0	6.8	16	95.7	56
33	8.7	45.3	0.0	7.1	16	95.7	56
34	8.3	43.4	0.0	6.8	16	95.7	56
35	8.0	43.3	0.0	6.5	16	95.7	56
36	8.1	41.8	0.0	6.7	16	95.7	56
37	7.7	43.2	0.0	6.3	16	95.7	56
38	7.6	42.3	0.0	6.2	16	95.7	56
39	7.2	43.9	0.0	5.9	16	95.7	56
40	8.1	44.6	0.0	6.6	16	95.7	56
41	9.9	43.6	0.0	8.1	16	95.7	56
42	9.6	42.5	0.0	7.9	16	95.7	56
43	9.1	43.8	0.0	7.5	16	95.7	56
44	8.5	44.1	0.0	6.9	16	95.7	56
45	7.3	44.5	0.0	5.9	16	95.7	56
46	7.1	44.5	0.0	5.8	16	95.7	56
47	7.3	43.3	0.0	5.9	16	95.7	56
48	6.2	41.6	0.0	5.1	16	95.7	56
49	5.4	41.8	0.0	4.4	16	95.7	56
50	6.6	41.7	0.0	5.4	16	95.7	56
51	6.7	40.3	0.0	5.5	16	95.7	56
52	8.3	41.1	0.0	6.8	16	95.7	56
53	9.5	40.8	0.0	7.8	16	95.7	56
54	10.3	40.4	0.0	8.4	16	95.7	56
55	9.1	42.3	0.0	7.5	16	95.7	56
56	8.0	42.8	0.0	6.6	16	95.7	56
57	8.6	43.5	0.0	7.0	16	95.7	56
58	7.9	43.7	0.0	6.5	16	95.7	56
59	9.7	42.7	0.0	8.0	16	95.7	56
60	8.6	44.0	0.0	7.0	16	95.7	56
61	9.1	46.2	0.0	7.4	16	95.7	56
62	9.1	45.7	0.0	7.5	16	95.7	56
63	7.5	41.6	0.0	6.1	16	95.7	56
64	7.0	40.7	0.0	5.8	16	95.7	56
65	7.2	40.9	0.0	5.9	16	95.7	56
66	6.8	40.6	0.0	5.6	16	95.7	56
67	7.0	41.3	0.0	5.7	16	95.7	56
68	8.9	41.8	0.0	7.3	16	95.7	56
69	8.2	44.6	0.0	6.7	16	95.7	56
70	7.3	45.9	0.0	6.0	16	95.7	56
71	8.4	43.8	0.0	6.9	16	95.7	56
72	7.6	43.6	0.0	6.2	16	95.7	56
73	8.3	44.3	0.0	6.8	16	95.7	56
74	8.4	44.5	0.0	6.9	16	95.7	56
75	8.9	44.8	0.0	7.3	16	95.7	56
76	7.9	44.9	0.0	6.5	16	95.7	56
77	8.1	45.2	0.0	6.6	16	95.7	56
78	9.1	45.0	0.0	7.4	16	95.7	56
79	10.0	43.5	0.0	8.2	16	95.7	56
80	9.2	42.0	0.0	7.5	16	95.7	56
81	7.7	42.8	0.0	6.3	16	95.7	56
82	8.9	41.7	0.0	7.2	16	95.7	56
83	8.6	42.5	0.0	7.0	16	95.7	56

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
84	7.4	44.9	0.0	6.0	16	95.7	56
85	7.2	43.5	0.0	5.9	16	95.7	56
86	7.5	42.4	0.0	6.1	16	95.7	56
87	7.3	42.2	0.0	6.0	16	95.7	56
88	6.6	42.5	0.0	5.4	16	95.7	56
89	6.8	44.6	0.0	5.6	16	95.7	56
90	6.7	44.4	0.0	5.5	16	95.7	56
91	7.1	44.2	0.0	5.8	16	95.7	56
92	5.9	42.8	0.0	4.8	16	95.7	56
93	6.1	42.1	0.0	5.0	16	95.7	56
94	6.4	41.9	0.0	5.2	16	95.7	56
95	6.3	43.8	0.0	5.2	16	95.7	56
96	6.0	47.2	0.0	4.9	16	95.7	56
97	6.1	45.3	0.0	5.0	16	95.7	56
98	6.9	43.9	0.0	5.6	16	95.7	56
99	7.4	44.3	0.0	6.0	16	95.7	56
100	6.7	44.3	0.0	5.5	16	95.7	56
101	6.7	43.5	0.0	5.5	16	95.7	56
102	6.4	42.9	0.0	5.2	16	95.7	56
103	6.6	43.9	0.0	5.4	16	95.7	56
104	6.7	42.7	0.0	5.5	16	95.7	56
105	7.1	43.4	0.0	5.8	16	95.7	56
106	7.0	45.4	0.0	5.8	16	95.7	56
107	8.8	43.7	0.0	7.2	16	95.7	56
108	7.1	42.3	0.0	5.8	16	95.7	56
109	8.5	41.0	0.0	6.9	16	95.7	57
110	8.6	42.4	0.0	7.1	16	95.7	57
111	8.2	43.1	0.0	6.7	16	95.7	57
112	7.0	41.9	0.0	5.8	16	95.7	57
113	6.7	42.4	0.0	5.5	16	95.7	57
114	7.2	43.1	0.0	5.9	16	95.7	57
115	7.9	43.2	0.0	6.5	16	95.7	57
116	9.5	41.7	0.0	7.8	16	95.7	57
117	9.0	42.0	0.0	7.3	16	95.7	57
118	10.0	41.6	0.0	8.2	16	95.7	57
119	9.7	41.2	0.0	7.9	16	95.7	57
120	8.2	41.3	0.0	6.7	16	95.7	57
121	8.8	40.3	0.0	7.2	16	95.7	57
122	9.4	40.1	0.0	7.7	16	95.7	57
123	8.9	41.3	0.0	7.3	16	95.7	57
124	9.1	42.5	0.0	7.5	16	95.7	57
125	7.9	44.0	0.0	6.5	16	95.7	57
126	7.0	45.4	0.0	5.8	16	95.7	57
127	8.1	45.2	0.0	6.6	16	95.7	57
128	8.7	45.1	0.0	7.1	16	95.7	57
129	7.2	42.8	0.0	5.9	16	95.7	57
130	7.6	45.6	0.0	6.2	16	95.7	57
131	8.5	44.2	0.0	6.9	16	95.7	57
132	8.5	42.5	0.0	6.9	16	95.7	57
133	9.4	41.4	0.0	7.7	16	95.7	57
134	10.0	41.5	0.0	8.2	16	95.7	57
135	8.5	43.4	0.0	7.0	16	95.7	57
136	7.2	44.6	0.0	5.9	16	95.7	57
137	6.9	43.7	0.0	5.7	16	95.7	57
138	7.5	45.2	0.0	6.1	16	95.7	57
139	6.6	47.0	0.0	5.4	16	95.7	57
140	6.4	46.2	0.0	5.3	16	95.7	57
141	6.6	44.3	0.0	5.4	16	95.7	57
142	6.6	43.6	0.0	5.4	16	95.7	57
143	6.7	42.9	0.0	5.5	16	95.7	57
144	7.5	43.1	0.0	6.1	16	95.7	57
145	8.2	44.2	0.0	6.7	16	95.7	57
146	7.6	42.3	0.0	6.3	16	95.7	57
147	7.6	43.4	0.0	6.2	16	95.7	57
148	7.4	42.1	0.0	6.1	16	95.7	57
149	7.5	40.7	0.0	6.1	16	95.7	57
150	8.3	40.6	0.0	6.8	16	95.7	57
151	8.2	40.6	0.0	6.7	16	95.7	57
152	9.7	43.5	0.0	8.0	16	95.7	57
153	8.1	41.8	0.0	6.7	16	95.7	57
154	8.0	42.2	0.0	6.5	16	95.7	57
155	6.9	43.0	0.0	5.6	16	95.7	57
156	7.0	43.2	0.0	5.7	16	95.7	57
157	7.3	44.4	0.0	6.0	16	95.7	57
158	7.9	42.8	0.0	6.5	16	95.7	57
159	7.7	42.3	0.0	6.3	16	95.7	57
160	6.8	41.9	0.0	5.6	16	95.7	57
161	7.9	40.8	0.0	6.4	16	95.7	57
162	8.6	41.7	0.0	7.1	16	95.7	57
163	8.6	42.3	0.0	7.0	16	95.7	57
164	7.7	41.7	0.0	6.3	16	95.7	57
165	7.8	41.8	0.0	6.4	16	95.7	57
166	8.0	42.8	0.0	6.5	16	95.7	57

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
167	8.6	43.9	0.0	7.0	16	95.7	57
168	8.1	43.9	0.0	6.6	16	95.7	57
169	6.5	44.1	0.0	5.3	16	95.7	57
170	7.5	44.4	0.0	6.2	16	95.7	57
171	8.7	44.7	0.0	7.1	16	95.7	57
172	8.8	44.8	0.0	7.2	16	95.7	57
173	9.4	44.8	0.0	7.7	16	95.7	57
174	9.2	43.8	0.0	7.5	16	95.7	57
175	8.1	43.7	0.0	6.6	16	95.7	57
176	7.6	44.2	0.0	6.3	16	95.7	57
177	7.7	43.7	0.0	6.3	16	95.7	57
178	7.8	43.5	0.0	6.4	16	95.7	57
179	9.1	44.7	0.0	7.4	16	95.7	57
180	8.0	43.2	0.0	6.5	16	95.7	57
181	6.9	42.2	0.0	5.6	16	95.7	57
182	8.0	41.8	0.0	6.6	16	95.7	57
183	10.3	42.3	0.0	8.4	16	95.7	57
184	8.5	43.4	0.0	7.0	16	95.7	57
185	7.8	43.1	0.0	6.4	16	95.7	57
186	8.4	43.5	0.0	6.9	16	95.7	57
187	9.0	43.3	0.0	7.4	16	95.7	57
188	9.7	44.5	0.0	8.0	16	95.7	57
189	8.4	45.3	0.0	6.9	16	95.7	57
190	9.3	46.6	0.0	7.6	16	95.7	57
191	8.8	46.6	0.0	7.2	16	95.7	57
192	10.0	45.2	0.0	8.2	16	95.7	57
193	11.3	45.2	0.0	9.2	16	95.7	57
194	9.9	44.5	0.0	8.1	16	95.7	57
195	9.2	44.9	0.0	7.5	16	95.7	57
196	9.1	45.9	0.0	7.4	16	95.7	57
197	9.4	45.6	0.0	7.7	16	95.7	57
198	8.6	47.4	0.0	7.0	16	95.7	57
199	8.9	47.8	0.0	7.3	16	95.7	57
200	8.1	47.3	0.0	6.6	16	95.7	58
201	8.8	45.6	0.0	7.2	16	95.7	58
202	8.9	44.7	0.0	7.3	16	95.7	58
203	8.1	46.3	0.0	6.6	16	95.7	58
204	8.2	47.6	0.0	6.7	16	95.7	58
205	8.5	47.3	0.0	6.9	16	95.7	58
206	9.1	46.9	0.0	7.4	16	95.7	58
207	8.1	46.0	0.0	6.6	16	95.7	58
208	7.5	45.5	0.0	6.2	16	95.7	58
209	7.2	45.3	0.0	5.9	16	95.7	58
210	6.5	44.6	0.0	5.3	16	95.7	58
211	7.6	43.5	0.0	6.2	16	95.7	58
212	6.7	43.3	0.0	5.5	16	95.7	58
213	6.6	43.1	0.0	5.4	16	95.7	58
214	8.9	43.5	0.0	7.3	16	95.7	58
215	5.9	44.6	0.0	4.8	14	98.3	-
216	7.2	43.9	0.6	5.9	14	98.3	-
217	8.6	45.3	0.5	7.0	14	98.3	-
218	7.6	46.4	0.9	6.2	14	98.1	-
219	7.1	45.3	1.0	5.8	15	98.0	-
220	6.9	45.5	0.0	5.7	15	98.0	-
221	6.4	45.3	0.0	5.2	15	98.0	-
222	7.7	43.8	0.0	6.3	15	98.0	-
223	9.1	43.5	0.0	7.4	15	98.0	-
224	8.6	43.0	0.0	7.0	15	98.1	-
225	8.4	42.7	0.0	6.9	15	98.1	-
226	9.7	43.1	0.0	7.9	15	98.1	-
227	8.5	44.9	0.0	6.9	15	98.1	-
228	7.7	46.2	0.0	6.3	15	98.1	-
229	8.3	45.3	0.0	6.8	15	98.1	-
230	7.8	43.3	0.0	6.4	15	98.0	-
231	11.4	45.1	0.0	9.3	15	98.0	-
232	9.3	47.4	0.0	7.6	15	98.0	-
233	7.1	46.0	0.5	5.8	15	98.0	-
234	6.2	44.3	0.6	5.1	15	98.0	-
235	6.8	45.0	0.0	5.6	15	98.0	-
236	9.1	45.1	0.0	7.4	15	98.1	-
237	8.0	42.5	0.0	6.6	15	98.2	-
238	7.1	43.0	0.0	5.8	15	98.2	-
239	9.9	45.7	0.0	8.1	15	98.2	-
240	8.6	47.5	0.0	7.0	15	98.2	-
241	8.7	47.1	0.0	7.2	15	98.2	-
242	9.6	44.1	0.0	7.8	15	98.1	-
243	9.0	41.2	0.0	7.3	15	98.1	-
244	9.3	40.9	0.0	7.6	15	98.1	-
245	9.0	41.9	0.0	7.3	15	98.1	-
246	7.7	42.9	0.0	6.3	15	98.1	-
247	6.8	46.6	0.0	5.6	15	98.1	-
248	6.3	47.5	0.0	5.2	15	98.1	-
249	6.5	47.3	0.0	5.3	15	98.2	-

Table E.02 Measurement data - Background

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
250	7.1	44.3	0.0	5.8	15	98.2	-
251			0.0	6.6	15	98.2	-
252			0.0	6.3	15	98.2	-
253			0.0	5.6	15	98.2	-
254			0.0	5.2	15	98.2	-
255			0.0	8.4	15	98.2	-
256			0.0	7.4	15	98.2	-
257			0.0	7.0	15	98.2	-
258			0.0	7.1	15	98.2	-
259			0.0	7.0	15	98.2	-
260			0.0	6.9	15	98.1	-
261			0.0	7.9	15	98.1	-
262			0.0	8.5	15	98.1	-
263	10.8	46.9	0.2	8.9	15	98.1	-
264	11.1	44.5	0.6	9.1	15	98.1	-
265	11.0	46.7	0.0	9.0	15	98.1	-
266	11.5	47.6	0.0	9.4	15	98.1	-
267	10.5	47.2	0.0	8.6	15	98.0	-
268	8.3	44.8	0.0	6.8	15	98.0	-
269	7.8	43.8	0.0	6.4	15	98.0	-
270	9.3	43.6	0.0	7.6	15	98.0	-
271	8.1	43.1	0.0	6.7	15	98.0	-
272	7.7	43.0	0.0	6.3	15	98.2	-
273	6.8	42.6	0.0	5.6	15	98.3	-
274	8.0	43.1	0.0	6.6	15	98.3	-
275	5.4	44.5	0.0	4.4	15	98.3	-
276	8.3	44.1	0.0	6.8	15	98.3	-
277	8.7	47.2	0.0	7.1	15	98.3	-
278	9.3	45.4	0.0	7.6	15	98.3	-
279	11.1	42.8	0.0	9.1	15	98.3	-
280	9.8	45.2	0.0	8.0	15	98.3	-
281	9.8	44.8	0.0	8.0	15	98.3	-
282	8.2	44.8	0.0	6.7	15	98.3	-
283	8.2	45.8	0.0	6.7	15	98.3	-
284	8.2	46.1	0.0	6.7	15	98.3	-
285	7.4	45.1	0.0	6.1	15	98.2	-
286	6.7	43.6	0.0	5.5	15	98.2	-
287	6.4	42.7	0.0	5.2	15	98.2	-
288	8.4	45.1	0.0	6.9	15	98.2	-
289	8.6	43.7	0.0	7.0	15	98.2	-
290	8.1	42.9	0.0	6.6	15	98.3	-
291	6.9	44.3	0.0	5.6	15	98.3	-
292	8.6	42.8	0.0	7.1	15	98.3	-
293	8.4	44.7	0.0	6.9	15	98.3	-
294	9.9	43.7	0.0	8.1	15	98.3	-
295	10.1	43.7	0.0	8.3	15	98.3	-
296	8.5	45.2	0.0	7.0	15	98.2	-
297	7.2	45.7	0.0	5.9	15	98.2	-
298	7.2	46.4	0.0	5.9	15	98.2	-
299	6.2	45.5	0.0	5.1	15	98.2	-
300	6.2	43.7	0.0	5.1	15	98.2	-
301	6.0	43.7	0.0	4.9	15	98.2	-
302	5.1	42.5	0.0	4.2	15	98.3	-
303	4.7	43.9	0.0	3.9	15	98.4	-
304	5.3	44.8	0.0	4.3	15	98.4	-
305	5.5	42.3	0.0	4.5	15	98.4	-
306	5.3	41.1	0.0	4.4	15	98.4	-
307	7.5	42.6	0.0	6.1	15	98.4	-
308	6.7	44.1	0.0	5.4	15	98.3	-
309	5.2	43.6	0.0	4.2	15	98.3	-
310	5.2	42.9	0.0	4.2	15	98.3	-
311	6.4	43.4	0.0	5.2	15	98.3	-
312	5.9	45.4	0.0	4.8	15	98.3	-
313	5.7	46.5	0.0	4.7	15	98.3	-
314	6.3	47.3	0.0	5.1	15	98.3	-
315	8.0	47.9	0.0	6.6	15	98.3	-
316	8.0	46.3	0.0	6.5	15	98.3	-
317	8.8	46.5	0.0	7.2	15	98.3	-
318	8.4	47.4	0.0	6.8	15	98.3	-
319	6.7	46.2	0.0	5.5	15	98.3	-
320	7.0	44.0	0.0	5.7	15	98.3	-
321	7.2	44.6	0.0	5.9	15	98.3	-
322			0.0	6.3	15	98.3	-
323			0.0	7.2	15	98.3	-
324			0.0	6.3	15	98.3	-
325	6.9	44.8	0.0	5.7	15	98.3	-
326	7.1	44.3	0.0	5.8	15	98.3	-
327	6.2	45.2	0.0	5.1	15	98.2	-
328	5.8	44.4	0.0	4.8	15	98.2	-
329	6.1	43.1	0.0	5.0	15	98.2	-
330	7.1	41.4	0.0	5.8	15	98.2	-
331	7.5	44.6	0.0	6.1	15	98.2	-
332	8.3	43.8	0.0	6.8	15	98.2	-

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
333	9.4	43.2	0.0	7.7	15	98.2	-
334	8.2	42.7	0.0	6.7	15	98.2	-
335	7.7	41.7	0.0	6.3	15	98.2	-
336	8.4	41.1	0.0	6.9	15	98.2	-
337	10.1	40.0	0.0	8.3	15	98.2	-
338	9.5	40.7	0.0	7.8	15	98.1	-
339	8.1	41.1	0.0	6.6	15	98.1	-
340	7.7	40.5	0.0	6.3	15	98.1	-
341	7.0	41.4	0.0	5.7	15	98.1	-
342	7.3	43.3	0.0	6.0	15	98.1	-
343	5.8	42.8	0.0	4.8	15	98.1	-
344	6.0	44.3	0.0	4.9	15	98.1	-
345	5.5	45.2	0.0	4.5	15	98.1	-
346	6.8	46.6	0.0	5.6	15	98.1	-
347	7.8	46.3	0.0	6.4	15	98.1	-
348	7.3	45.8	0.0	6.0	15	98.1	-
349	7.8	47.2	0.0	6.4	15	98.1	-
350	7.0	45.6	0.0	5.7	15	98.2	-
351	6.5	43.1	0.0	5.3	15	98.3	-
352	6.2	42.1	0.0	5.1	15	98.3	-
353	7.7	44.3	0.0	6.3	15	98.3	-
354	8.0	45.6	0.0	6.6	15	98.3	-
355	8.7	44.9	0.0	7.1	15	98.3	-
356	7.8	43.4	0.0	6.4	15	98.2	-
357	7.9	43.3	0.0	6.4	15	98.1	-
358	6.6	43.9	0.0	5.4	15	98.1	-
359	5.6	43.2	0.0	4.5	15	98.1	-
360	6.1	41.6	0.0	5.0	15	98.1	-
361	5.5	41.5	0.0	4.5	15	98.1	-
362	6.5	40.4	0.0	5.4	15	98.1	-
363	7.3	41.6	0.0	6.0	15	98.1	-
364	6.2	39.4	0.0	5.1	15	98.1	-
365	5.5	39.5	0.0	4.5	15	98.1	-
366	5.9	43.1	0.0	4.8	15	98.1	-
367	8.2	39.5	0.0	6.7	15	98.1	-
368	6.2	38.3	0.0	5.1	15	98.1	-
369	8.5	38.5	0.0	6.9	15	98.1	-
370	10.1	38.8	0.0	8.3	15	98.1	-
371	9.2	39.3	0.0	7.6	15	98.1	-
372	9.4	39.6	0.0	7.7	15	98.1	-
373	7.9	42.0	0.0	6.5	15	98.1	-
374	7.3	41.7	0.0	6.0	15	98.1	-
375	6.9	43.6	0.0	5.7	15	98.2	-
376	7.8	43.1	0.0	6.4	15	98.2	-
377	6.6	42.9	0.0	5.4	15	98.2	-
378	7.4	41.5	0.0	6.1	15	98.2	-
379	6.0	41.1	0.0	4.9	15	98.2	-
380	7.0	43.6	0.0	5.7	15	98.1	-
381			0.0	6.4	15	98.0	-
382			0.0	8.7	15	98.0	-
383			0.0	7.3	15	98.0	-
384	9.5	42.3	0.0	7.8	15	98.0	-
385	9.7	42.5	0.0	8.0	15	98.0	-
386	9.9	42.9	0.0	8.1	15	98.0	-
387	12.2	42.2	0.0	10.0	15	98.0	-
388	11.5	43.1	0.0	9.4	15	98.0	-
389	10.0	44.0	0.0	8.2	15	98.0	-
390	9.9	45.8	0.0	8.1	15	98.0	-
391	9.5	47.3	0.0	7.7	15	98.0	-
392	9.1	47.0	0.0	7.4	15	97.9	-
393	10.5	45.3	0.0	8.6	15	97.8	-
394	12.7	42.6	0.0	10.4	15	97.8	-
395	12.2	42.3	0.0	10.0	15	97.8	-
396	10.4	42.2	0.0	8.5	15	97.8	-
397	9.2	43.7	0.0	7.5	15	97.8	-
398			0.0	9.4	15	97.7	-
399			0.0	8.8	15	97.7	-
400			0.0	8.0	15	97.7	-
401			0.0	7.2	15	97.7	-
402			0.0	7.0	15	97.7	-
403			0.0	7.2	15	97.7	-
404			0.0	7.5	15	97.7	-
405			0.0	7.8	15	97.7	-
406			0.0	8.6	15	97.7	-
407			0.0	10.1	15	97.7	-
408			0.0	10.0	15	97.7	-
409	10.6	45.6	0.0	8.6	15	97.7	-
410	9.4	44.4	0.0	7.7	15	97.7	-
411	10.0	42.9	0.0	8.2	15	97.7	-
412	10.5	41.4	0.0	8.6	15	97.7	-
413	11.0	41.0	0.0	9.0	15	97.7	-
414	10.2	40.8	0.0	8.4	15	97.7	-
415	9.1	40.7	0.0	7.4	15	98	

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
416	9.9	42.2	0.0	8.1	15	98.2	-
417	10.0	42.1	0.0	8.2	15	98.2	-
418	12.0	41.9	0.0	9.8	15	98.2	-
419	11.8	46.2	0.0	9.6	15	98.2	-
420	11.5	47.9	0.0	9.4	15	98.2	-
421	11.9	47.3	0.0	9.7	15	98.2	-
422	12.1	47.7	0.0	9.9	15	98.2	-
423	10.6	46.2	0.0	8.7	15	98.2	-
424			0.0	7.2	15	98.2	-
425			0.0	5.7	15	98.2	-
426			0.0	5.3	15	98.1	-
427			0.0	6.8	15	98.1	-
428			0.0	6.6	16	98.1	-
429			0.0	7.0	16	98.1	-
430			0.0	6.4	16	98.1	-
431			0.0	6.4	16	98.1	-
432			0.0	8.1	16	98.1	-
433			0.0	8.9	16	98.0	-
434			0.0	9.0	16	98.0	-
435			0.0	8.3	16	98.0	-
436			0.0	8.4	16	98.0	-
437			0.0	6.9	16	98.0	-
438			0.0	7.5	16	98.2	-
439			0.0	7.8	16	98.3	-
440			0.0	8.1	16	98.3	-
441			0.0	9.5	16	98.3	-
442			0.0	8.3	16	98.3	-
443			0.0	8.0	16	98.3	-
444	8.3	47.2	0.0	6.8	16	98.3	-
445	9.4	45.0	0.0	7.7	16	98.3	-
446	9.3	44.4	0.0	7.6	16	98.3	-
447	8.8	44.5	0.0	7.2	16	98.3	-
448	10.8	43.6	0.0	8.8	16	98.3	-
449	10.6	45.8	0.0	8.7	16	98.3	-
450	10.8	47.0	0.0	8.9	16	98.3	-
451	10.8	46.6	0.0	8.9	16	98.2	-
452	12.2	46.8	0.0	10.0	16	98.2	-
453	11.0	47.3	0.0	9.0	16	98.2	-
454	9.0	43.9	0.0	7.4	16	98.2	-
455	8.2	44.5	0.0	6.7	16	98.2	-
456	8.4	45.1	0.0	6.9	16	98.3	-
457	8.0	44.6	0.0	6.6	16	98.3	-
458	8.4	43.6	0.0	6.9	16	98.3	-
459	7.1	43.7	0.0	5.8	16	98.3	-
460	5.8	42.4	0.0	4.7	16	98.3	-
461	5.5	42.4	0.0	4.5	16	98.3	-
462	8.6	42.2	0.0	7.0	16	98.2	-
463	9.7	42.3	0.0	8.0	16	98.2	-
464	9.2	43.0	0.0	7.6	16	98.2	-
465	8.8	43.6	0.0	7.2	16	98.2	-
466	9.6	43.9	0.0	7.8	16	98.2	-
467			0.0	7.8	16	98.2	-
468			0.0	6.1	16	98.3	-
469			0.0	5.5	16	98.4	-
470			0.0	5.2	16	98.4	-
471			0.0	4.9	16	98.4	-
472			0.0	5.6	16	98.4	-
473			0.0	6.0	16	98.4	-
474			0.0	5.7	16	98.3	-
475			0.0	5.4	16	98.3	-
476			0.0	5.4	16	98.3	-
477			0.0	5.8	16	98.3	-
478			0.0	6.6	16	98.3	-
479			0.0	8.3	16	98.3	-
480			0.0	8.0	16	98.3	-
481			0.0	6.4	16	98.3	-
482			0.0	5.7	16	98.3	-
483	6.9	47.6	0.0	5.6	16	98.3	-
484	7.8	44.3	0.0	6.4	16	98.3	-
485	8.2	44.3	0.0	6.7	16	98.3	-
486	7.7	43.8	0.0	6.3	16	98.3	-
487	6.9	44.3	0.0	5.7	16	98.3	-
488	6.3	43.5	0.0	5.1	16	98.3	-
489	6.7	44.6	0.0	5.5	16	98.3	-
490	7.4	46.1	0.0	6.0	16	98.3	-
491			0.0	6.0	16	98.3	-
492			0.0	6.1	16	98.3	-
493			0.0	6.0	16	98.2	-
494			0.0	6.3	16	98.2	-
495			0.0	6.3	16	98.2	-
496			0.0	6.5	16	98.2	-
497			0.0	7.0	16	98.2	-
498			0.0	7.1	16	98.2	-

Table E.02 Measurement data - Background

Project: East Durham Wind Energy Centre - Turbine T06 - IEC 61400-11 Measurement

Report ID: 15427.00.T06.RP3

Created on: 9/22/2017

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
499			0.0	7.0	16	97.2	-
500			0.0	6.3	16	97.2	-
501			0.0	5.7	16	97.2	-
502			0.0	6.1	16	97.2	-
503			0.0	8.3	16	97.2	-
504	10.3	46.9	0.0	8.4	16	97.2	-
505	8.7	45.4	0.0	7.1	16	97.2	-
506	6.9	43.8	0.0	5.6	16	97.2	-
507	8.3	46.6	0.0	6.8	16	97.2	-
508	8.5	47.8	0.0	6.9	16	97.2	-
509	10.1	46.8	0.0	8.3	16	97.2	-
510	8.3	46.3	0.0	6.8	16	97.2	-
511	8.9	45.2	0.0	7.3	16	97.2	-
512	11.6	47.3	0.0	9.5	16	97.2	-
513	10.0	47.3	0.0	8.2	16	97.1	-
514	10.1	44.9	0.0	8.3	16	97.1	-
515	10.7	45.8	0.0	8.7	16	97.1	-
516	11.6	46.4	0.0	9.5	16	97.1	-
517	11.2	46.1	0.0	9.1	16	97.1	-
518	9.8	45.3	0.0	8.0	16	97.0	-
519	9.7	45.4	0.0	8.0	16	97.0	-
520	9.7	48.0	0.0	7.9	16	97.0	-
521	8.9	46.7	0.0	7.3	16	97.0	-
522	9.4	45.3	0.0	7.7	16	97.0	-
523	10.7	45.1	0.0	8.8	16	97.0	-
524	9.9	45.1	0.0	8.1	16	97.0	-
525	9.6	42.2	0.0	7.8	16	97.0	-
526	9.1	43.7	0.0	7.4	16	97.0	-
527	7.7	45.8	0.0	6.3	16	97.0	-
528	8.0	46.7	0.0	6.6	16	97.0	-
529	5.9	44.3	0.0	4.9	16	97.0	-
530	5.7	44.3	0.0	4.7	16	97.1	-
531	5.3	45.8	0.0	4.3	16	97.1	-
532	4.8	42.5	0.0	3.9	16	97.1	-
533	6.2	40.4	0.0	5.1	16	97.1	-
534	6.2	41.1	0.0	5.1	16	97.1	-
535	7.3	42.5	0.0	6.0	16	97.1	-
536	5.9	41.8	0.0	4.8	16	97.2	-
537	6.4	40.0	0.0	5.2	16	97.3	-
538	5.2	40.9	0.0	4.3	16	97.3	-
539	5.2	43.0	0.0	4.2	16	97.3	-
540	5.5	43.0	0.0	4.5	16	97.3	-
541	6.0	43.7	0.0	4.9	16	97.3	-
542	6.8	43.4	0.0	5.6	16	97.2	-
543	7.0	45.5	0.0	5.7	16	97.2	-
544			0.0	6.7	16	97.2	-
545			0.0	7.0	16	97.2	-
546			0.0	5.5	16	97.2	-
547			0.0	4.6	16	97.2	-
548			0.0	5.0	16	97.2	-
549			0.0	5.2	16	97.2	-
550			0.0	5.2	16	97.2	-
551	6.0	43.6	0.0	4.9	16	97.2	-
552	5.0	43.6	0.0	4.1	16	97.2	-
553	5.9	42.8	0.0	4.8	16	97.2	-
554	5.8	42.9	0.0	4.8	16	97.2	-
555	7.2	42.8	0.0	5.9	16	97.2	-
556	5.9	40.3	0.0	4.8	16	97.2	-
557	5.3	40.5	0.0	4.3	16	97.2	-
558	5.5	40.4	0.0	4.5	16	97.2	-
559	7.7	39.9	0.0	6.3	16	97.2	-
560	7.4	41.4	0.0	6.1	16	97.2	-
561	6.8	42.3	0.0	5.5	16	97.2	-
562	8.3	43.7	0.0	6.8	16	97.2	-
563	8.8	41.4	0.0	7.2	16	97.2	-
564	7.9	39.9	0.0	6.5	16	97.2	-
565	7.5	41.8	0.0	6.1	16	97.2	-
566	6.3	41.4	0.0	5.2	16	97.2	-
567	7.8	40.1	0.0	6.4	16	97.2	-
568	7.5	42.5	0.0	6.1	16	97.2	-
569	5.9	44.7	0.0	4.8	16	97.2	-
570	5.7	46.3	0.0	4.7	16	97.2	-
571	6.9	45.7	0.0	5.7	16	97.2	-
572	6.3	45.1	0.0	5.2	16	97.2	-
573	5.3	43.9	0.0	4.4	16	97.2	-
574	6.0	43.7	0.0	4.9	16	97.2	-
575	6.4	42.9	0.0	5.2	16	97.2	-
576	7.0	41.2	0.0	5.7	16	97.2	-
577	6.4	41.1	0.0	5.2	16	97.2	-
578	6.9	41.8	0.0	5.6	16	97.2	-
579	7.8	42.1	0.0	6.4	16	97.2	-
580	6.2	41.2	0.0	5.1	16	97.2	-
581	5.5	41.6	0.0	4.5	16	97.2	-

***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 (-C)	Pressure (kPa)	Relative Humidity (%)
582	7.8	42.5	0.0	6.3	16	97.7	-
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***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 (-C)	Pressure (kPa)	Relative Humidity (%)
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Appendix F
Note on anemometer position with IEC 61400-11 Ed 2.1 and Ed 3.0

Note N6.040.17

Note on anemometer position with IEC 61400-11 editions 2.1 and 3.0

Author: Bo Søndergaard

Project number: 35.6539.01
Date: 7/11/2017
Project manager: Bo Søndergaard
Controlled by: -

To : Aercoustics Engineering Limited
Att.: Payam Ashtiani

From : Bo Søndergaard

1. Purpose

In the capacity of convenor for Maintenance Team 11, the workgroup in charge of IEC 61400-11, since 2006, I have been asked to provide background information, and comment on the consequences of changing the anemometer position when going from edition 2.1 to edition 3, and the recommended method for using measurements based on edition 2.1 for an analysis with edition 3.

2. Comment

There are several differences between IEC 61400-11 standard edition 2.1 (November 2006) and edition 3.0 (November 2012). In particular, the general data treatment procedures for noise levels, and the tonality assessment were changed to keep up with the changes in wind turbine design at the time.

However, since edition 1.0 (1998), very few changes have been made to the IEC 61400-11 standard with respect to the measurement setup. In edition 1.0 the prescribed position of the anemometer was upwind (2 to 4 rotor diameters) as it was allowed to use the anemometer for determination of the standardized wind speed with the wind turbine running. At that time the distances were smaller and this setup is maintained in Annex F on small wind turbines in edition 3. Editions 2.0 and 2.1, still allowed such use of the anemometer

In Germany, modified versions of IEC 61400-11 edition 2 were introduced by the FGW. In revision 15 (from 2004), using the power for determination of the standardized wind speed was mandatory. In revision 16 (from 2005), it was stated that the position of the anemometer can deviate from the requirements in IEC 61400-11 edition 2, without specifying position requirements. Germany has had a strong influence on the development of the IEC 61400-11 standard through the experience from several measuring companies and German authorities. The decision to allow alternative positions for the anemometer is very representative of the situation. It is difficult to set up general requirements for the position of the anemometer that works at all sites. As such, it makes sense to allow for an expert

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judgement on the anemometer position in a given situation. In the Danish regulations, it is stated that the anemometer has to be close to the wind turbine in a position where neither the wind turbine nor objects in the terrain is expected to influence the wind speed measurements.

The German and Danish considerations on the position of the anemometer is based on the fact that the dominating background noise at the microphone position can be more or less dependent on wind speed; and can be generated by vegetation upwind, downwind or to the side of the wind turbine. This is often reflected in background noise with a weak dependence on wind speed.

Maintenance Team 11, responsible for revising IEC 61400-11, discussed this issue and there was a strong support from the measurement institutes for using the nacelle anemometer for background noise measurements. In most cases, this would give a reasonable correlation between wind speed and background noise. The nacelle anemometer is not influenced by terrain and represents, to a reasonable degree, the wind in the surroundings. However, the manufacturers argued that the nacelle anemometer might not be a part of future designs and could not be guaranteed. There was a general agreement that it was difficult to decide on an optimum position, but in most cases, downwind and to the side would make sense, resulting in Figure 5 of edition 3.0. The position of the anemometer is not considered an important issue and the wording is “guidance” and “acceptable” and not a stronger wording like “shall”. This is a deliberate decision by the Maintenance Team 11 to ensure flexibility when other choices make more sense.

The recommended method when using measurements made according to IEC 61400-11 edition 2.1 for analysis with IEC 61400-11 edition 3.0 is to use the nacelle anemometer for the background noise. This will work well in most cases. Alternatively, to use the measured wind speed at 10 m height if there is no strong influence from the background noise (e.g. when signal to noise ratio is better than 6 dB).

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End of Report