

REPORT ID: **08020.04.T15.RP3**

---

## **McLean's Mountain Wind Farm – Turbine T15 IEC 61400-11 Edition 3.0 Measurement Report**

---

Prepared for:

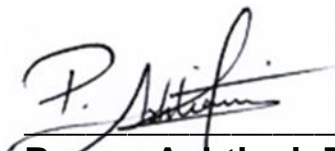
**McLean's Mountain Wind GP Inc.**  
30 St. Clair Ave. W Suite 1700  
Toronto, ON  
M5B 3A1

Prepared by:

*A. Munro*

---

**Allan Munro, B.A.Sc.**



---

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

11 October 2017 – Revision #3



## Revision History

Revision Number	Description	Date
1	Issued Edition 2.1 test report	November 19, 2014
2	Update to section 4.5 and 4.6 to correct an adjustment in the ambient conditions observed during the IEC test	November 21, 2014
3	Issued Edition 3.0 test report	October 11, 2017

**This report in its entirety, including appendices contains 77 pages.**

## Statement Qualifications and Limitations

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

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

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

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

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

## Table of Contents

<b>Revision History</b>	<b>2</b>
<b>Statement Qualifications and Limitations</b>	<b>2</b>
<b>List of Appendices</b>	<b>6</b>
<b>1 Introduction</b>	<b>8</b>
<b>2 Wind Turbine Information</b>	<b>8</b>
2.1 Wind turbine equipment specific information.....	8
2.2 Wind Turbine Location.....	9
<b>3 Measurement Details</b>	<b>10</b>
3.1 Measurement Equipment.....	10
3.1.1 Acoustic Measurement Equipment .....	10
3.1.2 Meteorological Equipment .....	10
3.2 Measurement Setup .....	10
3.2.1 Microphone Placement.....	10
3.2.2 Double Windscreen Setup .....	11
3.3 Measurement Schedule.....	11
3.4 Meteorological Conditions.....	11
3.5 Turbine operational information .....	11
<b>4 Measurement Results</b>	<b>12</b>
4.1 Deviations from IEC-61400-11 Edition 3.0.....	12
4.2 Special Notes & Considerations .....	12
4.3 Analysis Details .....	12
4.3.1 Double Windscreen Adjustment.....	12
4.3.2 Wind Speed Correction.....	12
4.4 Type B uncertainties .....	12
4.5 Sound Pressure Level Measurements .....	13
4.6 Sound Power Level of Turbine.....	14
4.7 Tonality Analysis.....	14
<b>5 Closure</b>	<b>15</b>
<b>6 References</b>	<b>15</b>

## List of Figures

Figure A.01 – Site plan.....	Appendix A
Figure A.02 – Site photos .....	Appendix A
Figure B.01 – Power Curve.....	Appendix B
Figure B.02 – Rotor RPM vs. Wind Speed.....	Appendix B
Figure C.01 – Plot of overall measurement data pairs at Position 1 (Turbine ON &Background).....	Appendix C
Figure C.02 – Plot of measured total noise vs electrical power output.....	Appendix C
Figure C.03 - Plot of power curve relative to nacelle anemometer and 10m anemometer.....	Appendix C
Figure C.04 - Plot of rotor RPM vs. electrical power output.....	Appendix C
Figure C.05 – Plot of sound pressure spectrum in 1/3 Octave at 8.5 m/s.....	Appendix C
Figure C.06 – Plot of sound pressure spectrum in 1/3 Octave at 9 m/s.....	Appendix C
Figure C.07 – Plot of sound pressure spectrum in 1/3 Octave at 9.5 m/s.....	Appendix C
Figure C.08 – Plot of sound pressure spectrum in 1/3 Octave at 10 m/s.....	Appendix C
Figure C.09 – Plot of sound pressure spectrum in 1/3 Octave at 10.5 m/s.....	Appendix C
Figure C.10 – Plot of sound pressure spectrum in 1/3 Octave at 11 m/s.....	Appendix C
Figure C.11 – Plot of sound pressure spectrum in 1/3 Octave at 11.5 m/s.....	Appendix C
Figure C.12 – Plot of sound pressure spectrum in 1/3 Octave at 12 m/s.....	Appendix C
Figure C.13 – Plot of sound pressure spectrum in 1/3 Octave at 12.5 m/s.....	Appendix C
Figure C.14 – Plot of sound pressure spectrum in 1/3 Octave at 13 m/s.....	Appendix C
Figure C.15 – Plot of sound pressure spectrum in 1/3 Octave at 13.5 m/s.....	Appendix C
Figure D.01 – Plot of narrow band spectra – Turbine ON vs. Background at 8.5 m/s...Appendix D	Appendix D
Figure D.02 – Plot of narrow band spectra – Turbine ON vs. Background at 9 m/s...Appendix D	Appendix D
Figure D.03 – Plot of narrow band spectra – Turbine ON vs. Background at 9.5 m/s...Appendix D	Appendix D
Figure D.04 – Plot of narrow band spectra – Turbine ON vs. Background at 10 m/s...Appendix D	Appendix D
Figure D.05 – Plot of narrow band spectra – Turbine ON vs. Background at 10.5m/s...Appendix D	Appendix D
Figure D.06 – Plot of narrow band spectra – Turbine ON vs. Background at 11 m/s...Appendix D	Appendix D
Figure D.07 – Plot of narrow band spectra – Turbine ON vs. Background at 11.5m/s...Appendix D	Appendix D
Figure D.08 – Plot of narrow band spectra – Turbine ON vs. Background at 12m/s...Appendix D	Appendix D
Figure D.09 – Plot of narrow band spectra – Turbine ON vs. Background at 12.5m/s...Appendix D	Appendix D
Figure D.10 – Plot of narrow band spectra – Turbine ON vs. Background at 13m/s...Appendix D	Appendix D
Figure D.11 – Plot of narrow band spectra – Turbine ON vs. Background at 13.5m/s...Appendix D	Appendix D

## List of Tables

Table 1 - Wind Turbine Details .....	8
Table 2 - Operating Details.....	8
Table 3 - Rotor Details.....	9
Table 4 - Gearbox Details.....	9
Table 5 - Generator Details .....	9
Table 6 - Acoustic Measurement Equipment.....	10
Table 7 – Meteorological Measurement Equipment.....	10
Table 8 - Measurement Schedule Summary .....	11
Table 9 - Summary of Type B uncertainties .....	13
Table 10 - Summary of Sound Pressure Level Measurements.....	13
Table 11 - LWA <sub>10m, K</sub> at each integer wind speed .....	14
Table 12 - Tonality Assessment Summary.....	15
Table C.01 – Detailed apparent sound power level data at hub height.....	Appendix C
Table C.02 – Detailed apparent sound power level data at 10m height.....	Appendix C
Table C.03– Type B measurement uncertainty summary.....	Appendix C
Table C.04 – Detailed measurement uncertainty at hub height.....	Appendix C
Table D.01 – Tonality assessment table – 8.5 m/s.....	Appendix D
Table D.02 – Tonality assessment table – 9 m/s.....	Appendix D
Table D.03 – Tonality assessment table – 9.5 m/s.....	Appendix D
Table D.04 – Tonality assessment table – 10 m/s.....	Appendix D
Table D.05 – Tonality assessment table – 10.5 m/s.....	Appendix D
Table D.06 – Tonality assessment table – 11 m/s.....	Appendix D
Table D.07 – Tonality assessment table – 11.5 m/s.....	Appendix D
Table D.08 – Tonality assessment table – 12 m/s.....	Appendix D
Table D.09 – Tonality assessment table – 12.5 m/s.....	Appendix D
Table D.10 – Tonality assessment table – 13 m/s.....	Appendix D
Table D.11 – Tonality assessment table – 13.5 m/s.....	Appendix D
Table E.01 – Measurement data –Turbine ON.....	Appendix E
Table E.02 – Measurement data – Background.....	Appendix E

## List of Appendices

### Appendix A – Site Details

- Figure A.01 – Site plan
- Figure A.02 – Site photos

### Appendix B – Turbine Information

- Figure B.01 – Power curve
- Figure B.02 – Rotor RPM vs. wind speed

### Appendix C – Apparent Sound Power Level

- Figure C.01 – Plot of overall measurement data pairs at Position 1 (Turbine ON & Background)
- Figure C.02 – Plot of measured total noise vs electrical power output
- Figure C.03 - Plot of power curve relative to nacelle anemometer and 10m anemometer
- Figure C.04 - Plot of rotor RPM vs. electrical power output
- Figure C.05 – Plot of sound pressure spectrum in 1/3 Octave at 8.5 m/s
- Figure C.06 – Plot of sound pressure spectrum in 1/3 Octave at 9 m/s
- Figure C.07 – Plot of sound pressure spectrum in 1/3 Octave at 9.5 m/s
- Figure C.08 – Plot of sound pressure spectrum in 1/3 Octave at 10 m/s
- Figure C.09 – Plot of sound pressure spectrum in 1/3 Octave at 10.5 m/s
- Figure C.10 – Plot of sound pressure spectrum in 1/3 Octave at 11 m/s
- Figure C.11 – Plot of sound pressure spectrum in 1/3 Octave at 11.5 m/s
- Figure C.12 – Plot of sound pressure spectrum in 1/3 Octave at 12 m/s
- Figure C.13 – Plot of sound pressure spectrum in 1/3 Octave at 12.5 m/s
- Figure C.14 – Plot of sound pressure spectrum in 1/3 Octave at 13 m/s
- Figure C.15 – Plot of sound pressure spectrum in 1/3 Octave at 13.5 m/s
- Table C.01 – Detailed apparent sound power level data at hub height
- Table C.02 – Detailed apparent sound power level data at 10m height
- Table C.03 – Type B measurement uncertainty summary
- Table C.04 – Detailed measurement uncertainty at hub height

### Appendix D – Tonality Assessment

- Figure D.01 – Plot of narrow band spectra – Turbine ON vs. Background at 8.5 m/s
- Figure D.02 – Plot of narrow band spectra – Turbine ON vs. Background at 9 m/s
- Figure D.03 – Plot of narrow band spectra – Turbine ON vs. Background at 9.5 m/s
- Figure D.04 – Plot of narrow band spectra – Turbine ON vs. Background at 10 m/s
- Figure D.05 – Plot of narrow band spectra – Turbine ON vs. Background at 10.5 m/s
- Figure D.06 – Plot of narrow band spectra – Turbine ON vs. Background at 11 m/s
- Figure D.07 – Plot of narrow band spectra – Turbine ON vs. Background at 11.5 m/s
- Figure D.08 – Plot of narrow band spectra – Turbine ON vs. Background at 12 m/s
- Figure D.09 – Plot of narrow band spectra – Turbine ON vs. Background at 12.5 m/s
- Figure D.10 – Plot of narrow band spectra – Turbine ON vs. Background at 13 m/s
- Figure D.11 – Plot of narrow band spectra – Turbine ON vs. Background at 13.5 m/s
- Table D.01 – Tonality assessment table – 8.5 m/s
- Table D.02 – Tonality assessment table – 9 m/s
- Table D.03 – Tonality assessment table – 9.5 m/s
- Table D.04 – Tonality assessment table – 10 m/s
- Table D.05 – Tonality assessment table – 10.5 m/s

- Table D.06 – Tonality assessment table – 11 m/s
- Table D.07 – Tonality assessment table – 11.5 m/s
- Table D.08 – Tonality assessment table – 12 m/s
- Table D.09 – Tonality assessment table – 12.5 m/s
- Table D.10 – Tonality assessment table – 13 m/s
- Table D.11 – Tonality assessment table – 13.5 m/s

Appendix E – Measurement Data

- Table E.01 – Measurement data – Turbine ON
- Table E.02 – Measurement data – Background

# 1 Introduction

Aercoustics Engineering Limited (Aercoustics) was retained by McLean’s Mountain Wind GP (“MMFW”) to conduct an acoustic measurement of turbine T15 at the McLean’s Mountain Wind Farm. 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 T15.

# 2 Wind Turbine Information

## 2.1 Wind turbine equipment specific information

Wind turbine specific equipment information for turbine T15 was provided by GE Energy and is summarized in Tables 1 – 5.

Table 1 - Wind Turbine Details

Wind Turbine Details	
Manufacturer	GE
Model Number	2.85 DFIG
Turbine ID	T15: 28124312

Table 2 - Operating Details

Operating Details	
Vertical or Horizontal axis wind turbine	Horizontal axis wind turbine
Upwind or downwind rotor	Upwind rotor
Hub height	98.3 m
Horizontal distance from rotor centre to tower axis	4170mm
Diameter of rotor	103 m
Tower type (lattice or tube)	Tube
Passive stall, active stall, or pitch controlled turbine	Pitch controlled turbine
Constant or variable speed	Variable speed
Power curve	See Figure B.01
Rotational speed at each integer standardised wind speed	See Figure B.02 from measurement data
Rated power output	2.49 MW
Control software version	44.62.06c TurbineCONTROL



Table 3 - Rotor Details

Rotor Details	
Rotor control devices	Rotary Pulse Transducer
Presence of vortex generators, stall strips, serrated trailing edges	Vortex generators: No, Stall strips: No, Serrated trailing edge: Yes
Blade type	Tecsis, Fibre glass, 50.2
Serial number	B1: TEC 473, B2: TEC 491, B3: TEC 513
Number of blades	3

Table 4 - Gearbox Details

Gearbox Details	
Manufacturer	Winergy
Model number	P2AB 3494.0
Serial number	IP NFC-4851902-0100-5

Table 5 - Generator Details

Generator Details	
Manufacturer	Indar
Model number	60 Hz 90/95
Serial number	22216060036

## 2.2 Wind Turbine Location

Turbine T15 is located in the Manitoulin district near the town of Little Current, approximately 100m West of McLean's Mountain Road. The area surrounding T15 is flat and consists primarily of grassland.

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 T15 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	2622169
Pre-amplifier	B&K 2671	2614900
Acoustic calibrator	B&K 4231	2513184

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

##### 3.1.2 Meteorological Equipment

Wind speed for Turbine ON was derived from the power curve (as per procedures outlined in IEC 61400-11). Wind direction for turbine ON measurements was utilized from the nacelle anemometer located at hub height (98.3m high) from turbine T15. Data for background measurements was obtained from a 10m high anemometer, which was placed as per guidelines outlined in IEC-61400-11 edition 2.1. See section 4.1 for details.

The meteorological equipment is summarized in Table 7

Table 7 – Meteorological Measurement Equipment

Equipment	Manufacturer Name & Model	Serial Number
Anemometer	VAISALA WXT520	K2420011
Serial to Analog Converter	NOKEVAL 7470	A159784

#### 3.2 Measurement Setup

##### 3.2.1 Microphone Placement

The measurement microphone was setup 150m 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 T15. 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 monitored via the yaw angle output provided from the turbine system (discussed further in Section 3.5). During placement of the microphone the turbine was parked and the reference yaw angle for that measurement logged.

When measurements of T15 were taken, the surrounding land was grassland. There were no nearby reflecting surfaces (houses, barns etc.); as such the influence from reflecting surfaces was considered to be negligible.

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

### 3.2.2 Double Windscreen Setup

A double windscreen setup was not utilized.

### 3.3 Measurement Schedule

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

Table 8 - Measurement Schedule Summary

Date	Test Type	Start Time	Finish time
October 7, 2014	Turbine ON	12:38pm	2:11pm
October 8, 2014	Background	10:29am	12:02pm

### 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 T15's power curve (as per the standard), while wind direction was provided by T15's nacelle anemometer (located at hub height). Background data was obtained from an anemometer located 10m above ground level near T15.

Temperature and pressure readings during the measurement period were provided by the 10m anemometer, located near turbine T15 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  $>6\text{dB}$ . Additionally, the ambient noise levels are steady across the entire wind speed range, with a slope of  $0.08\text{dB}$  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.

### 4.2 Special Notes & Considerations

Turbines T13, T10 and T09, in the vicinity of T15 were shut down for the duration of the measurement.

### 4.3 Analysis Details

The following section outlines analysis of the measurement data acquired for T15. The data presented is exclusive of transient events such as vehicle traffic, wildlife, air traffic etc. The site has been assessed to have a roughness length of  $0.05\text{m}$ , representative of farmland with some vegetation.

#### 4.3.1 Double Windscreen Adjustment

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

#### 4.3.2 Wind Speed Correction

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

Background wind speed was derived utilizing data acquired with the  $10\text{m}$  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	
8.5	53.5	17	46.3	23	52.5
9	53.5	33	45.3	32	52.7
9.5	53.8	66	46.4	45	52.9
10	53.7	68	47.5	34	52.5
10.5	53.7	74	47.4	39	52.6
11	53.8	36	46.7	32	52.8
11.5	53.8	34	46.0	34	53.0
12	54.1	13	46.7	30	53.2
12.5	53.8	12	45.6	20	53.1
13	53.7	15	46.7	16	52.8
13.5	53.5	11	47.1	11	52.3

#### 4.6 Sound Power Level of Turbine

The calculated sound power level of the turbine T15 (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)
8.5	102.7	0.9
9	102.9	0.9
9.5	103.1	0.9
10	102.7	1.0
10.5	102.8	1.0
11	103.0	0.9
11.5	103.3	0.8
12	103.4	1.0
12.5	103.3	0.8
13	103.0	0.9
13.5	102.5	1.0

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

Wind Speed (m/s)	Apparent $L_{WA}$ , (dBA)	Uncertainty (dB)
5	102.4	0.8
6	102.8	0.9
7	103.1	0.8
8	103.0	0.9
9	103.0	0.9

#### 4.7 Tonality Analysis

The tonality analysis for Turbine T15 is summarized in Table 13, while plots of narrow band spectra at each wind speed are provided in Appendix D. The  $\Delta L_{tn}$  and  $\Delta L_a$  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, $\Delta L_{tn}$ (dB)	Tonal audibility, $\Delta L_a$ (dB)	FFT's with tones	Total # of FFT's	Presence (%)
8.5	138	-3.4	-1.4	17	17	100%
9	137	-4.3	-2.3	33	33	100%
	394	-0.9	1.3	7	33	21%
9.5	1574	-4.5	-1.2	60	66	91%
10	1574	-3.0	0.3	67	68	99%
10.5	1577	-2.0	1.2	73	74	99%
11	1576	-1.9	1.3	36	36	100%
11.5	1575	-1.7	1.6	32	34	94%
12	1594	-3.4	-0.1	11	13	85%
12.5	1589	-2.0	1.3	12	12	100%
13	1581	-2.2	1.0	15	15	100%
13.5	1575	-2.6	0.6	9	11	82%

## 5 Closure

Measurements and analysis were carried on Turbine T15 of the McLean's Mountain Wind Farm, located on Manitoulin Island as per International IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques".

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

## 6 References

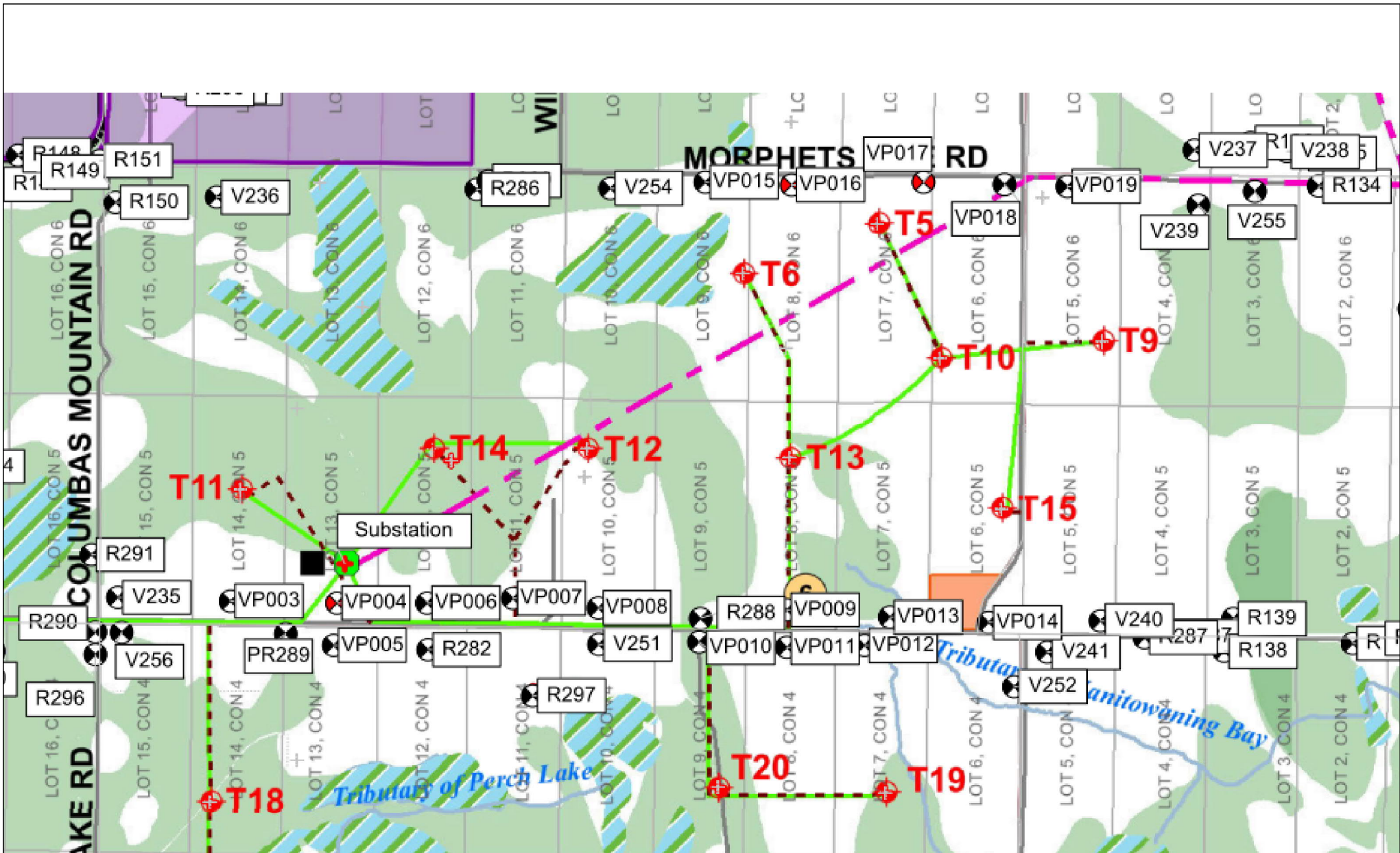
1. International Standard IEC 61400-11 (Edition 3.0, released 2012-11), "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques".


---

## Appendix A Site Details

---





	08020.04.T15.RP1	<b>Project Name</b>	McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0	<b>Figure Title</b> Site Plan	<b>Figure A.01</b>
	Scale: NTS Drawn by: ADT Reviewed by: AM Date: Sept 8, 2017 Revision: 1				



08020.04.T15.RP1

**Project Name**



Scale: NTS  
Drawn by: ADT  
Reviewed by: AM  
Date: Sept 11, 2017  
Revision: 1

McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**

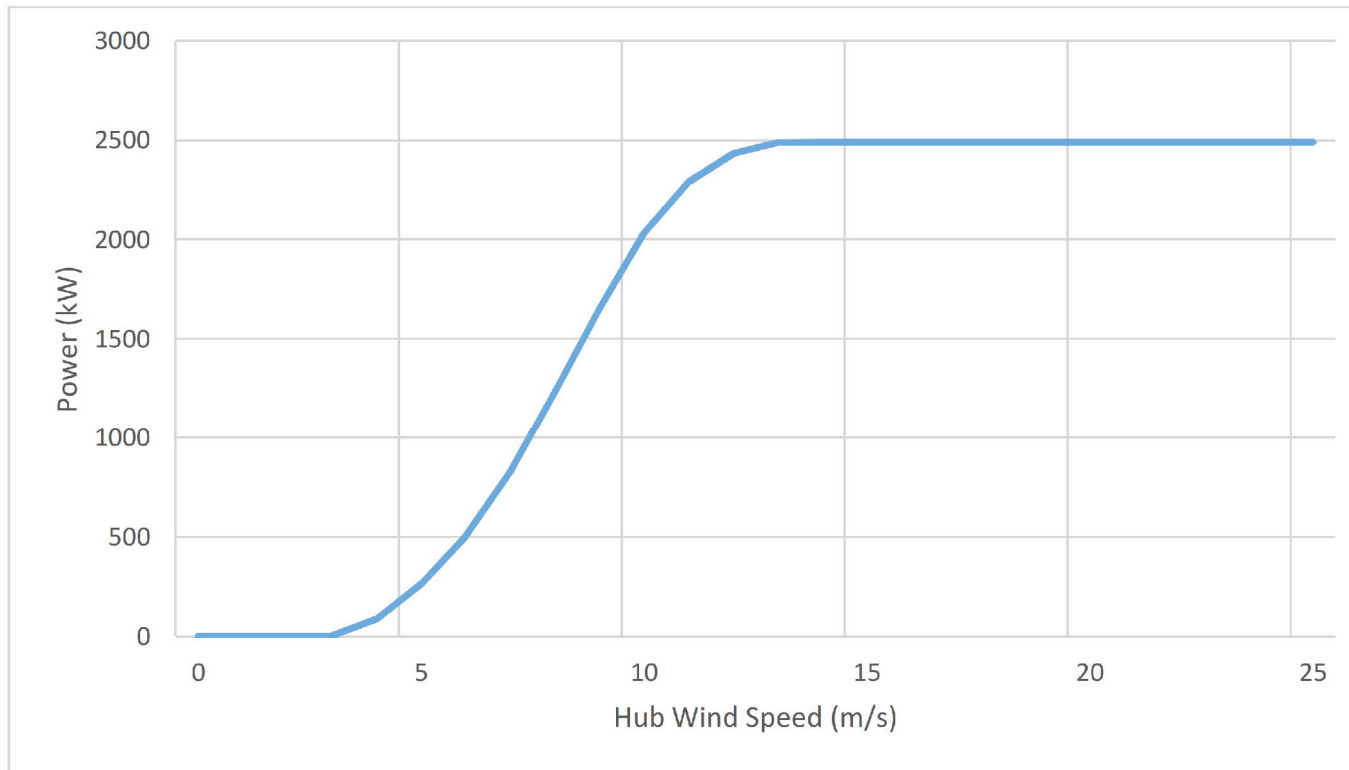
Site Photos

**Figure A.02**

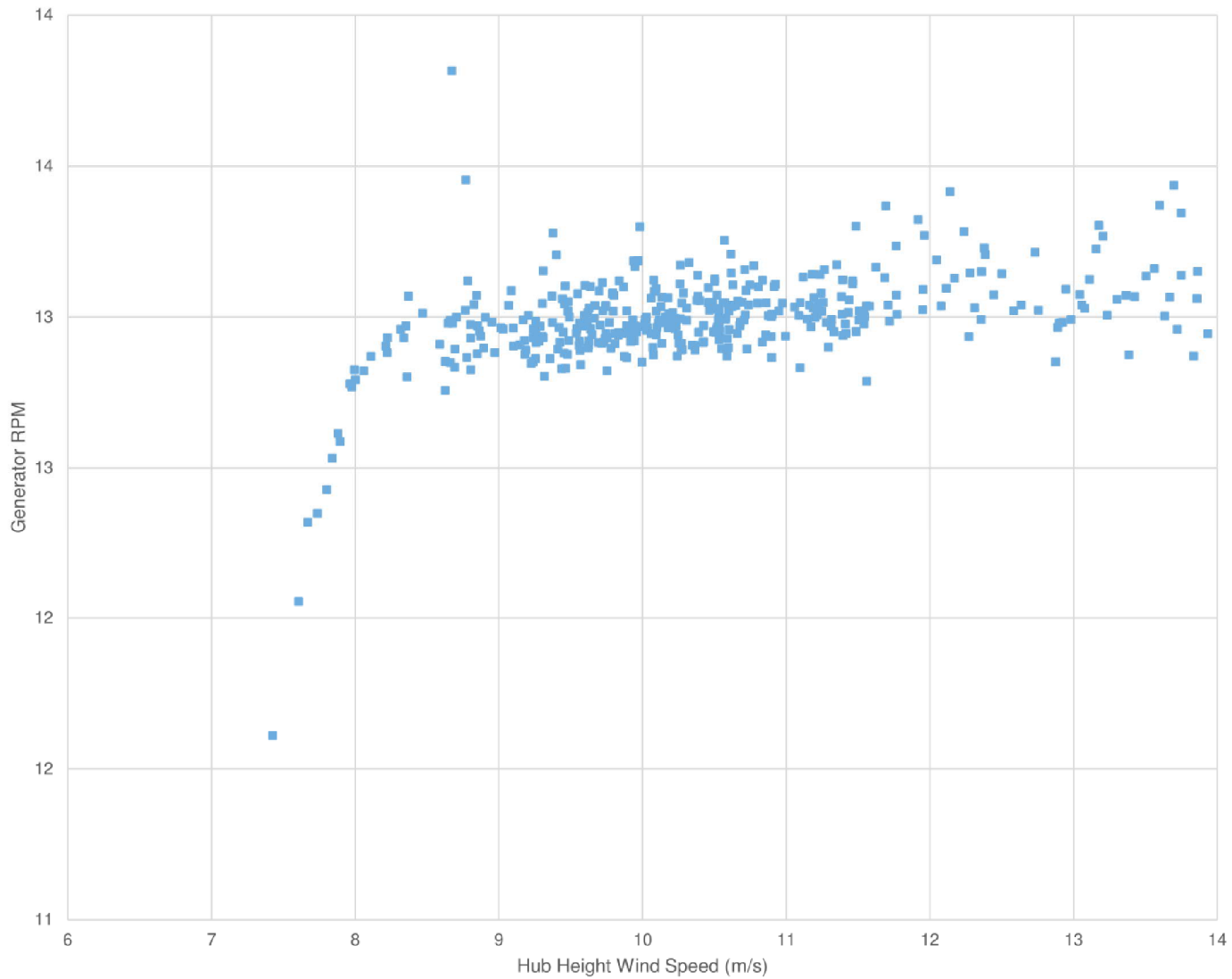
---

## Appendix B Turbine Information

---



Power Curve	
Hub Wind Speed (m/s)	Power [kW]
0	0
1	0
2	0
3	2
4	86
5	263
6	499
7	824
8	1231
9	1652
10	2031
11	2292
12	2432
13	2489
14	2490
15	2490
16	2490
17	2490
18	2490
19	2490
20	2490
21	2490
22	2490
23	2490
24	2490
25	2490



08020.04.T15.RP1

Scale: NTS  
 Drawn by: ADT  
 Reviewed by: AM  
 Date: Sept 11, 2017  
 Revision: 1

**Project Name**

McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**

Rotor RPM vs Wind Speed

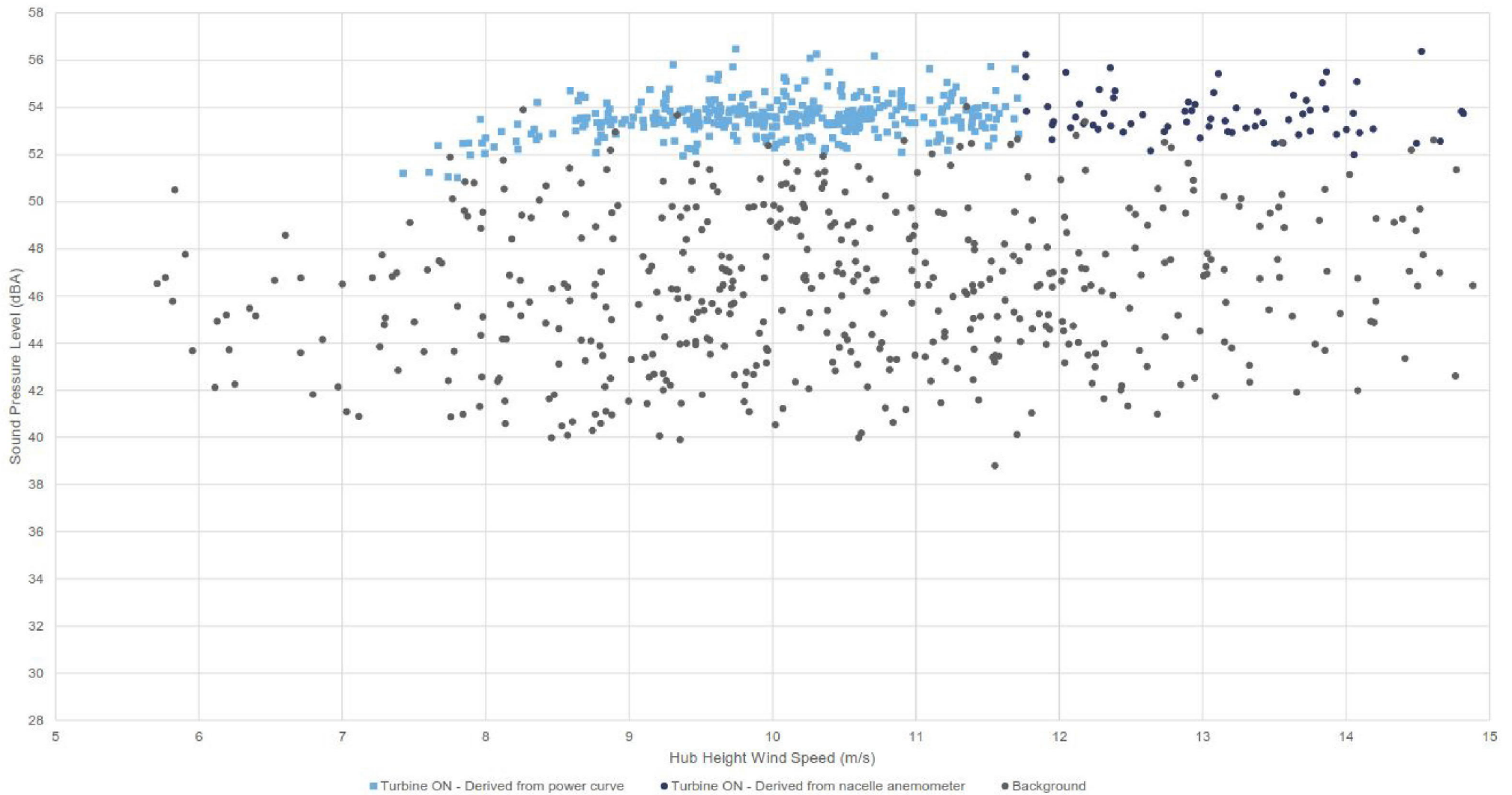
**Figure B.02**

---

## Appendix C

### Apparent Sound Power Level

---



08020.04.T15.RP1

Scale: NTS  
 Drawn by: ADT  
 Reviewed by: AM  
 Date: Sept 11, 2017  
 Revision: 1

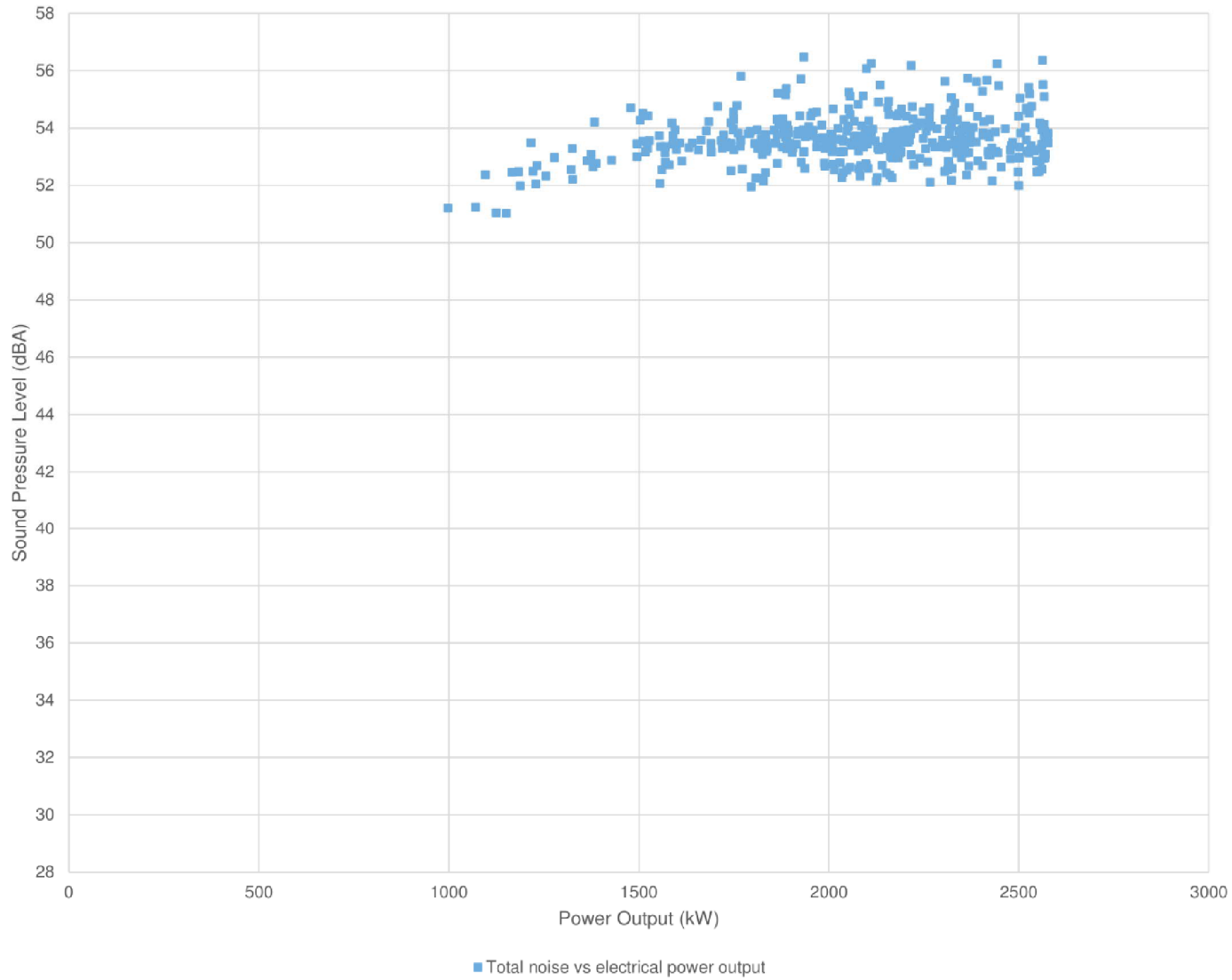
**Project Name**

McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**

Plot of overall measurement data pairs at position 1 (Turbine ON & Background)

**Figure C.01**



08020.04.T15.RP1

Scale: NTS  
 Drawn by: ADT  
 Reviewed by: AM  
 Date: Sept 11, 2017  
 Revision: 1

**Project Name**

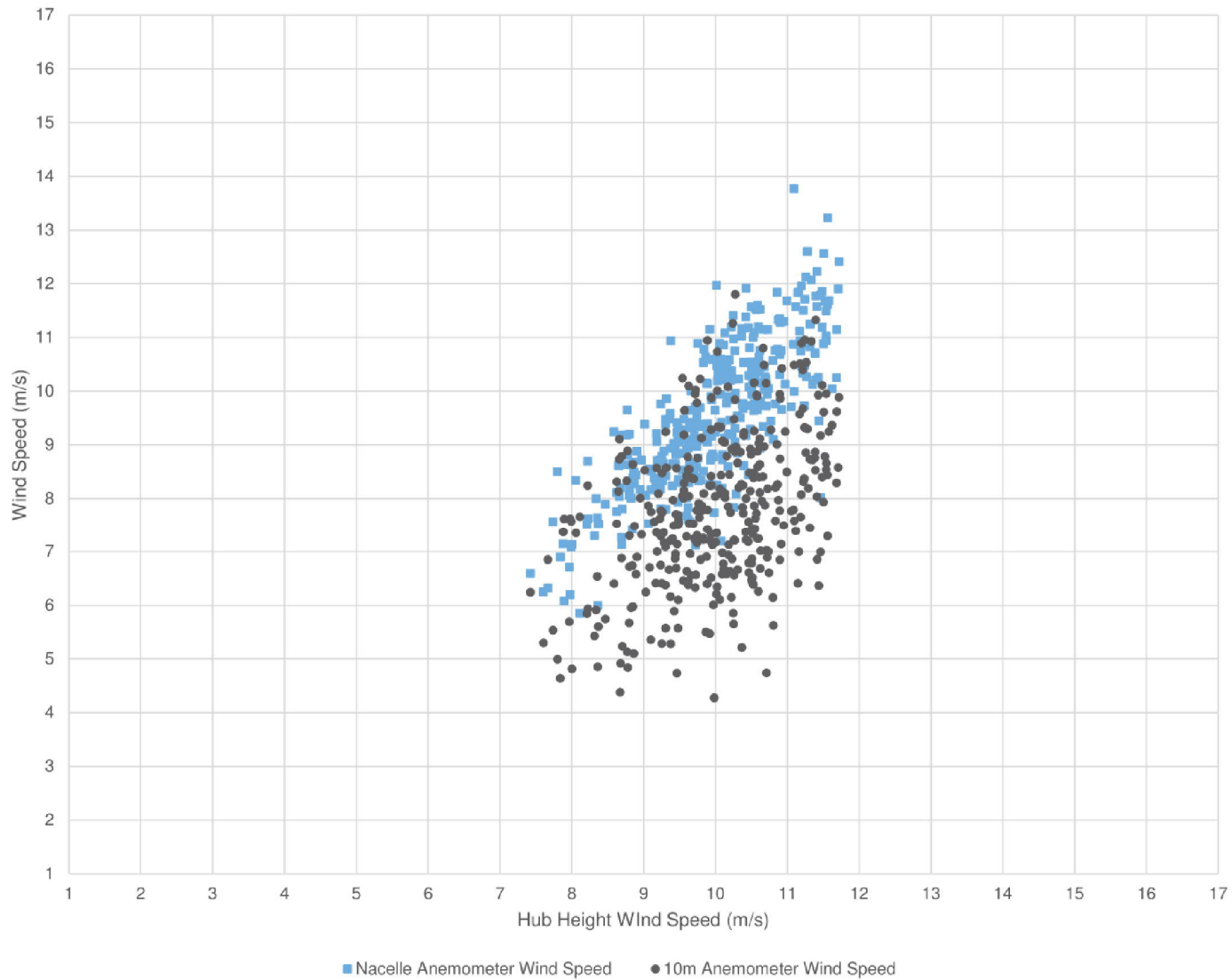
McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

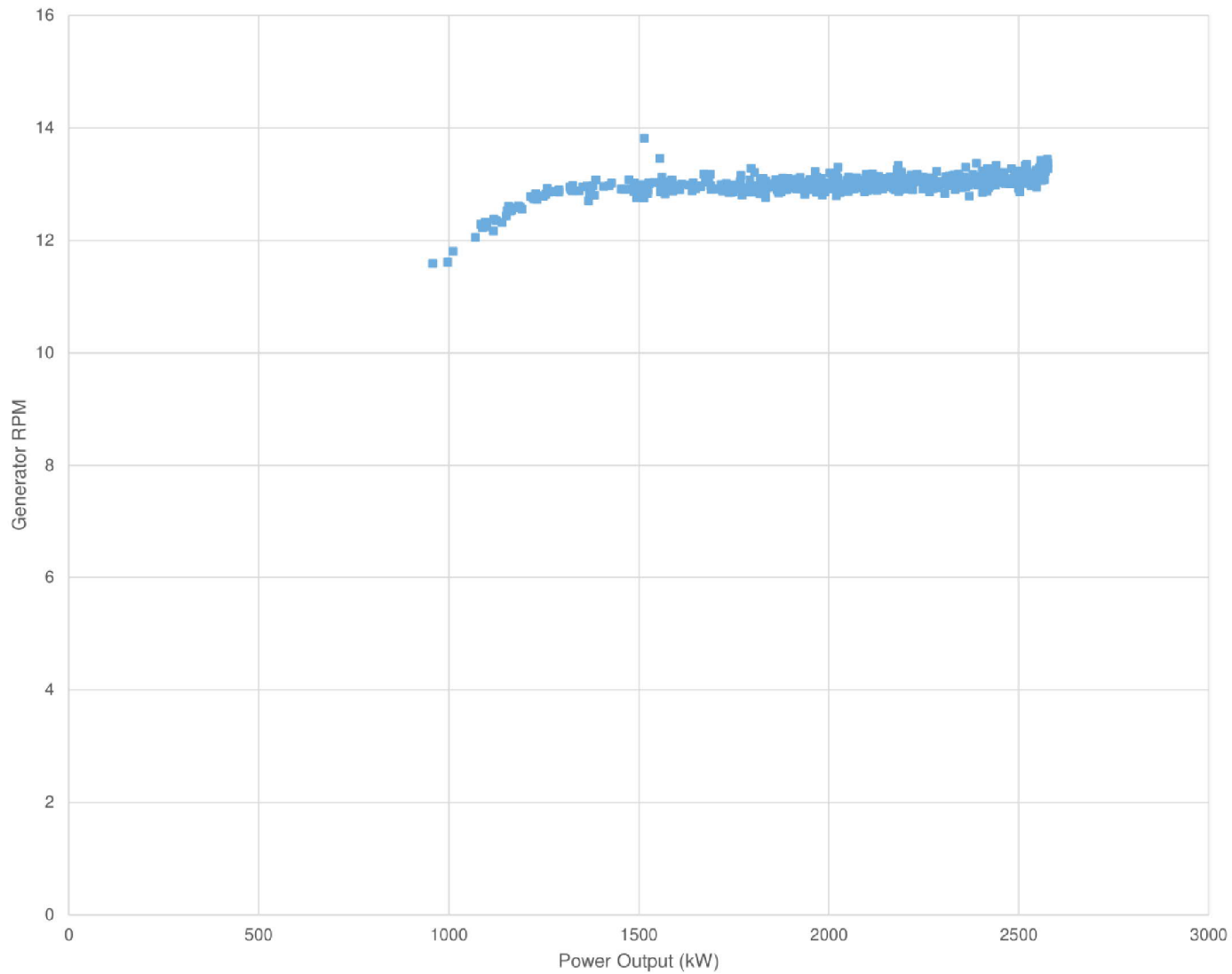
**Figure Title**

Plot of measured total noise vs electrical power output

**Figure C.02**







08020.04.T15.RP1

Scale: NTS  
 Drawn by: ADT  
 Reviewed by: AM  
 Date: Sept 11, 2017  
 Revision: 1

**Project Name**

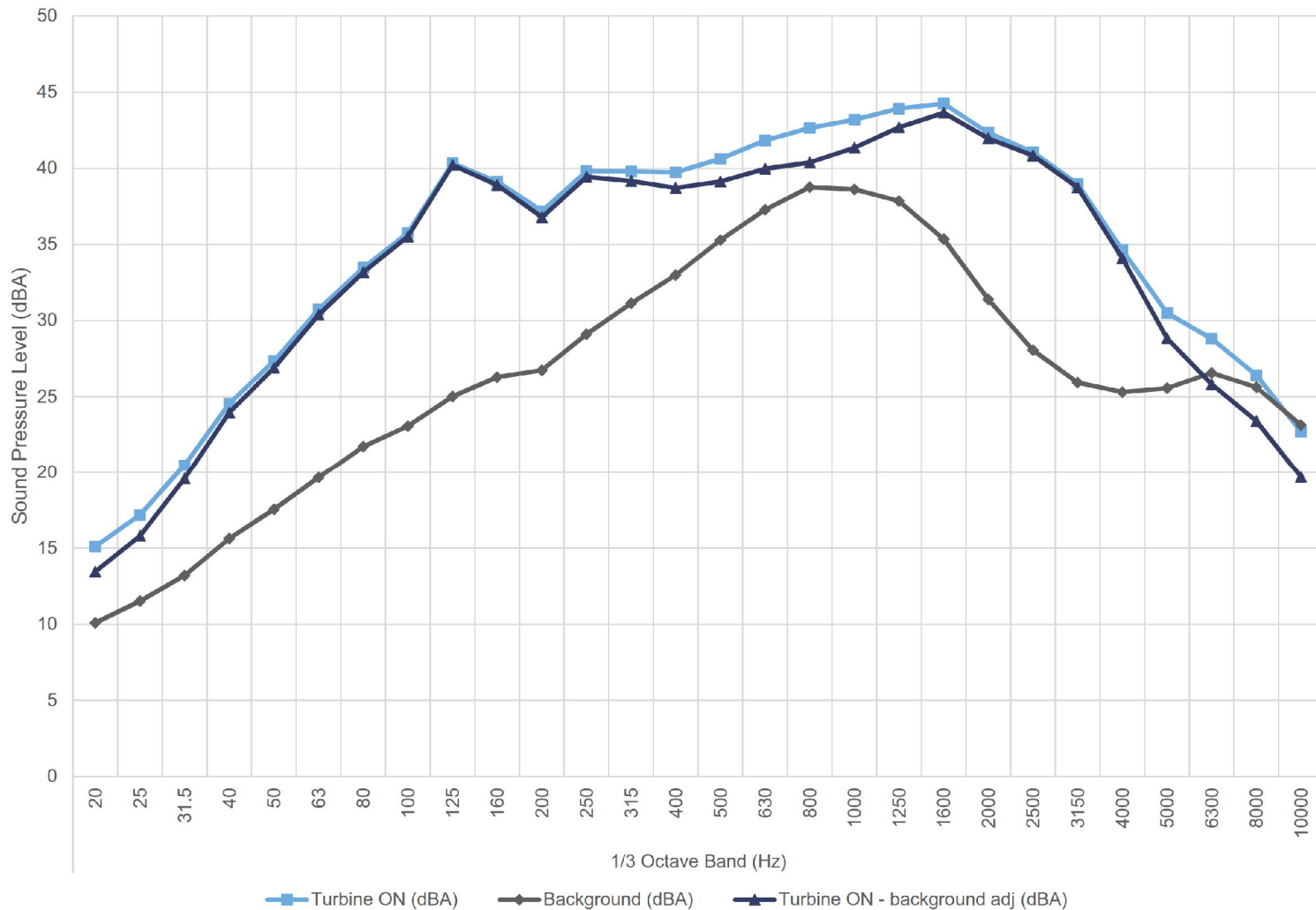
McLeans Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**

Plot of rotor RPM vs. electrical power output

**Figure C.04**

8.5 m/s - Hub Height



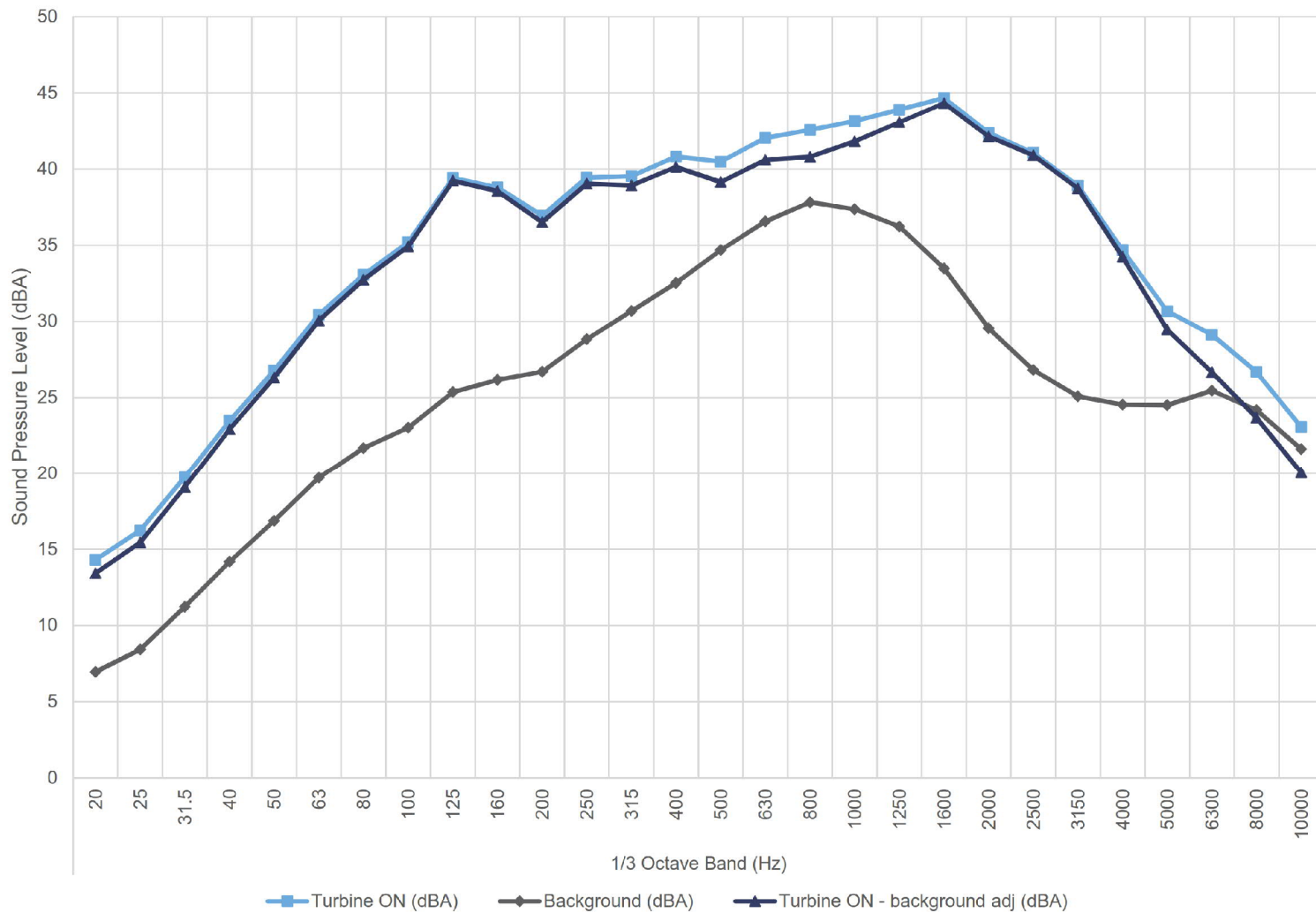
08020.04.T15.RP3  
 Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

**Project Name**  
 Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**  
 Plot of sound pressure spectrum in 1/3 Octave at 8.5 m/s

**Figure C.05**

9.0 m/s - Hub Height



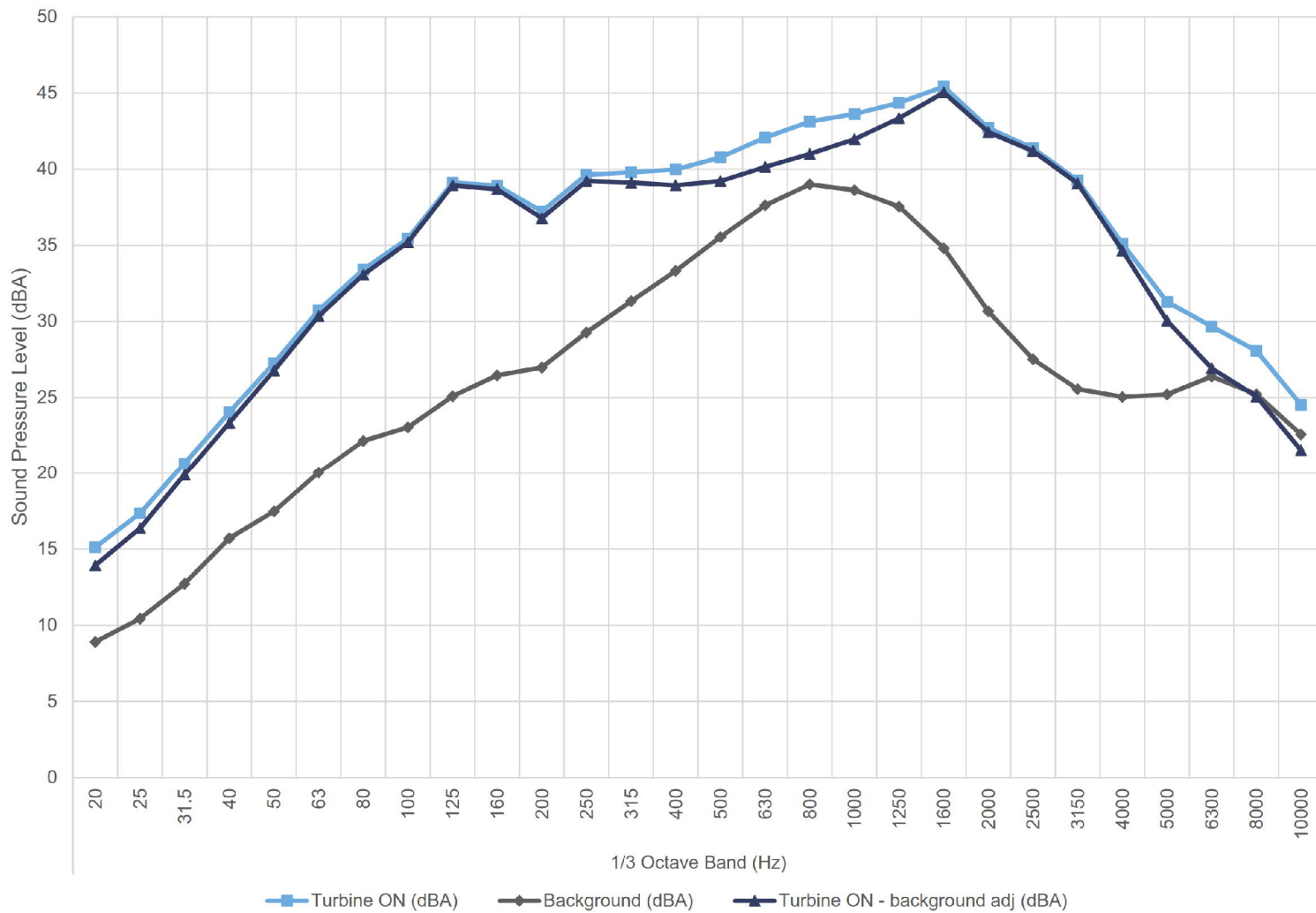
08020.04.T15.RP3  
 Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

**Project Name**  
 Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**  
 Plot of sound pressure spectrum in 1/3 Octave at 9 m/s

**Figure C.06**

9.5 m/s - Hub Height



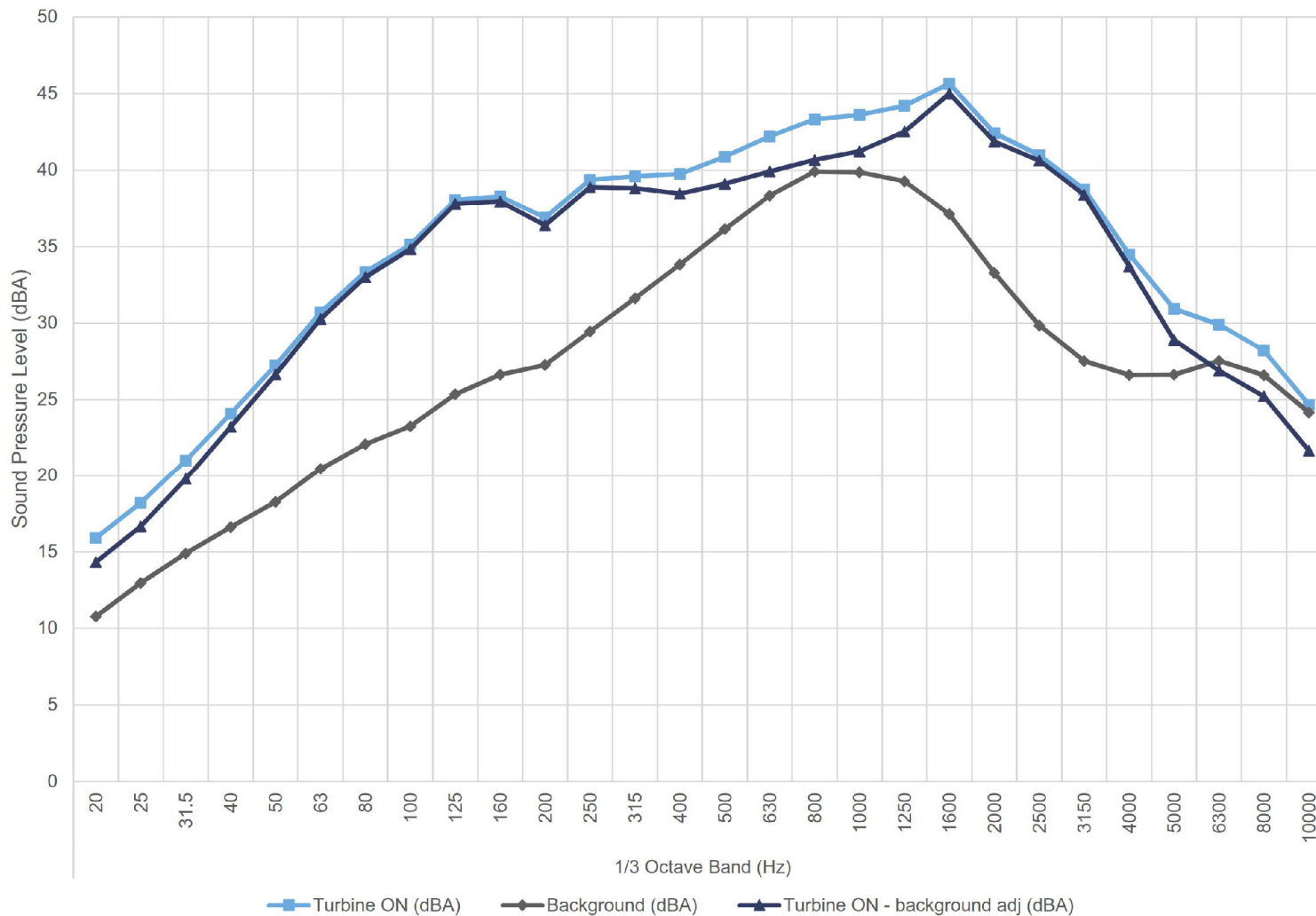
08020.04.T15.RP3  
 Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

**Project Name**  
 Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**  
 Plot of sound pressure spectrum in 1/3 Octave at 9.5 m/s

**Figure C.07**

10.0 m/s - Hub Height



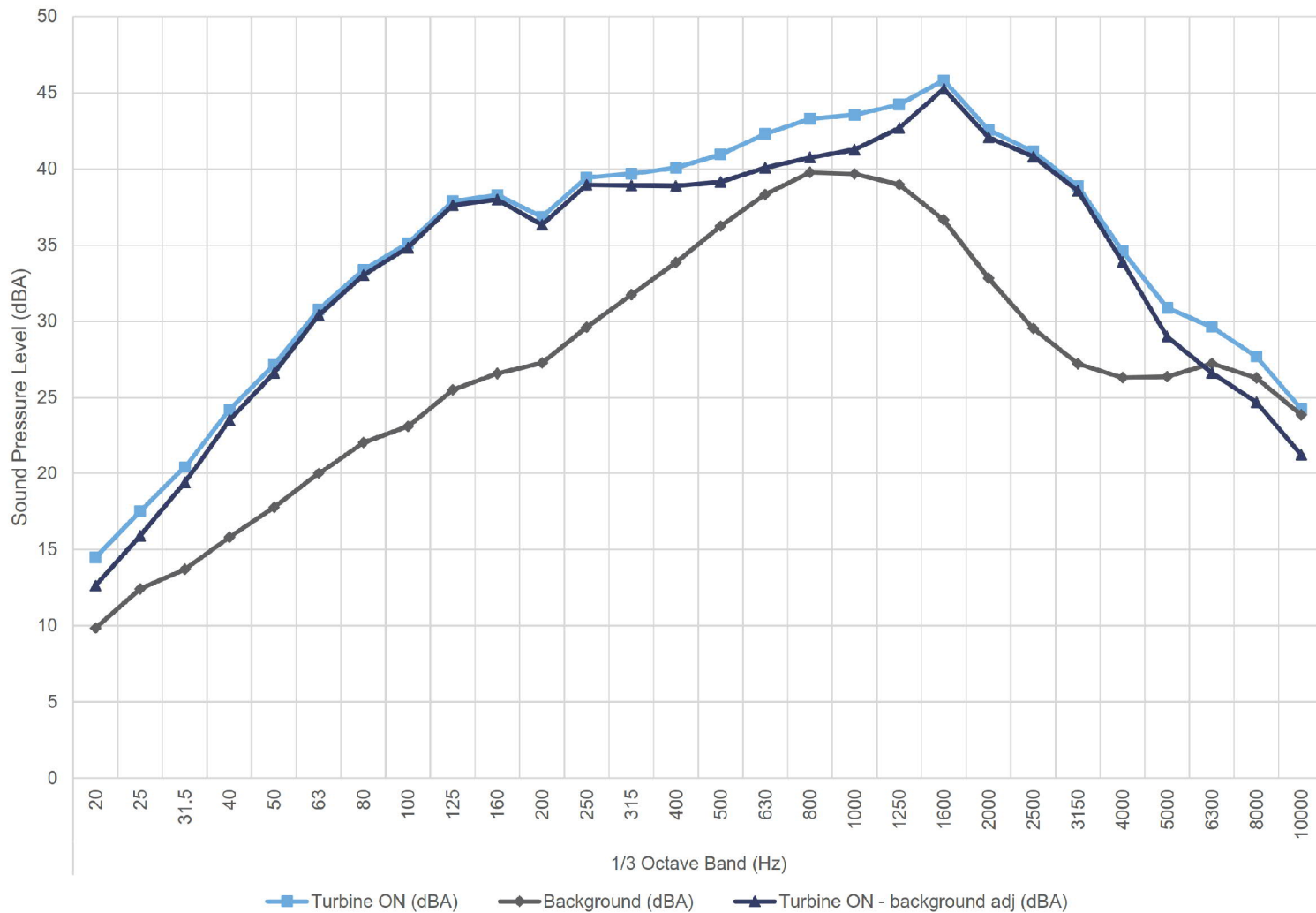
08020.04.T15.RP3  
 Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

**Project Name**  
 Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

**Figure Title**  
 Plot of sound pressure spectrum in 1/3 Octave at 10 m/s

**Figure C.08**

10.5 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

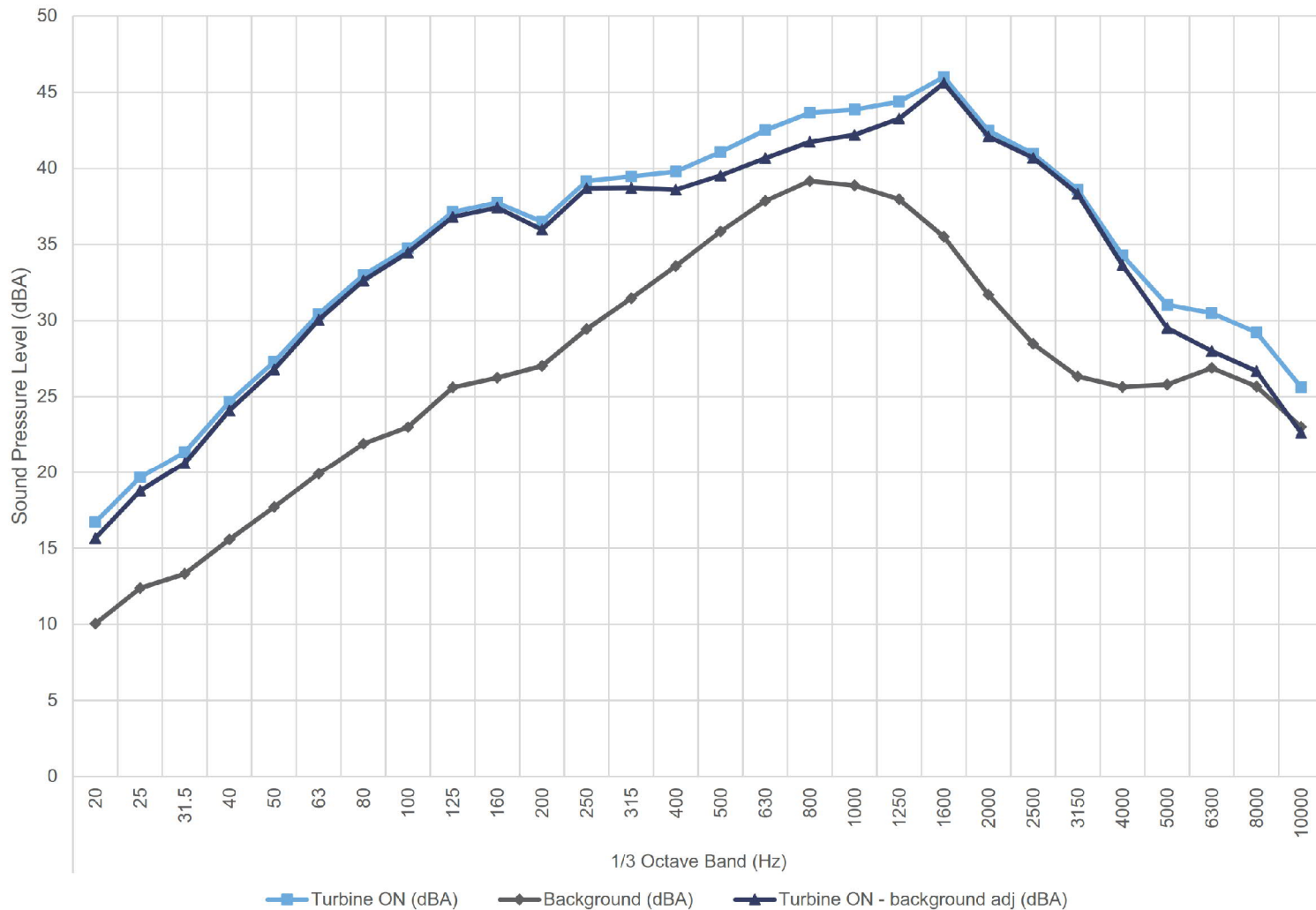
McLean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 10.5 m/s

Figure C.09

11.0 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

McLean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

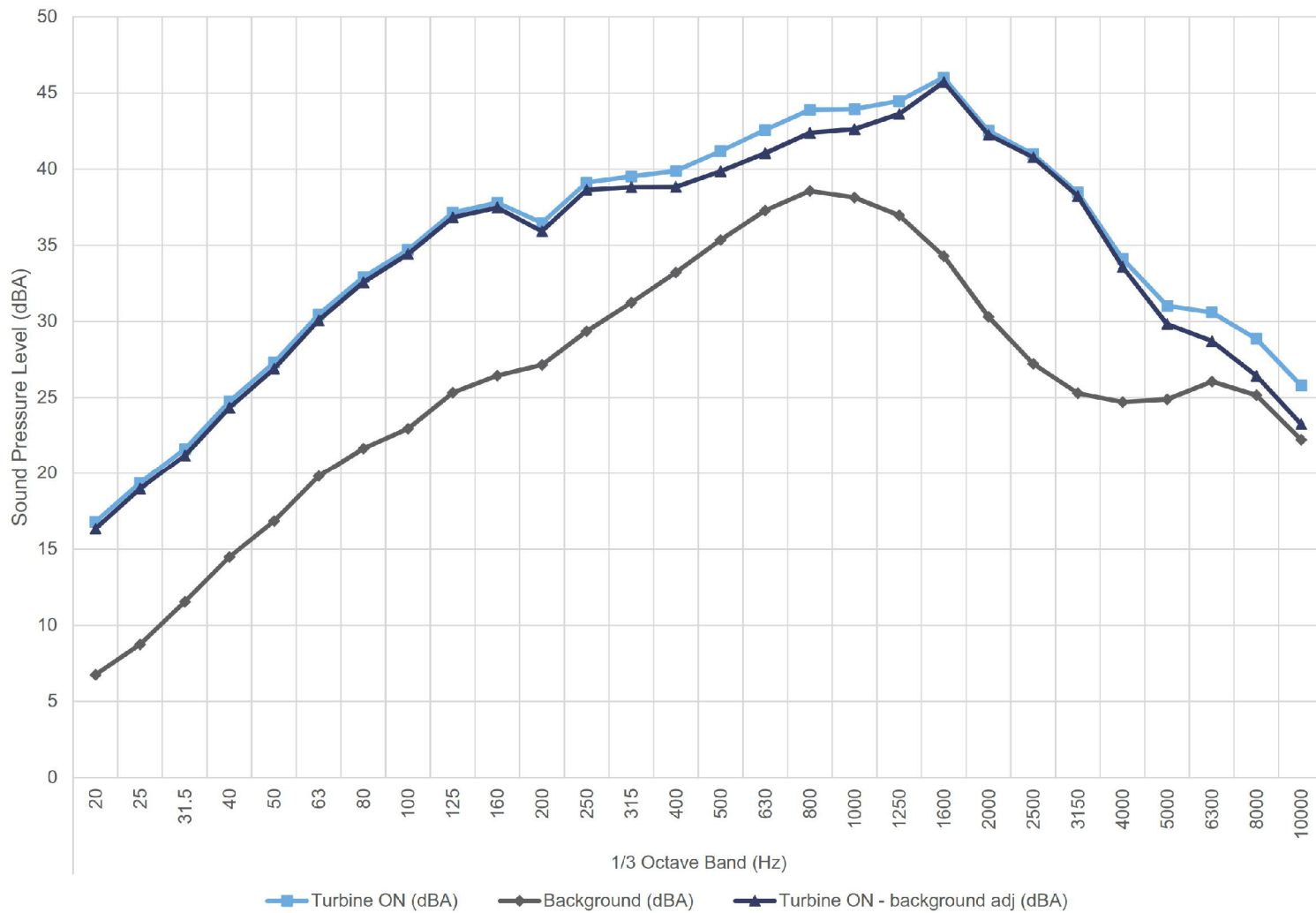
Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 11 m/s

Figure C.10



11.5 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

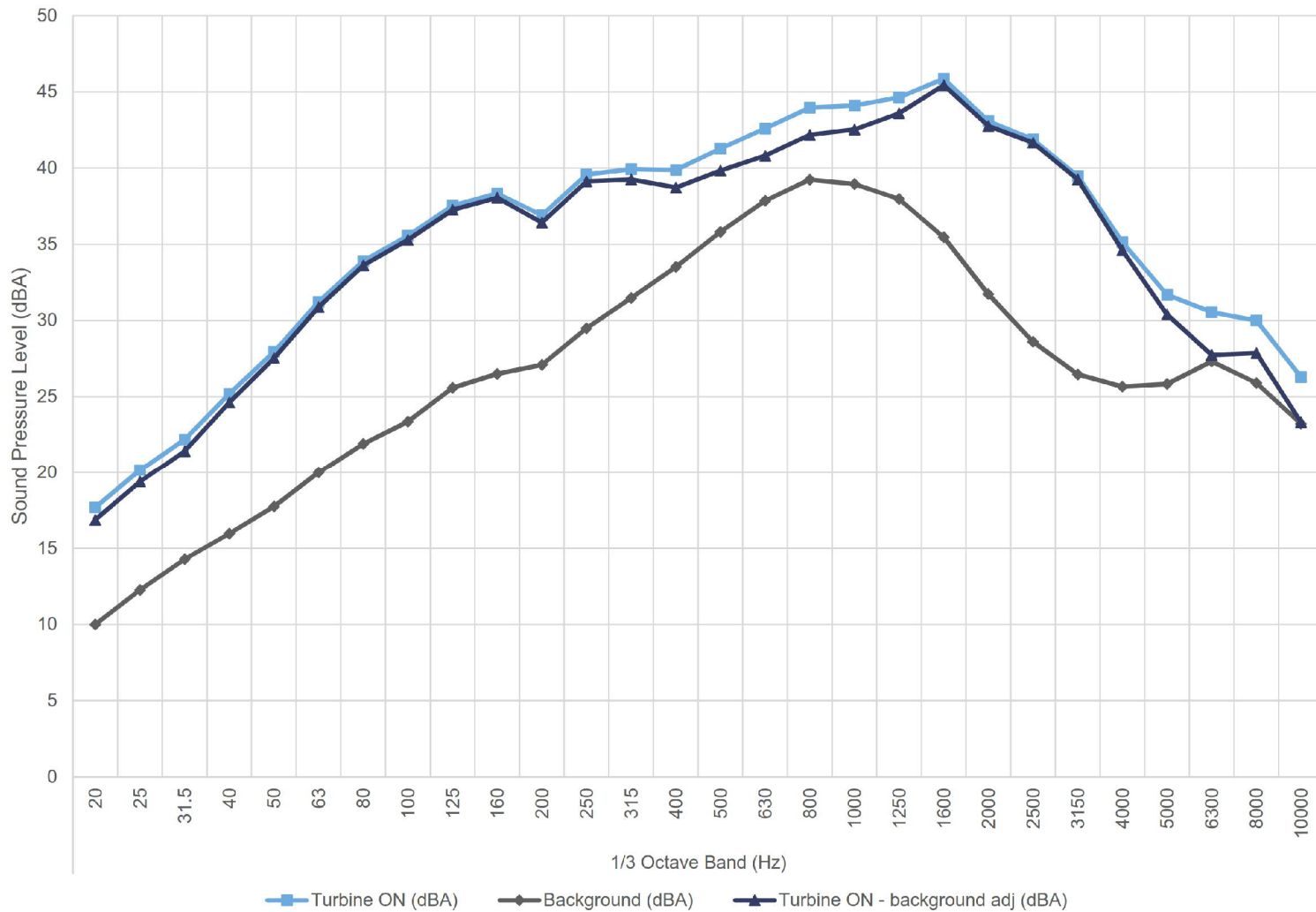
Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 11.5 m/s

Figure C.11

12.0 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

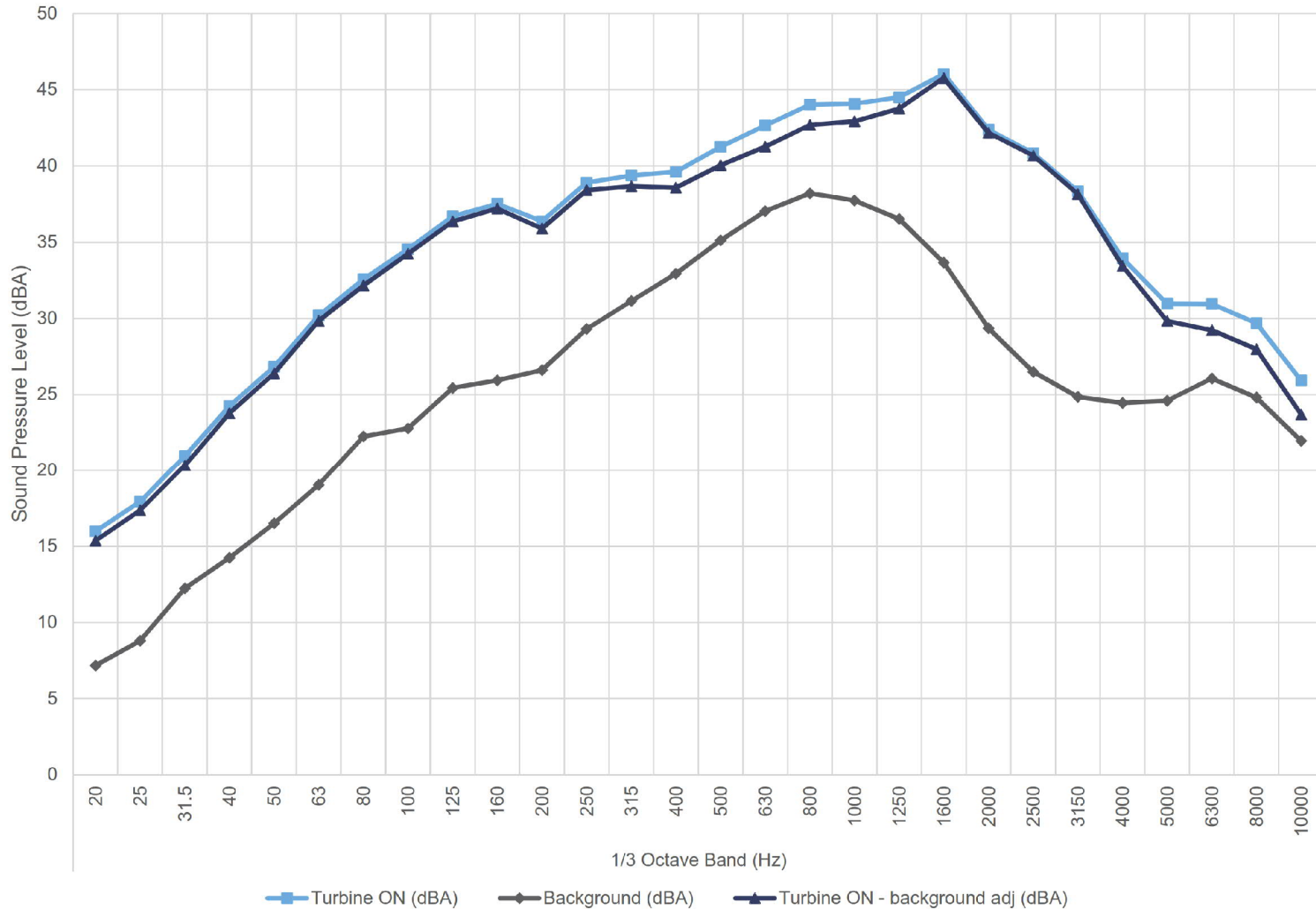
Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 12 m/s

Figure C.12

### 12.5 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

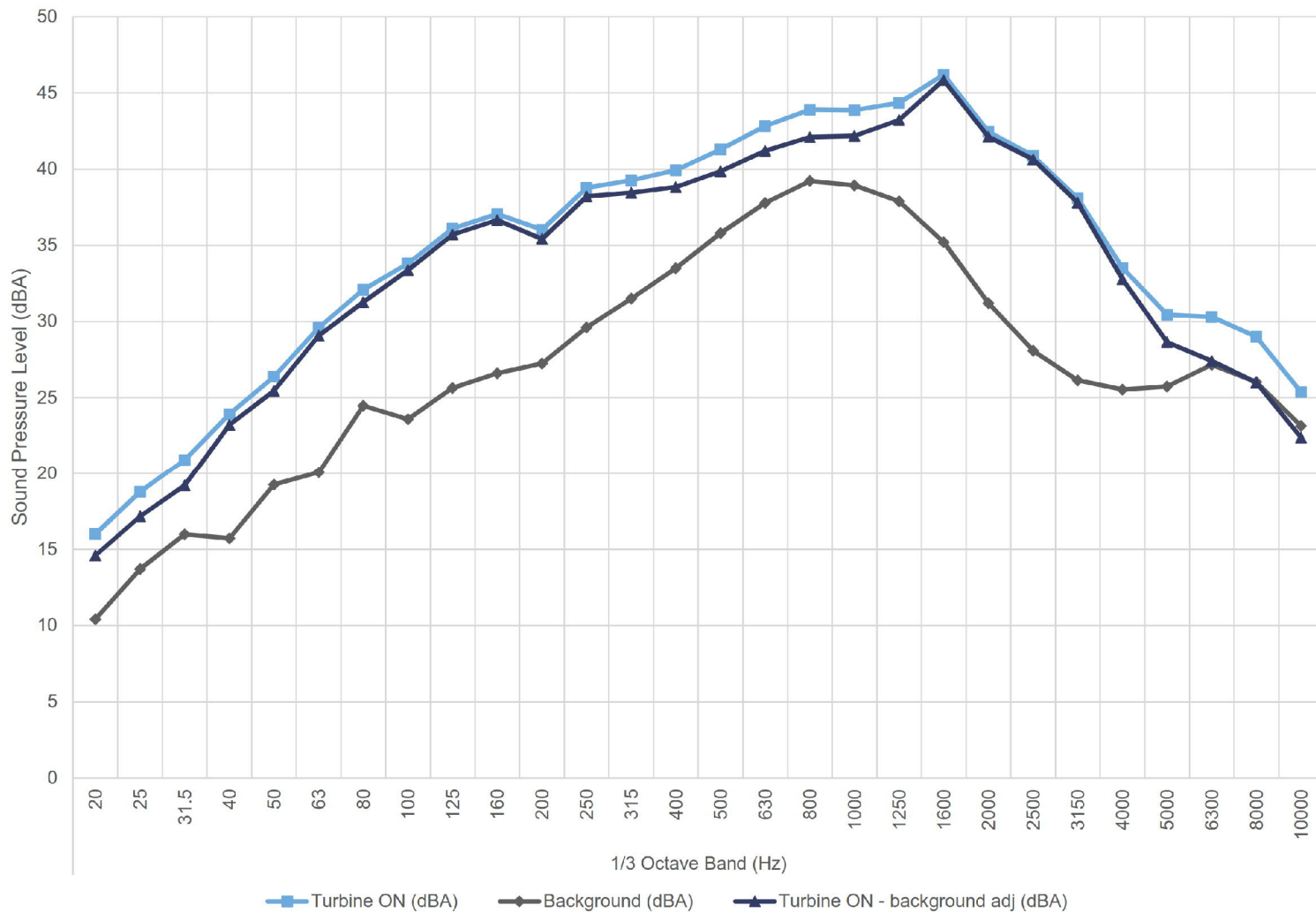
McLean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 12.5 m/s

**Figure C.13**

### 13.0 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

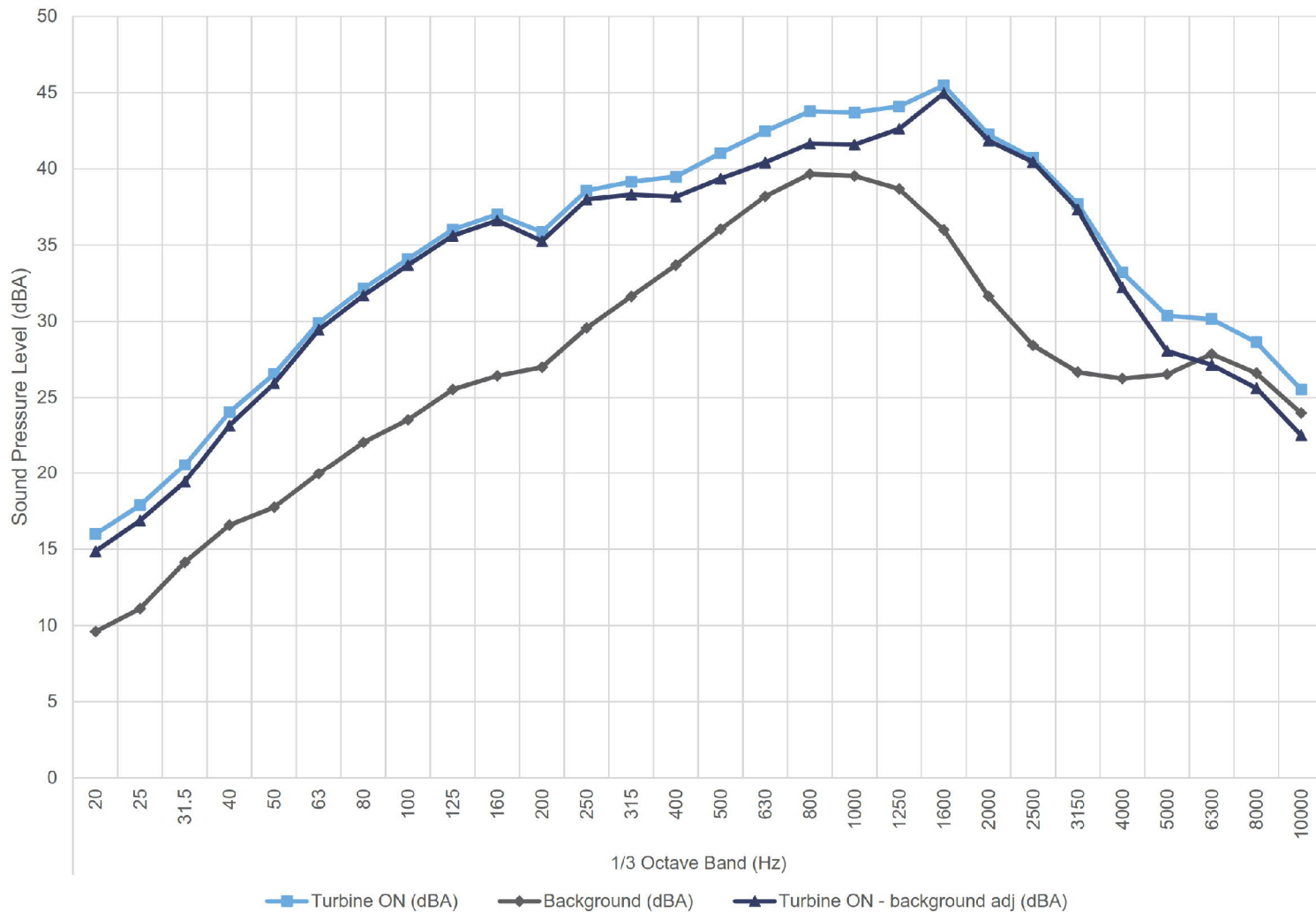
McLean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 13 m/s

**Figure C.14**

13.5 m/s - Hub Height



08020.04.T15.RP3

Scale: NTS  
 Drawn by: AM  
 Reviewed by: PA  
 Date: Sept 13, 2017  
 Revision: 1

Project Name

Mclean's Mountain Wind Farm - Turbine T15 - IEC61400-11 Edition 3.0

Figure Title

Plot of sound pressure spectrum in 1/3 Octave at 13.5 m/s

**Figure C.15**

Table C.01 Detailed apparent sound power level data at hub height  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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

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

Wind Bin (m/s)	Parameter	1/3 Octave Band (Hz)																Overall												
		20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630		800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000
8.5	Turbine ON (dBA)	15.1	17.2	20.5	24.5	27.4	30.7	33.5	35.8	40.3	39.1	37.2	39.8	39.8	39.7	40.6	41.8	42.7	43.2	43.9	44.2	42.3	41.1	39.0	34.6	30.5	28.8	26.4	22.7	53.5
	Background (dBA)	10.1	11.5	13.2	15.6	17.5	19.6	21.7	23.1	25.0	26.3	26.7	29.1	31.1	33.0	35.3	37.3	38.8	38.6	37.8	35.4	31.4	28.1	25.9	25.3	25.6	26.6	25.6	23.1	46.3
	Turbine ON - background adj (dBA)	13.5	15.8	19.6	23.9	26.9	30.4	33.2	35.5	40.2	38.9	36.8	39.4	39.2	38.7	39.1	40.0	40.4	41.3	42.7	43.6	42.0	40.8	38.8	34.1	28.8	[25.8]	[23.4]	[19.7]	52.5
	Signal to noise (dB)	5.0	5.7	7.3	8.9	9.8	11.1	11.8	12.7	15.3	12.8	10.5	10.7	8.7	6.8	5.3	4.6	3.9	4.6	6.1	8.9	10.9	13.0	13.0	9.3	4.9	2.3	0.8	-0.4	7.1
	Uncertainty (dB)	1.7	1.6	1.1	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8	1.0	1.1	1.4	1.2	1.0	0.8	0.7	0.8	0.8	0.9	1.3	2.4	2.8	3.5	0.9	
9.0	PWL (dBA)	63.7	66.0	69.8	74.2	77.1	80.6	83.4	85.7	90.4	89.1	87.0	89.6	89.4	88.9	89.3	90.2	90.6	91.6	92.9	93.8	92.2	91.0	89.0	84.3	79.0	[76]	[73.6]	[69.9]	102.7
	Turbine ON (dBA)	14.3	16.2	19.7	23.5	26.8	30.4	33.1	35.2	39.4	38.8	37.0	39.4	39.5	40.8	40.5	42.0	42.6	43.1	43.9	44.7	42.4	41.1	38.9	34.7	30.7	29.1	26.7	23.1	53.5
	Background (dBA)	7.0	8.4	11.2	14.2	16.9	19.7	21.7	23.0	25.4	26.2	26.7	28.8	30.7	32.5	34.7	36.6	37.8	37.4	36.2	33.5	29.6	26.8	25.1	24.6	24.5	25.5	24.2	21.6	45.3
	Turbine ON - background adj (dBA)	13.4	15.5	19.1	22.9	26.3	30.1	32.7	34.9	39.2	38.6	36.5	39.0	38.9	40.1	39.1	40.6	40.8	41.8	43.1	44.3	42.1	40.9	38.7	34.2	29.5	26.7	[23.7]	[20.1]	52.7
	Signal to noise (dB)	7.4	7.8	8.5	9.3	9.9	10.7	11.4	12.2	14.0	12.6	10.3	10.6	8.8	8.3	5.8	5.5	4.8	5.8	7.7	11.2	12.8	14.3	13.8	10.1	6.2	3.7	2.5	1.4	8.1
9.5	Uncertainty (dB)	1.4	1.3	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.9	1.0	1.0	1.1	1.0	0.9	0.8	0.7	0.8	0.8	0.9	1.1	1.8	2.3	3.4	0.9
	PWL (dBA)	63.6	65.7	69.3	73.1	76.5	80.3	82.9	85.1	89.4	88.8	86.7	89.2	89.1	90.3	89.4	90.8	91.0	92.0	93.3	94.5	92.3	91.1	88.9	84.4	79.7	76.9	[73.9]	[70.3]	102.9
	Turbine ON (dBA)	15.1	17.4	20.7	24.0	27.3	30.7	33.4	35.5	39.1	38.9	37.2	39.6	39.8	40.0	40.8	42.1	43.1	43.6	44.4	45.4	42.7	41.4	39.3	35.1	31.3	29.7	28.1	24.5	53.8
	Background (dBA)	8.9	10.4	12.7	15.7	17.5	20.1	22.2	23.1	25.1	26.5	27.0	29.3	31.3	33.3	35.6	37.6	39.0	38.6	37.5	34.8	30.7	27.5	25.6	25.0	25.2	26.4	25.2	22.6	46.4
	Turbine ON - background adj (dBA)	13.9	16.4	19.9	23.4	26.8	30.4	33.1	35.2	38.9	38.7	36.8	39.2	39.1	38.9	39.2	40.1	41.0	42.0	43.3	45.0	42.4	41.2	39.1	34.7	30.1	26.9	[25.1]	[21.5]	52.9
10.0	Signal to noise (dB)	6.2	6.9	7.9	8.3	9.8	10.7	11.3	12.4	14.0	12.5	10.2	10.4	8.5	6.7	5.2	4.5	4.1	5.0	6.8	10.6	12.0	13.8	13.7	10.1	6.1	3.3	2.9	2.0	7.4
	Uncertainty (dB)	1.4	1.3	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.2	1.2	1.1	0.9	0.8	0.7	0.8	0.8	0.9	1.1	1.8	2.1	3.3	0.9	
	PWL (dBA)	64.1	66.6	70.1	73.6	77.0	80.6	83.3	85.4	89.1	88.9	87.0	89.4	89.3	89.1	89.4	90.4	91.2	92.2	93.5	95.2	92.6	91.4	89.3	84.9	80.3	77.1	[75.3]	[71.7]	103.1
	Turbine ON (dBA)	15.9	18.2	21.0	24.1	27.2	30.7	33.3	35.1	38.0	38.3	36.9	39.4	39.6	39.7	40.9	42.2	43.3	43.6	44.2	45.7	42.4	41.0	38.7	34.5	30.9	29.9	28.2	24.7	53.7
	Background (dBA)	10.8	13.0	14.9	16.6	18.3	20.5	22.1	23.3	25.3	26.6	27.3	29.5	31.6	33.8	36.1	38.3	39.9	39.9	39.3	37.1	33.3	29.8	27.5	26.6	26.6	27.5	26.6	24.2	47.5
10.5	Turbine ON - background adj (dBA)	14.3	16.7	19.8	23.2	26.7	30.3	33.0	34.8	37.8	38.0	36.4	38.9	38.8	38.5	39.1	39.9	40.7	41.2	42.5	45.0	41.9	40.6	38.4	33.7	28.9	[26.9]	[25.2]	[21.7]	52.5
	Signal to noise (dB)	5.1	5.2	6.1	7.5	9.0	10.2	11.3	11.9	12.7	11.6	9.6	9.9	8.0	5.9	4.7	3.9	3.4	3.8	4.9	8.5	9.1	11.1	11.2	7.9	4.3	2.4	1.6	0.5	6.1
	Uncertainty (dB)	1.7	1.6	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	1.0	1.1	1.3	1.5	1.4	1.2	0.8	0.8	0.9	0.9	1.0	1.4	2.0	2.2	3.4	1.0	
	PWL (dBA)	64.5	66.9	70.0	73.4	76.9	80.5	83.2	85.1	88.0	88.2	86.6	89.1	89.0	88.7	89.3	90.1	90.9	91.4	92.7	95.2	92.1	90.8	88.6	83.9	79.1	[77.1]	[75.4]	[71.9]	102.7
	Turbine ON (dBA)	14.5	17.5	20.4	24.2	27.2	30.8	33.4	35.1	37.9	38.3	36.9	39.4	39.7	40.1	41.0	42.3	43.3	43.6	44.2	45.8	42.6	41.1	38.9	34.6	30.9	29.6	27.7	24.3	53.7
11.0	Background (dBA)	9.8	12.4	13.7	15.8	17.8	20.0	22.1	23.1	25.5	26.6	27.3	29.6	31.7	33.9	36.3	38.3	39.8	39.7	39.0	36.7	32.8	29.5	27.2	26.3	26.4	27.2	26.3	23.9	47.4
	Turbine ON - background adj (dBA)	12.6	15.9	19.4	23.5	26.6	30.4	33.0	34.9	37.6	38.0	36.3	39.0	38.9	39.2	40.1	40.8	41.3	42.7	45.3	42.1	40.8	38.6	33.9	29.0	[26.6]	[24.7]	[21.3]	52.6	
	Signal to noise (dB)	4.6	5.1	6.7	8.4	9.4	10.8	11.3	12.0	12.4	11.7	9.6	9.8	7.9	6.2	4.7	4.0	3.5	3.9	5.2	9.2	9.7	11.6	11.6	8.3	4.5	2.4	1.4	0.4	6.4
	Uncertainty (dB)	1.8	1.6	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.9	1.1	1.3	1.4	1.3	1.1	0.8	0.8	0.9	0.9	1.0	1.4	2.0	2.1	3.4	1.0
	PWL (dBA)	62.8	66.1	69.6	73.7	76.9	80.6	83.3	85.1	87.8	88.2	86.6	89.2	89.1	89.1	89.4	90.3	91.0	91.5	92.9	95.5	92.3	91.0	88.8	84.1	79.2	[76.8]	[74.9]	[71.5]	102.8
11.0	Turbine ON (dBA)	16.7	19.7	21.3	24.7	27.3	30.4	33.0	34.8	37.1	37.7	36.5	39.2	39.5	39.8	41.1	42.5	43.6	43.9	44.4	46.0	42.5	40.9	38.6	34.3	31.0	30.5	29.2	25.6	53.8
	Background (dBA)	10.0	12.4	13.3	15.6	17.7	19.9	21.9	23.0	25.6	26.2	27.0	29.4	31.5	33.6	35.8	37.9	39.2	38.9	38.0	35.5	31.7	28.5	26.3	25.6	25.8	26.9	25.7	23.0	46.7
	Turbine ON - background adj (dBA)	15.7	18.8	20.6	24.1	26.8	30.0	32.6	34.5	36.8	37.4	36.0	38.7	38.7	38.6	39.5	40.7	41.7	42.2	43.3	45.6	42.1	40.7	38.3	33.6	29.5	28.0	26.7	[22.6]	52.8
	Signal to noise (dB)	6.7	7.3	8.0	9.1	9.6	10.6	11.1	11.8	11.5	11.5	9.5	9.7	8.0	6.2	5.2	4.6	4.5	5.0	6.4	10.5	10.8	12.5	12.3	8.7	5.3	3.6	3.5	2.6	7.1
	Uncertainty (dB)	1.6	1.5	1.1	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.9	1.0	1.1	1.2	1.1	0.9	0.7	0.7	0.8	0.8	0.9	1.3	1.9	2.2	3.5	0.9
PWL (dBA)	65.9	69.0	70.8	74.3	77.0	80.3	82.8	84.7	87.0	87.6	86.2	88.9	88.9	88.8	89.7	90.9	91.9	92.4	93.5	95.8	92.3	90.9	88.5	83.9	79.7	78.2	76.9	[72.8]	103.0	



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

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

Wind Bin (m/s)	Parameter	1/3 Octave Band (Hz)																		Overall										
		20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000		1250	1600	2000	2500	3150	4000	5000	6300	8000	10000
11.5	Turbine ON (dBA)	16.8	19.4	21.6	24.8	27.3	30.5	32.9	34.7	37.1	37.8	36.5	39.1	39.5	39.9	41.2	42.6	43.9	43.9	44.5	46.0	42.5	41.0	38.4	34.1	31.0	30.6	28.9	25.8	53.8
	Background (dBA)	6.7	8.7	11.5	14.5	16.8	19.8	21.7	23.0	25.3	26.4	27.2	29.4	31.2	33.2	35.3	37.3	38.6	38.1	37.0	34.3	30.3	27.2	25.3	24.7	24.9	26.1	25.2	22.2	46.0
	Turbine ON - background adj (dBA)	16.3	19.0	21.2	24.3	26.9	30.1	32.6	34.4	36.8	37.5	35.9	38.6	38.8	38.8	39.9	41.0	42.4	42.6	43.6	45.7	42.2	40.8	38.2	33.6	29.8	28.7	26.4	23.3	53.0
	Signal to noise (dB)	10.0	10.6	10.1	10.3	10.5	10.7	11.3	11.8	11.4	9.3	9.8	8.3	6.7	5.8	5.3	5.3	5.8	7.5	11.7	12.2	13.7	13.2	9.4	6.1	4.5	3.7	3.6	7.8	
	Uncertainty (dB)	1.3	1.2	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.9	1.0	1.0	1.0	0.8	0.7	0.7	0.8	0.8	0.9	1.1	1.5	1.9	2.9	0.8	
PWL (dBA)	66.5	69.2	71.4	74.5	77.1	80.3	82.8	84.6	87.0	87.7	86.1	88.8	89.0	89.0	90.1	91.3	92.6	92.8	93.8	95.9	92.4	91.0	88.4	83.8	80.0	78.9	76.6	73.5	103.3	
12.0	Turbine ON (dBA)	17.7	20.1	22.2	25.2	28.0	31.2	33.9	35.6	37.5	38.3	36.9	39.6	39.9	39.9	41.3	42.6	44.0	44.1	44.6	45.9	43.1	41.9	39.5	35.1	31.7	30.5	30.0	26.3	54.1
	Background (dBA)	10.0	12.3	14.3	16.0	17.7	20.0	21.9	23.4	25.6	26.5	27.1	29.5	31.5	33.5	35.8	37.9	39.2	38.9	38.0	35.5	31.7	28.6	26.5	25.7	25.8	27.3	25.9	23.2	46.7
	Turbine ON - background adj (dBA)	16.9	19.4	21.4	24.6	27.5	30.9	33.6	35.3	37.3	38.0	36.4	39.1	39.3	38.7	39.8	40.8	42.2	42.5	43.6	45.4	42.8	41.7	39.2	34.6	30.4	27.7	27.9	23.3	53.2
	Signal to noise (dB)	7.7	7.9	7.9	9.2	10.2	11.2	12.0	12.2	12.0	11.8	9.8	10.1	8.4	6.4	5.5	4.7	4.7	5.2	6.7	10.4	11.3	13.3	13.0	9.5	5.8	3.2	4.1	3.1	7.4
	Uncertainty (dB)	2.3	2.0	1.5	1.2	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.9	1.1	1.2	1.2	1.2	1.0	0.8	0.8	0.9	0.9	1.1	1.5	2.7	3.2	4.5	1.0
PWL (dBA)	67.1	69.6	71.6	74.8	77.7	81.1	83.8	85.5	87.5	88.3	86.6	89.3	89.5	88.9	90.0	91.0	92.4	92.7	93.8	95.6	93.0	91.9	89.5	84.8	80.6	77.9	78.1	73.5	103.4	
12.5	Turbine ON (dBA)	16.0	17.9	21.0	24.2	26.8	30.2	32.6	34.5	36.7	37.5	36.4	38.9	39.4	39.6	41.3	42.7	44.0	44.1	44.5	46.0	42.4	40.8	38.4	34.0	31.0	30.9	29.7	25.9	53.8
	Background (dBA)	7.2	8.8	12.2	14.2	16.5	19.0	22.3	22.8	25.4	25.9	26.6	29.3	31.1	32.9	35.1	37.0	38.2	37.7	36.5	33.7	29.4	26.5	24.9	24.5	24.6	26.1	24.8	22.0	45.6
	Turbine ON - background adj (dBA)	15.4	17.4	20.3	23.8	26.4	29.8	32.2	34.2	36.4	37.2	35.9	38.4	38.7	38.6	40.1	41.3	42.7	42.9	43.8	45.8	42.2	40.7	38.2	33.4	29.8	29.2	28.0	23.7	53.1
	Signal to noise (dB)	8.8	9.1	8.7	10.0	10.3	11.2	10.3	11.8	11.3	11.6	9.8	9.6	8.2	6.7	6.1	5.6	5.8	6.3	8.0	12.4	13.0	14.3	13.5	9.5	6.4	4.9	4.9	4.0	8.2
	Uncertainty (dB)	1.5	1.3	1.1	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.7	0.7	0.8	0.8	0.9	1.2	1.6	1.8	2.7	0.8
PWL (dBA)	65.6	67.6	70.5	74.0	76.6	80.0	82.4	84.4	86.6	87.4	86.1	88.6	88.9	88.8	90.3	91.5	92.9	93.1	94.0	96.0	92.4	90.9	88.4	83.6	80.0	79.4	78.2	73.9	103.3	
13.0	Turbine ON (dBA)	16.0	18.8	20.9	23.9	26.4	29.6	32.1	33.8	36.1	37.1	36.0	38.8	39.3	39.9	41.3	42.8	43.9	43.9	44.3	46.2	42.4	40.9	38.1	33.5	30.5	30.3	29.0	25.4	53.7
	Background (dBA)	10.4	13.7	16.0	15.7	19.3	20.1	24.5	23.6	25.7	26.6	27.3	29.6	31.5	33.5	35.8	37.8	39.2	38.9	37.9	35.2	31.2	28.1	26.1	25.5	25.7	27.2	26.0	23.2	46.7
	Turbine ON - background adj (dBA)	14.6	17.2	19.2	23.2	25.5	29.1	31.3	33.4	35.7	36.7	35.4	38.2	38.5	38.8	39.9	41.2	42.1	42.2	43.2	45.8	42.1	40.6	37.8	32.8	28.7	27.4	[26]	[22.4]	52.8
	Signal to noise (dB)	5.6	5.1	4.9	8.2	7.1	9.5	7.6	10.2	10.5	10.5	8.8	9.2	7.7	6.4	5.5	5.0	4.7	4.9	6.5	11.0	11.2	12.8	11.9	8.0	4.7	3.1	3.0	2.2	7.1
	Uncertainty (dB)	2.2	2.2	1.8	1.1	1.1	0.9	1.0	0.9	0.9	0.9	0.8	0.8	0.8	1.0	1.0	1.1	1.2	1.2	1.0	0.8	0.8	0.8	0.8	1.0	1.4	2.2	2.5	3.6	0.9
PWL (dBA)	64.8	67.4	69.4	73.4	75.7	79.3	81.5	83.6	85.9	86.9	85.6	88.4	88.7	89.0	90.1	91.4	92.3	92.4	93.4	96.0	92.3	90.8	88.0	83.0	78.9	77.6	[76.2]	[72.6]	103.0	
13.5	Turbine ON (dBA)	16.0	17.9	20.6	24.0	26.5	29.9	32.1	34.1	36.0	37.0	35.9	38.6	39.2	39.5	41.0	42.5	43.8	43.7	44.1	45.5	42.2	40.7	37.7	33.2	30.4	30.2	28.6	25.5	53.5
	Background (dBA)	9.6	11.1	14.1	16.6	17.8	20.0	22.1	23.5	25.5	26.4	27.0	29.6	31.6	33.7	36.0	38.2	39.7	39.5	38.7	36.0	31.6	28.4	26.7	26.2	26.5	27.9	26.6	24.0	47.1
	Turbine ON - background adj (dBA)	14.9	16.9	19.4	23.2	25.9	29.4	31.7	33.7	35.6	36.6	35.3	38.0	38.3	38.2	39.4	40.4	41.7	41.6	42.6	45.0	41.8	40.4	37.3	32.2	28.1	[27.2]	[25.6]	[22.5]	52.3
	Signal to noise (dB)	6.4	6.8	6.4	7.4	8.8	9.9	10.1	10.6	10.5	10.6	8.9	9.0	7.5	5.8	5.0	4.3	4.1	4.2	5.4	9.5	10.6	12.3	11.0	7.0	3.8	2.3	2.0	1.5	6.3
	Uncertainty (dB)	2.1	1.7	1.3	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	1.0	1.1	1.3	1.4	1.4	1.2	0.8	0.7	0.8	0.8	1.0	1.8	2.8	3.1	3.9	1.0
PWL (dBA)	65.1	67.1	69.6	73.4	76.1	79.6	81.9	83.9	85.8	86.8	85.5	88.2	88.5	88.4	89.6	90.6	91.9	91.8	92.8	95.2	92.1	90.7	87.5	82.4	78.3	[77.4]	[75.8]	[72.7]	102.5	

Table C.02 Detailed apparent sound power level data at 10m height  
 Project: McLean's Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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)	14.4	16.2	19.7	23.7	26.6	30.1	32.8	34.9	40.0	38.5	36.7	39.3	39.3	39.8	40.3	41.6	42.3	42.9	43.7	44.2	42.0	40.7	38.5	34.2	30.2	28.5	26.2	22.7	53.1
	Background (dBA)	8.5	10.5	12.8	15.5	17.6	20.0	22.0	23.2	25.3	26.3	26.7	29.0	31.0	32.8	35.1	37.0	38.4	38.1	37.2	34.6	30.7	27.6	25.6	25.0	25.1	26.1	25.1	22.5	45.9
	Turbine ON - background adj (dBA)	13.1	14.8	18.7	23.0	26.1	29.7	32.4	34.6	39.8	38.2	36.2	38.9	38.6	38.9	38.7	39.7	40.1	41.1	42.5	43.7	41.6	40.5	38.3	33.7	28.6	[25.5]	[23.2]	[19.7]	52.2
	Signal to noise (dB)	5.9	5.6	6.9	8.2	9.1	10.1	10.8	11.7	14.7	12.2	9.9	10.3	8.3	7.0	5.2	4.6	3.9	4.7	6.5	9.6	11.3	13.1	12.9	9.2	5.1	2.5	1.1	0.2	7.2
	Uncertainty (dB)	1.3	1.3	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.0	0.8	0.7	0.7	0.7	0.7	0.7	0.8	1.1	1.8	1.9	3.0	0.8
7.0	Turbine ON (dBA)	63.3	65.0	68.9	73.2	76.3	79.9	82.6	84.8	90.0	88.4	86.4	89.1	88.8	89.1	88.9	90.0	90.3	91.3	92.8	93.9	91.8	90.7	88.5	83.9	78.8	[75.7]	[73.4]	[69.9]	102.4
	Turbine ON - background adj (dBA)	15.2	17.7	20.7	24.1	27.2	30.8	33.4	35.2	38.4	38.5	37.0	39.5	39.7	40.0	40.9	42.2	43.2	43.6	44.2	45.6	42.6	41.2	38.9	34.7	31.0	29.6	27.9	24.4	53.7
	Background (dBA)	9.9	12.1	13.8	16.1	17.8	20.2	22.1	23.1	25.3	26.6	27.2	29.5	31.6	33.7	36.0	38.2	39.6	39.5	38.7	36.3	32.4	29.1	26.9	26.1	26.1	27.1	26.1	23.6	47.2
	Turbine ON - background adj (dBA)	13.6	16.3	19.7	23.4	26.7	30.4	33.0	35.0	38.1	38.2	36.5	39.0	39.0	38.8	39.1	40.0	40.7	41.4	42.8	45.1	42.1	40.9	38.7	34.1	29.3	[26.6]	[24.9]	[21.4]	52.6
	Signal to noise (dB)	5.2	5.6	6.8	8.0	9.4	10.6	11.2	12.1	13.1	11.9	9.8	10.0	8.1	6.2	4.8	4.0	3.6	4.1	5.5	9.3	10.1	12.1	12.1	8.6	4.8	2.5	1.8	0.8	6.6
8.0	Uncertainty (dB)	1.5	1.5	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.2	1.3	1.2	1.0	0.8	0.8	0.8	0.8	0.8	0.9	1.3	1.8	1.9	3.2	0.9
	PWL (dBA)	63.8	66.5	69.9	73.6	76.9	80.6	83.2	85.2	88.4	88.4	86.7	89.2	89.2	89.0	89.3	90.2	90.9	91.6	93.0	95.3	92.3	91.1	88.9	84.3	79.5	[76.9]	[75.1]	[71.6]	102.8
	Turbine ON (dBA)	16.8	19.5	21.5	24.7	27.3	30.5	33.1	34.8	37.1	37.8	36.5	39.2	39.5	39.8	41.2	42.6	43.8	43.9	44.4	46.0	42.5	41.1	38.6	34.3	31.1	30.6	29.2	25.8	53.8
	Background (dBA)	9.2	11.5	13.2	15.4	17.5	19.9	21.8	23.1	25.5	26.4	27.1	29.4	31.4	33.5	35.7	37.7	39.0	38.7	37.7	35.2	31.4	28.2	26.1	25.4	25.6	26.8	25.6	22.9	46.5
	Turbine ON - background adj (dBA)	16.0	18.8	20.8	24.2	26.8	30.1	32.7	34.5	36.8	37.4	36.0	38.7	38.8	38.7	39.7	40.8	42.0	42.4	43.4	45.6	42.2	40.8	38.4	33.7	29.7	28.2	26.8	[22.8]	52.9
9.0	Signal to noise (dB)	7.6	8.0	8.3	9.3	9.8	10.6	11.2	11.7	11.6	11.4	9.4	9.7	8.1	6.4	5.4	4.9	4.8	5.2	6.7	10.8	11.2	12.9	12.5	8.9	5.5	3.8	3.6	2.9	7.3
	Uncertainty (dB)	1.3	1.2	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.0	0.9	0.7	0.7	0.8	0.8	0.8	0.9	1.1	1.5	1.7	3.2	0.8
	PWL (dBA)	66.2	69.0	71.0	74.4	77.1	80.3	82.9	84.7	87.0	87.7	86.2	88.9	89.0	88.9	89.9	91.0	92.3	92.6	93.6	95.8	92.4	91.0	88.6	83.9	79.9	78.4	77.0	[73]	103.1
	Turbine ON (dBA)	15.8	18.1	20.7	24.0	26.7	30.0	32.4	34.3	36.4	37.3	36.2	38.9	39.3	39.7	41.2	42.6	43.8	43.8	44.2	45.9	42.3	40.8	38.1	33.6	30.4	30.2	28.9	25.2	53.6
	Background (dBA)	9.0	11.4	14.2	15.4	17.8	19.6	23.0	23.2	25.5	26.3	26.9	29.5	31.4	33.3	35.6	37.6	38.9	38.6	37.6	34.8	30.6	27.5	25.7	25.3	25.5	26.9	25.7	22.9	46.4
10.0	Turbine ON - background adj (dBA)	14.7	17.0	19.6	23.4	26.1	29.6	31.9	33.9	36.0	37.0	35.7	38.3	38.6	38.5	39.7	40.9	42.1	42.2	43.2	45.6	42.0	40.6	37.9	32.9	28.8	27.4	26.0	[22.2]	52.7
	Signal to noise (dB)	6.7	6.7	6.6	8.7	8.9	10.4	9.4	11.1	10.9	11.1	9.3	9.4	7.9	6.3	5.6	5.0	4.8	5.1	6.7	11.1	11.8	13.3	12.4	8.3	4.9	3.2	3.1	2.3	7.3
	Uncertainty (dB)	1.5	1.5	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	1.0	1.1	1.1	1.1	0.9	0.7	0.7	0.8	0.8	1.0	1.3	2.0	2.2	3.3	0.9
	PWL (dBA)	64.9	67.2	69.9	73.6	76.3	79.8	82.1	84.1	86.2	87.2	85.9	88.5	88.8	88.7	90.0	91.1	92.3	92.4	93.4	95.8	92.3	90.8	88.1	83.1	79.0	77.6	76.2	[72.4]	103.0
	Turbine ON (dBA)	18.0	19.8	22.0	24.8	27.1	30.2	32.6	34.2	36.2	37.2	36.0	38.6	39.3	39.6	41.3	42.8	44.3	44.3	44.6	45.8	42.7	41.0	37.8	33.7	31.2	31.4	30.2	27.0	53.9
10.0	Background (dBA)	9.3	11.8	13.8	16.3	17.6	19.7	22.5	24.6	25.4	26.1	27.1	29.6	31.7	33.7	36.2	38.3	39.8	39.7	38.9	36.4	32.2	28.9	26.9	26.3	26.6	29.0	27.0	24.2	47.3
	Turbine ON - background adj (dBA)	17.4	19.0	21.3	24.2	26.6	29.8	32.1	33.7	35.8	36.9	35.4	38.0	38.5	38.3	39.8	40.9	42.4	42.5	43.3	45.3	42.3	40.7	37.4	32.8	29.4	[28.4]	27.4	[24]	52.8
	Signal to noise (dB)	8.7	7.9	8.2	8.6	9.5	10.5	10.1	9.6	10.8	11.1	8.9	9.1	7.6	5.8	5.2	4.6	4.5	4.6	5.7	9.5	10.5	12.1	10.9	7.4	4.6	2.3	3.2	2.8	6.5
	Uncertainty (dB)	1.6	1.4	1.0	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.1	0.9	0.7	0.7	0.7	0.7	0.9	1.4	2.3	3.4	0.9	
	PWL (dBA)	67.6	69.2	71.5	74.4	76.8	80.0	82.3	84.0	86.0	87.1	85.6	88.2	88.7	88.5	90.0	91.1	92.6	92.7	93.5	95.5	92.5	90.9	87.6	83.0	79.6	[78.6]	77.6	[74.2]	103.0



Table C.03 Type B measurement uncertainty summary

Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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



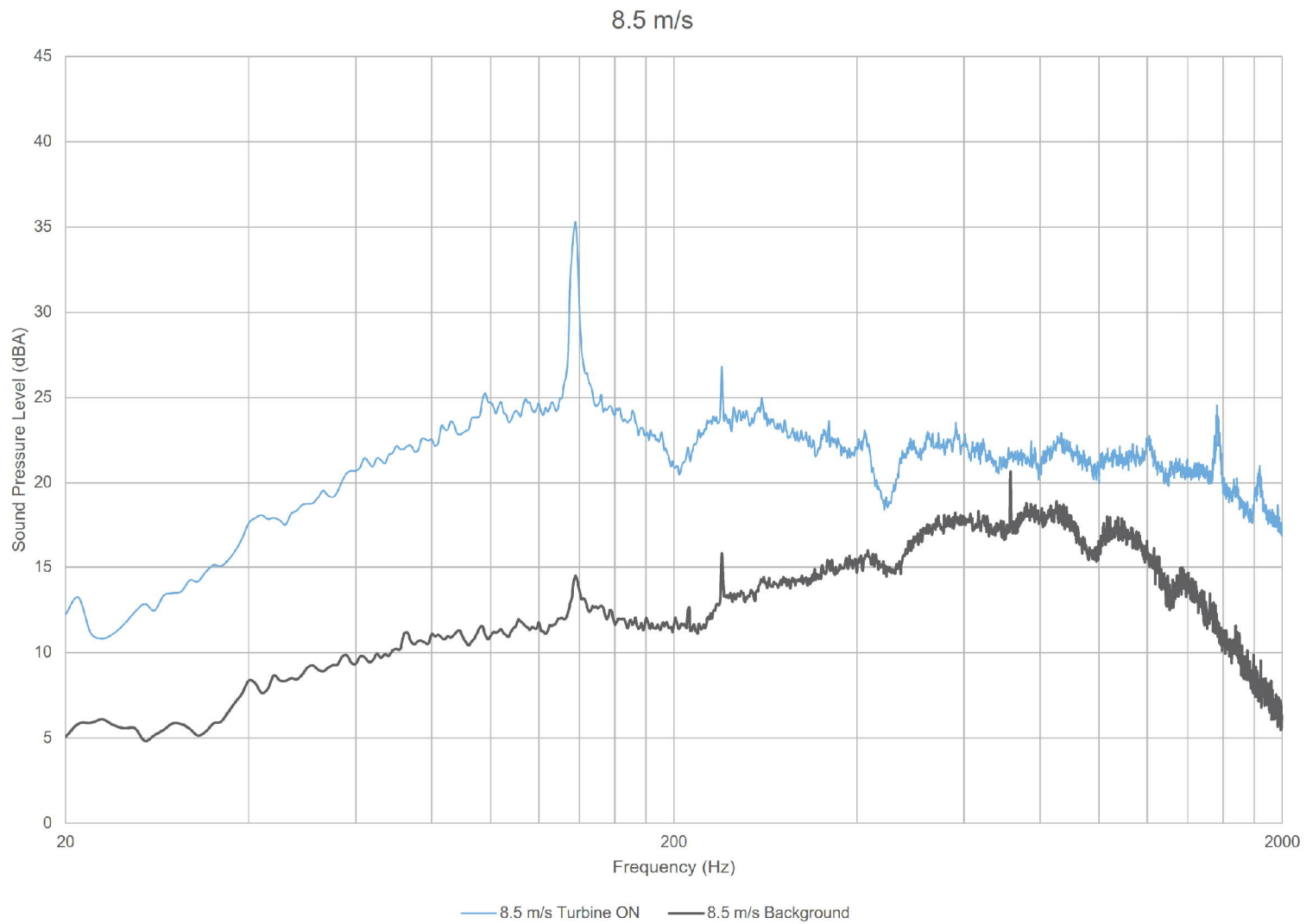
Table C.04 Detailed measurement uncertainty at hub height  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

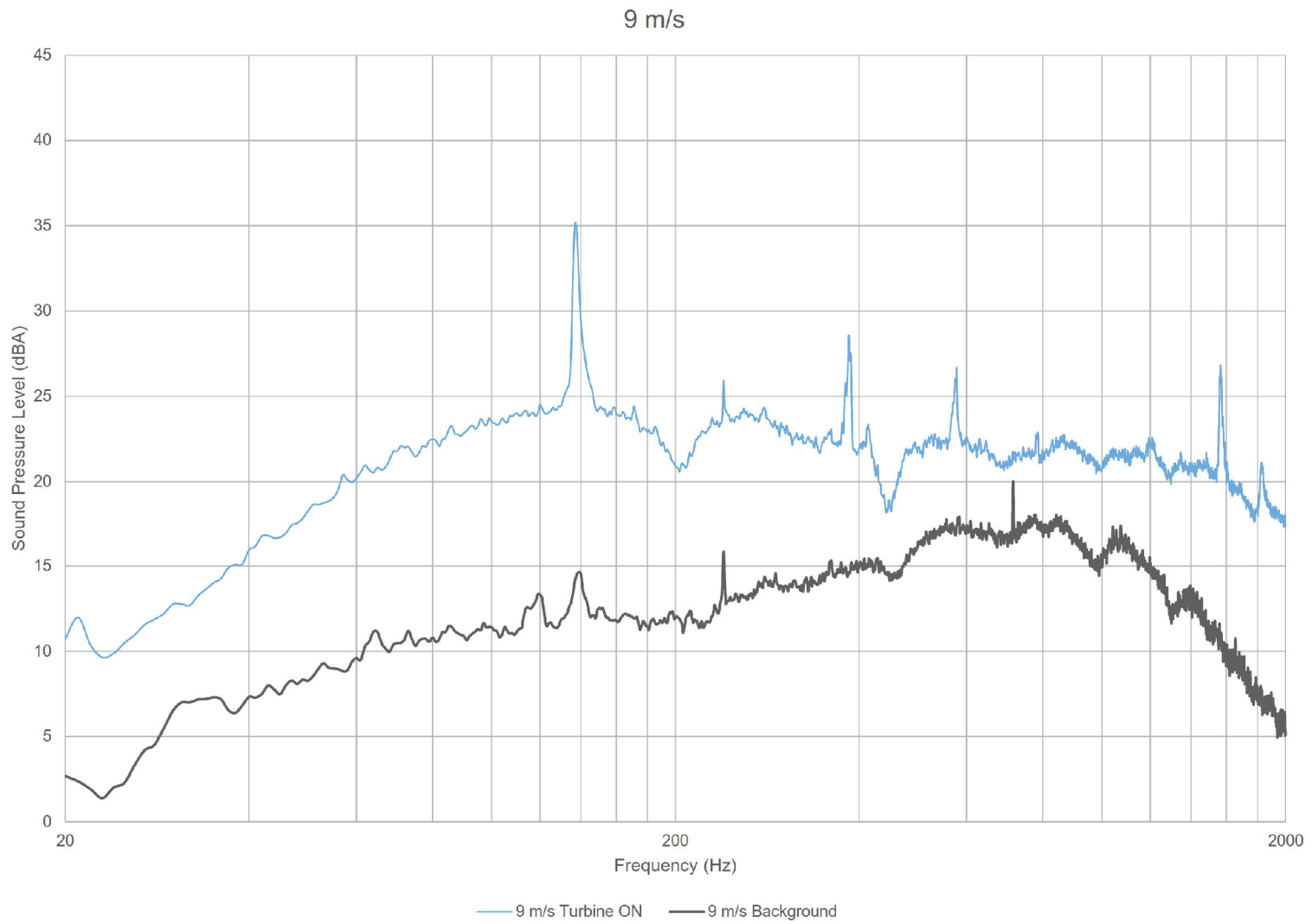
Wind Bin (m/s)	Parameter	Average Wind Speed (m/s)	# of data points	Parameter	1/3 Octave Band (Hz)																	Overall												
					20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800		1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	
11.5	Turbine ON	11.46	34	Average (dBA)	16.7	19.3	21.6	24.7	27.3	30.4	32.8	34.7	37.1	37.8	36.4	39.1	39.5	39.9	41.2	42.6	43.9	43.9	44.4	46.0	42.5	40.9	38.4	34.0	31.0	30.6	28.8	25.8	53.8	
				Uncertainty A (dB)	0.7	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.5	0.7		0.7
				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	0.7	0.7	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.2	1.2	0.9	0.9	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	0.7	0.7	0.8	0.8	0.8	0.9	1.0	1.1		1.6
	Background	11.51	34	Average (dBA)	6.7	8.7	11.5	14.5	16.8	19.8	21.7	23.0	25.3	26.4	27.2	29.4	31.2	33.2	35.3	37.3	38.6	38.1	37.0	34.3	30.3	27.2	25.3	24.7	24.9	26.0	25.2	22.2	46.0	
				Uncertainty A (dB)	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.7	0.6	0.5	0.5	0.6	0.6		0.5
				Uncertainty B (dB)	1.0	1.0	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	0.7	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	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.5
12.0	Turbine ON	11.94	13	Average (dBA)	17.7	20.2	22.2	25.2	28.0	31.2	33.9	35.6	37.6	38.4	36.9	39.6	39.9	41.3	42.6	44.0	44.1	44.6	45.9	43.1	41.9	39.5	35.2	31.7	30.5	30.0	26.3	54.1		
				Uncertainty A (dB)	1.6	1.4	1.0	0.7	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.6	0.7	1.1		1.8	1.7
				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	0.7	0.8	0.8	0.8	0.8	0.8		0.8	1.4
				Combined Uncertainty (dB)	1.9	1.7	1.3	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.9	1.0	1.1	1.4		2.0	2.2
	Background	12.01	30	Average (dBA)	10.1	12.3	14.3	16.0	17.8	20.0	21.9	23.4	25.6	26.5	27.1	29.5	31.5	33.5	35.8	37.9	39.3	39.0	38.0	35.5	31.8	28.6	26.5	25.7	25.9	27.3	25.9	23.2	46.7	
				Uncertainty A (dB)	1.1	1.0	0.8	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.7	0.6		0.6
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.5	1.4	1.2	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.0		1.6
12.5	Turbine ON	12.45	12	Average (dBA)	16.0	17.8	21.0	24.3	26.9	30.3	32.6	34.6	36.8	37.6	36.4	38.9	39.4	39.6	41.3	42.6	44.0	44.1	44.5	46.0	42.4	40.8	38.4	34.0	31.0	31.0	29.8	26.0	53.8	
				Uncertainty A (dB)	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.6	0.8	1.0		0.8
				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	0.7	0.7	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.4	1.3	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.9	1.0	1.1	1.3	1.7		
	Background	12.48	20	Average (dBA)	7.0	8.6	12.1	14.2	16.4	19.0	22.1	22.8	25.4	25.9	26.6	29.3	31.1	32.9	35.1	37.0	38.2	37.7	36.5	33.6	29.3	26.4	24.8	24.4	24.5	26.0	24.8	21.9	45.6	
				Uncertainty A (dB)	1.4	0.9	0.8	0.6	0.4	0.4	0.6	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.8	1.0	1.1	0.9	0.8	0.8	0.7	0.8	0.9	0.9		0.8
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.7	1.3	1.1	1.0	0.9	0.9	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.2	1.1	1.1	1.1	1.2	1.2		1.7
13.0	Turbine ON	13.06	15	Average (dBA)	16.0	18.8	20.9	23.9	26.4	29.6	32.1	33.8	36.1	37.0	36.0	38.8	39.3	40.0	41.3	42.8	43.9	43.9	44.3	46.2	42.5	40.9	38.1	33.5	30.4	30.3	29.0	25.4	53.7	
				Uncertainty A (dB)	1.2	1.1	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.4	0.6	0.8		0.7
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.6	1.5	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.2	1.1	1.1	1.1	1.2	1.2		1.6
	Background	13.00	16	Average (dBA)	10.5	13.8	16.0	15.7	19.3	20.1	24.5	23.6	25.7	26.6	27.3	29.6	31.5	33.5	35.8	37.8	39.2	39.0	37.9	35.2	31.2	28.1	26.2	25.5	25.7	27.2	26.0	23.2	46.7	
				Uncertainty A (dB)	1.6	1.6	1.4	0.6	0.8	0.4	0.9	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.8	1.1	1.3	1.2	1.0	0.9	0.8	0.8	0.8	0.8	0.8		0.9
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.9	1.9	1.6	1.0	1.2	0.9	1.2	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.3	1.4	1.4	1.3	1.2	1.1	1.1	1.2	1.2	1.2		1.7
13.5	Turbine ON	13.51	11	Average (dBA)	16.0	17.8	20.5	24.0	26.6	29.9	32.1	34.1	36.0	37.0	35.8	38.6	39.1	39.5	41.0	42.4	43.8	43.7	44.1	45.4	42.2	40.7	37.7	33.2	30.4	30.1	28.6	25.5	53.4	
				Uncertainty A (dB)	1.3	0.9	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.3	0.6	1.0	1.3		1.2
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.7	1.4	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.0	0.9	0.9	1.0	1.3	1.5		1.9
	Background	13.44	11	Average (dBA)	9.7	11.1	14.2	16.6	17.8	20.0	22.1	23.6	25.5	26.4	27.0	29.6	31.6	33.7	36.1	38.2	39.7	39.6	38.7	36.0	31.7	28.5	26.7	26.3	26.6	27.9	26.6	24.0	47.1	
				Uncertainty A (dB)	1.6	1.0	1.0	0.9	0.6	0.6	0.5	0.4	0.2	0.3	0.2	0.2	0.4	0.6	0.7	0.9	1.0	1.2	1.4	1.5	1.3	1.0	0.9	1.0	1.1	1.2	1.2	1.3		
				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	0.7	0.8	0.8	0.8	0.8	0.8	0.8		1.4
				Combined Uncertainty (dB)	1.9	1.4	1.3	1.2	1.0	1.0	1.0	0.9	0.8	0.9	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.6	1.7	1.4	1.2	1.2	1.3	1.4	1.5	1.5		2.0

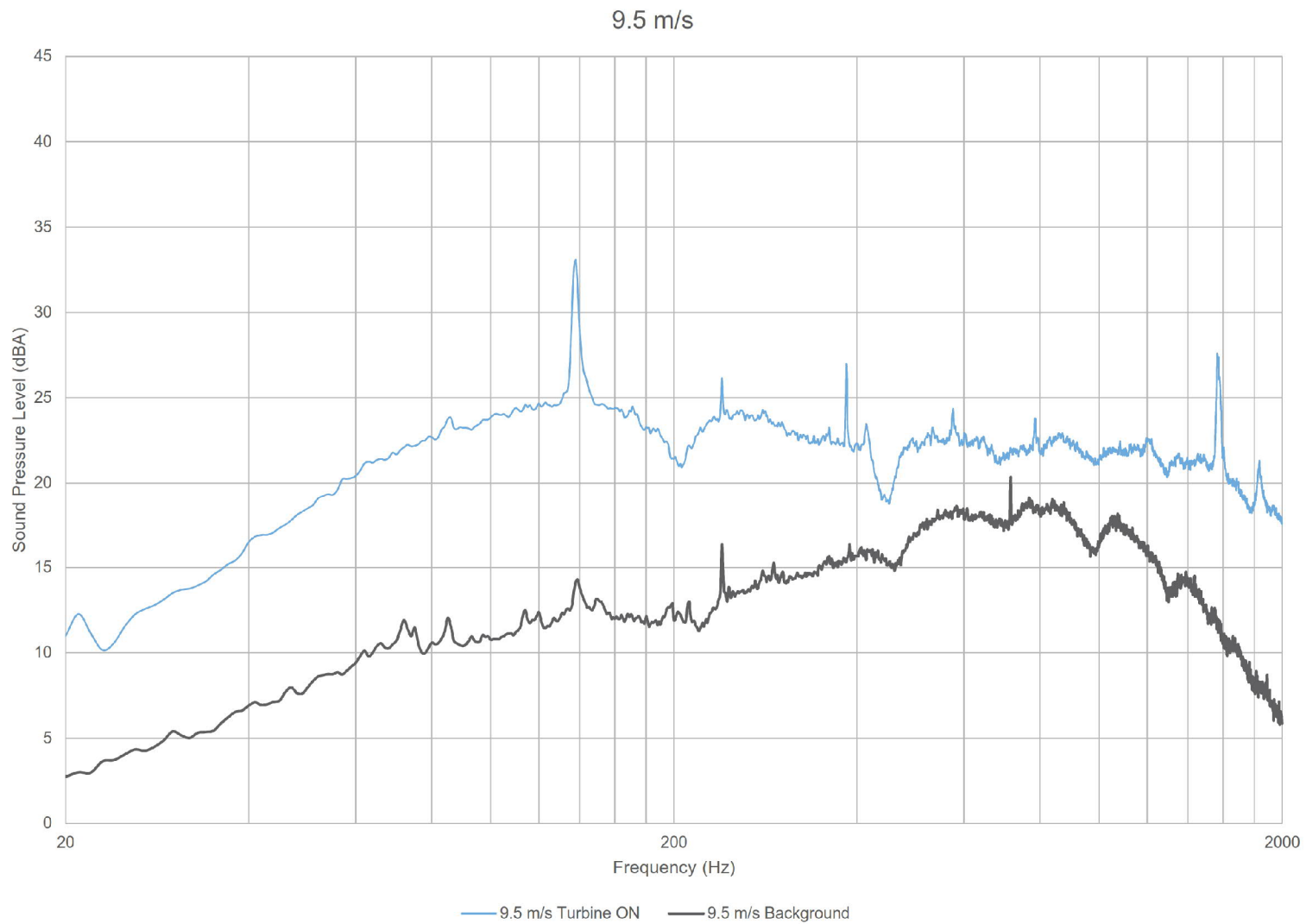
---

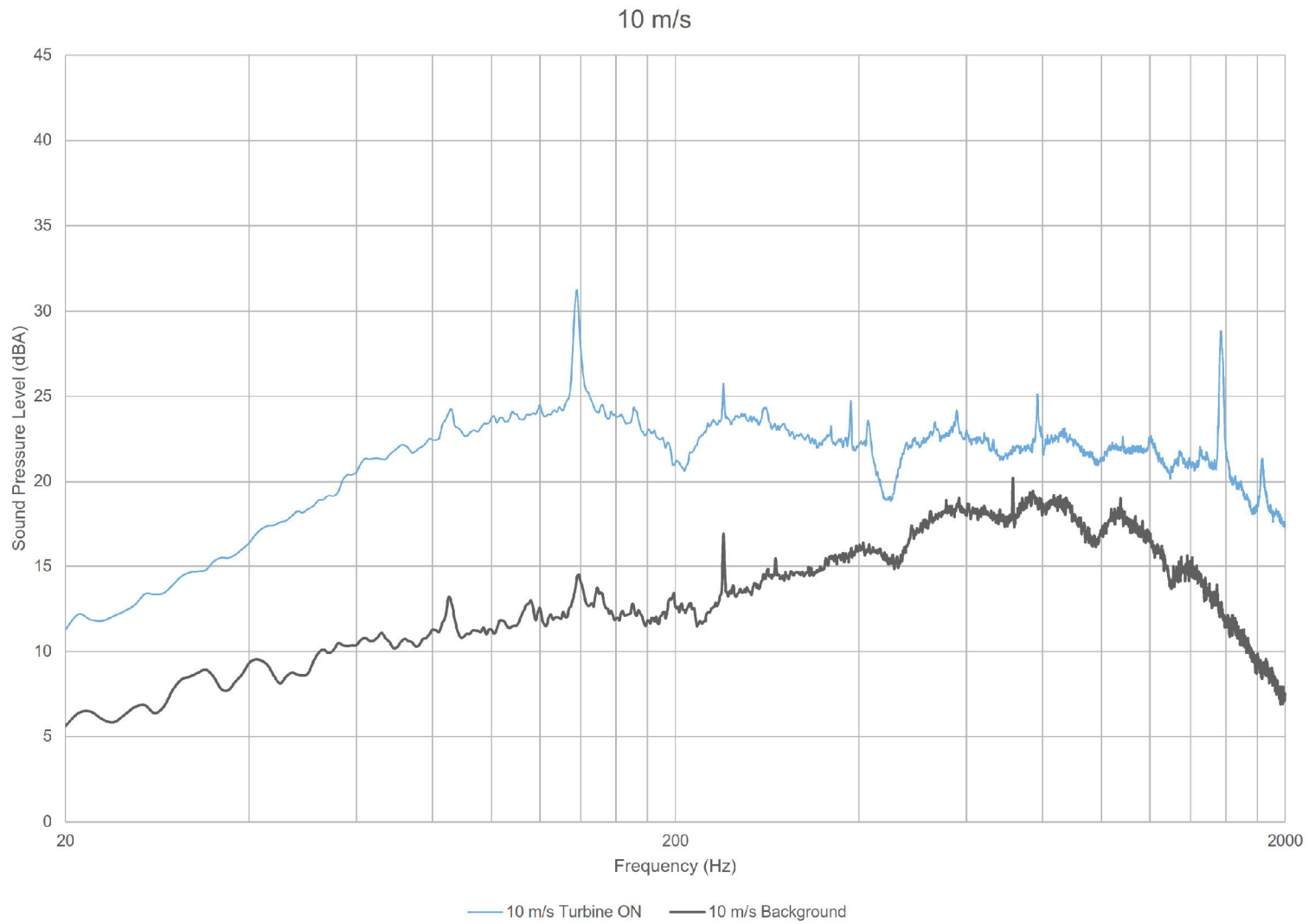
## Appendix D Tonality Assessment

---

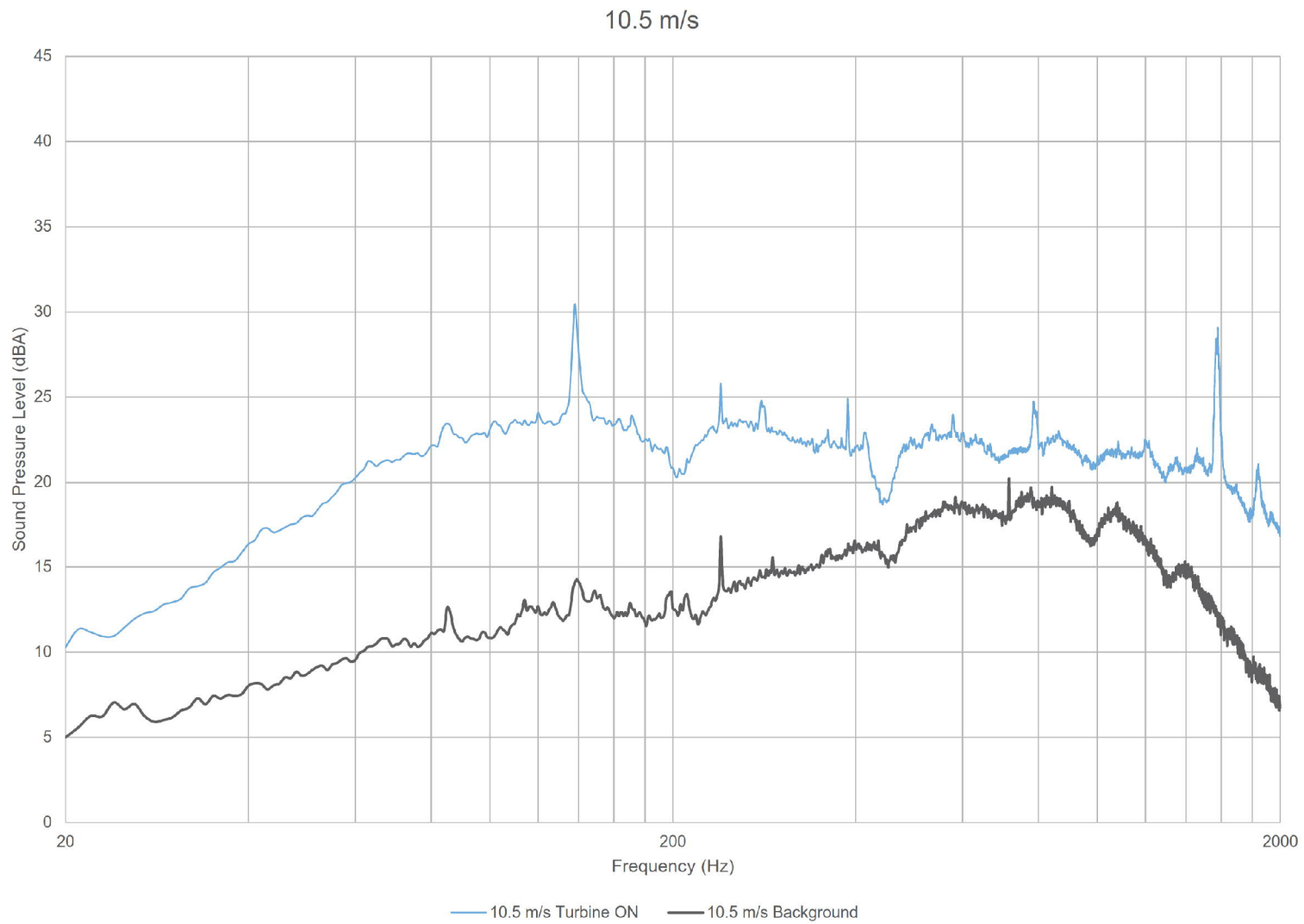


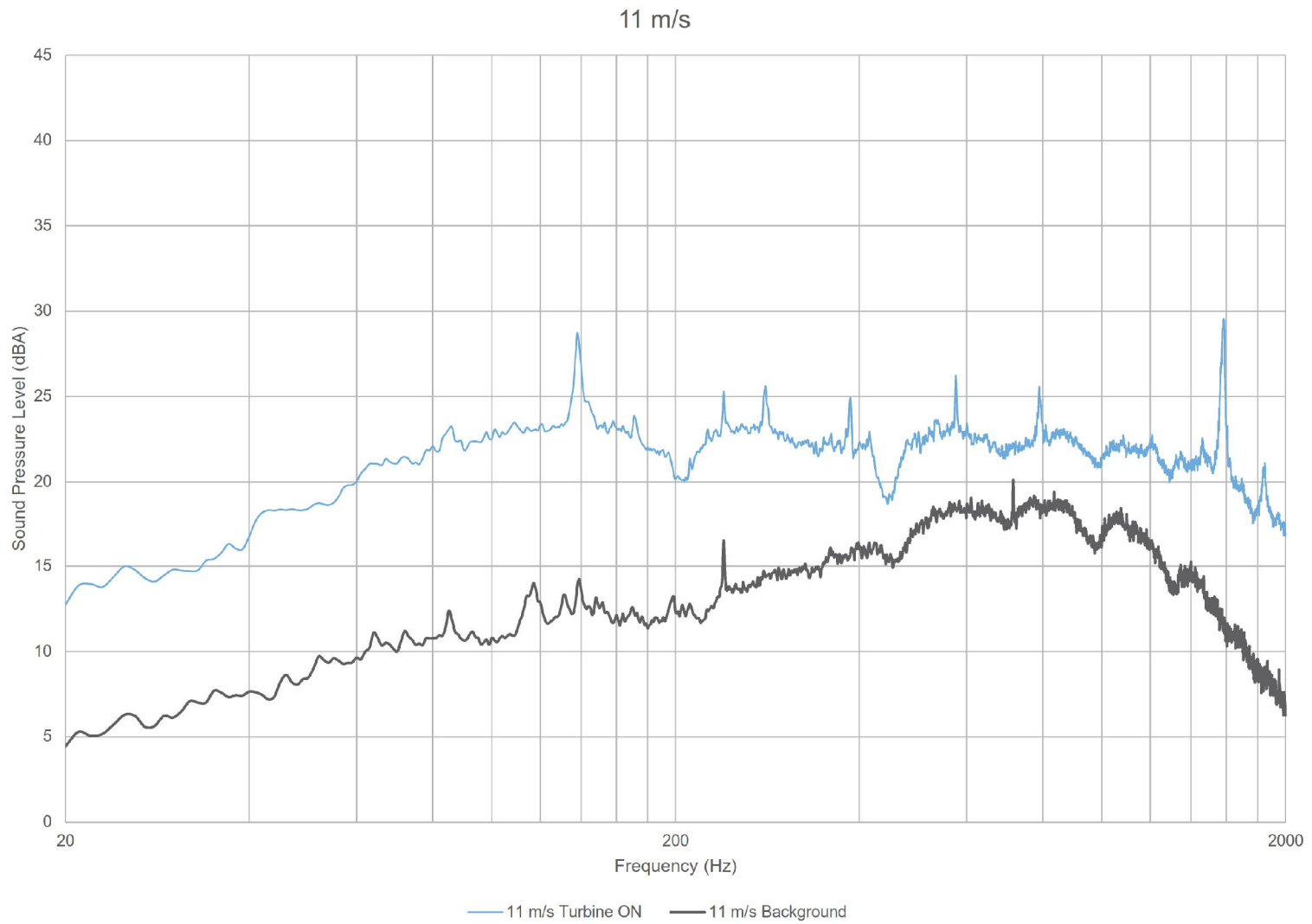


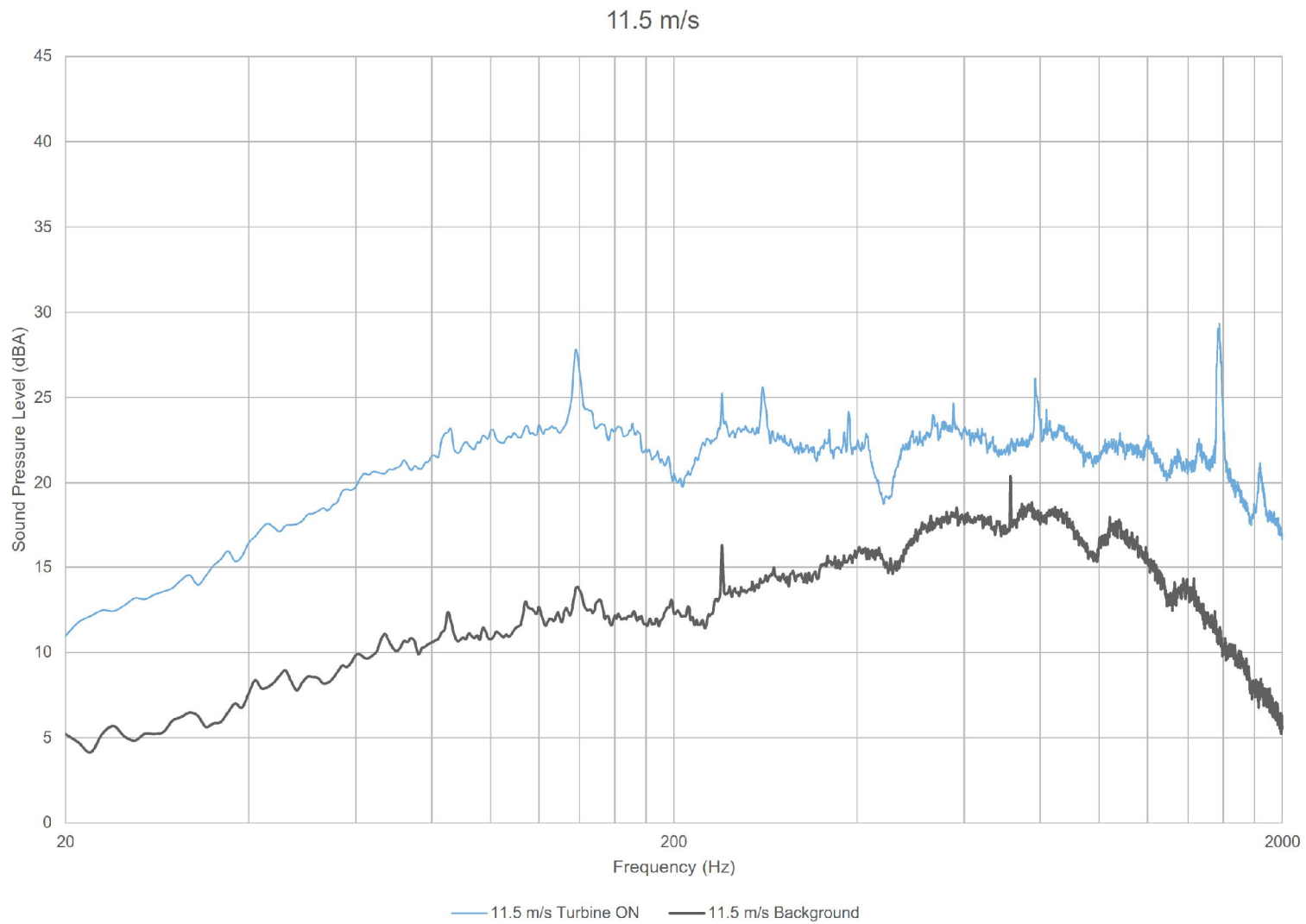


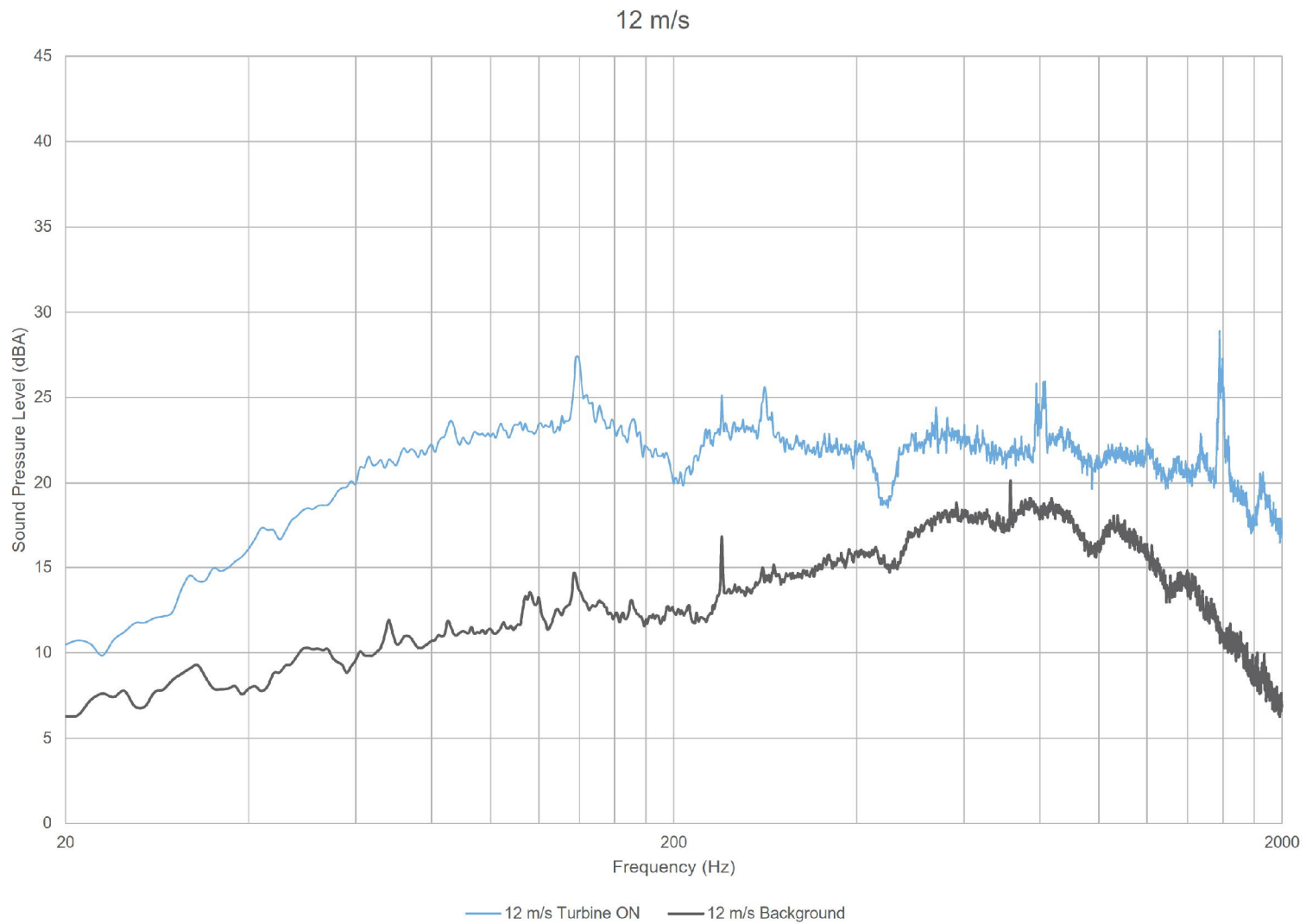


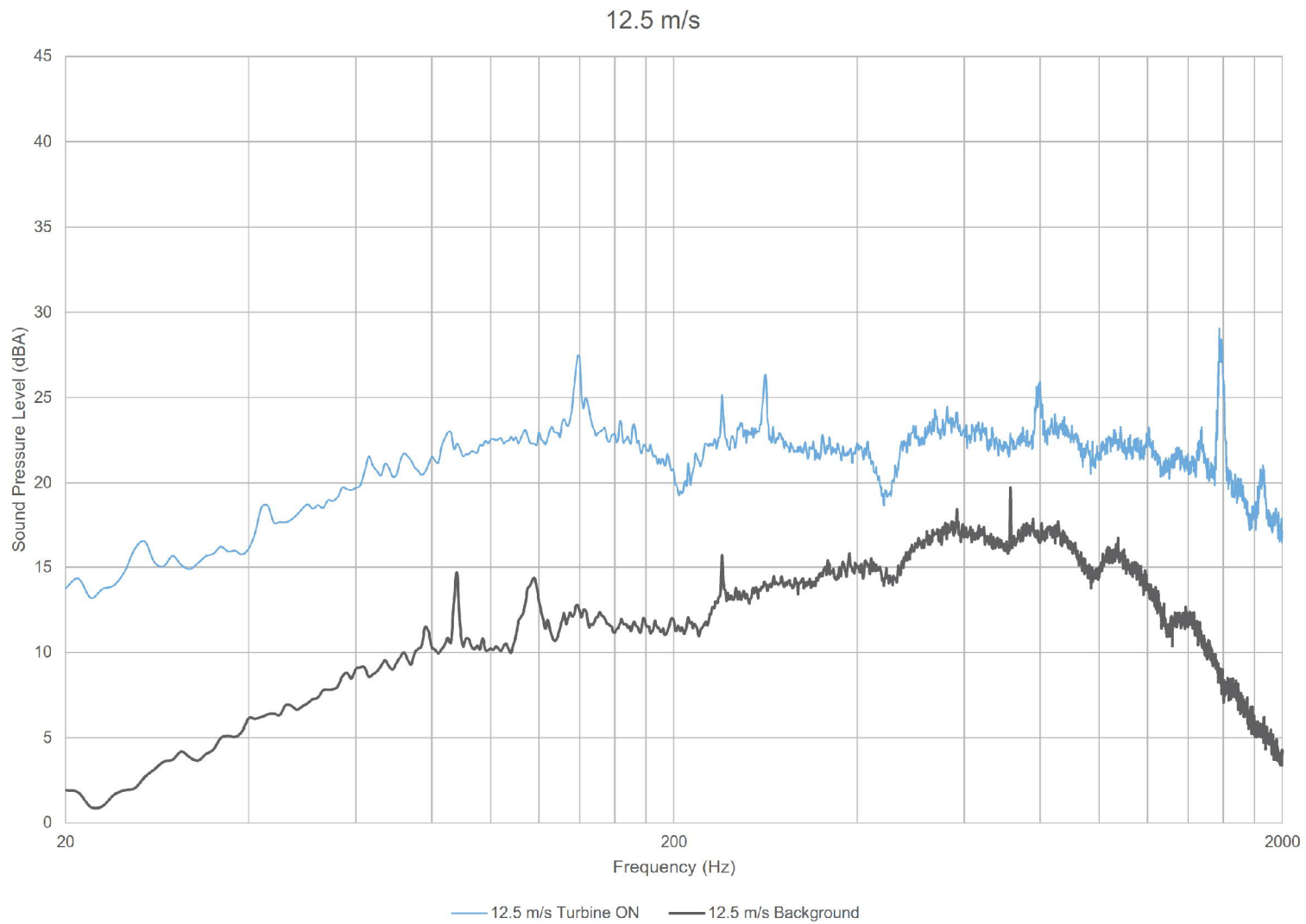


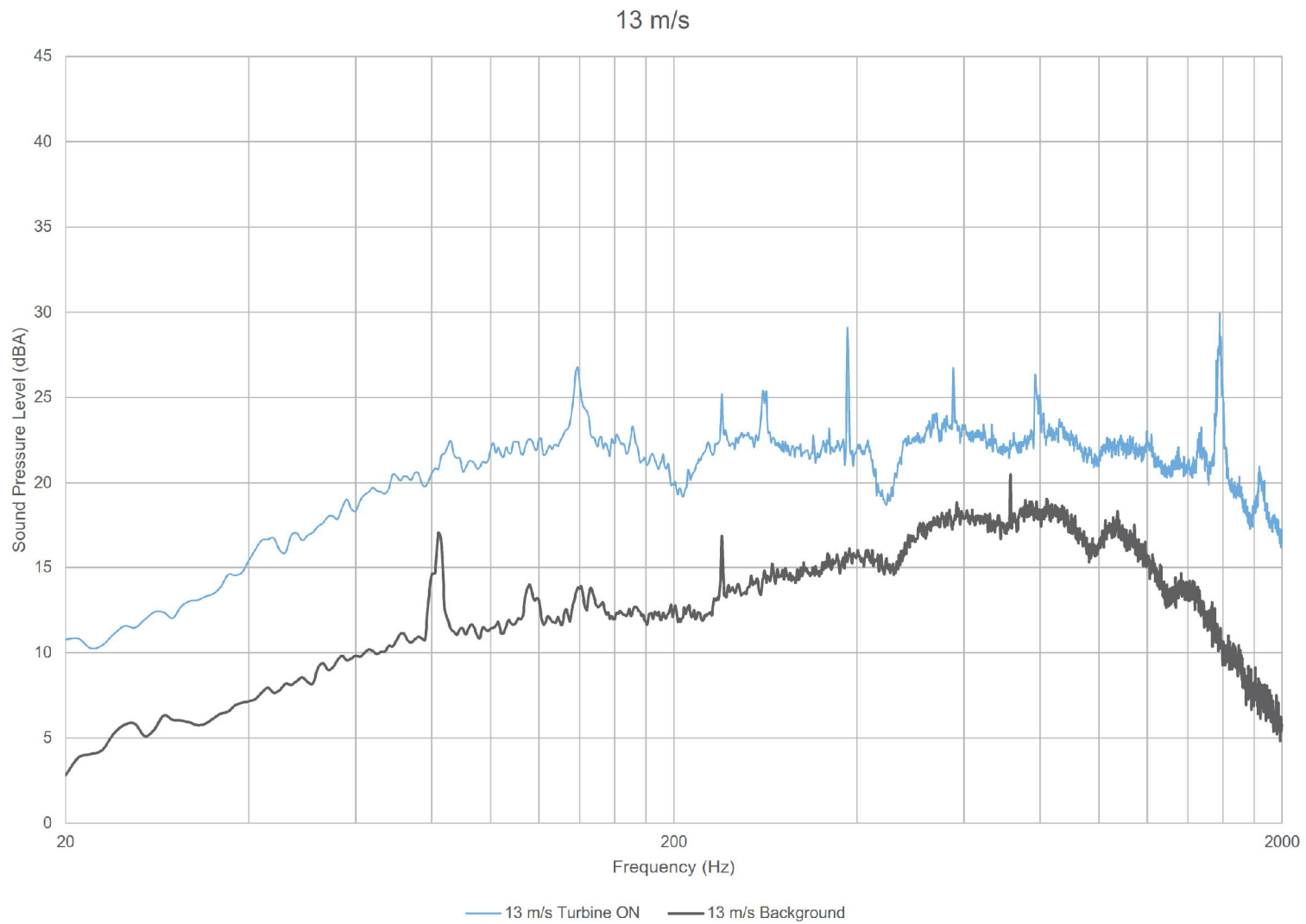


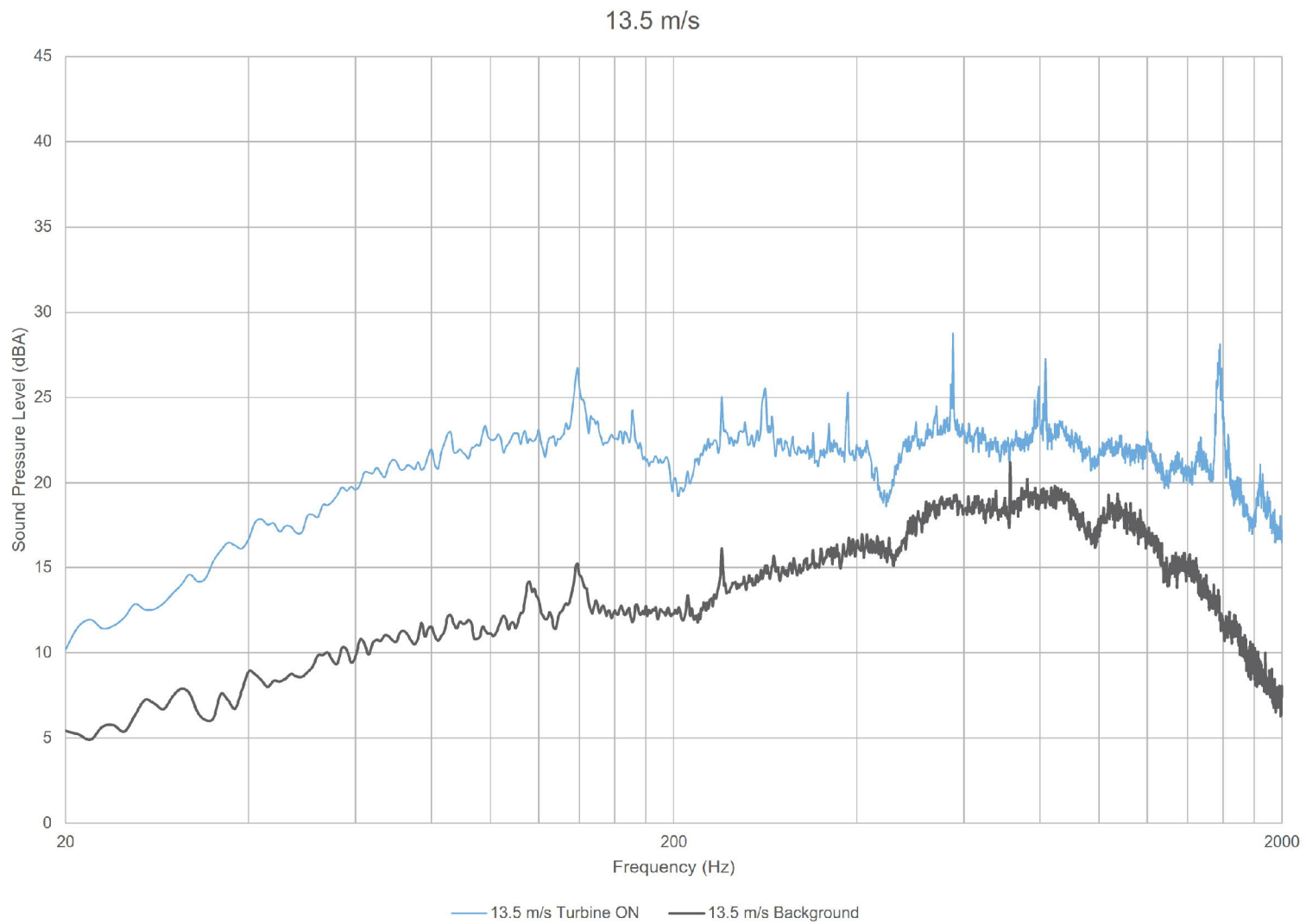












# Table D.01 Tonality Assessment Table - 8.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

Page 1 of 1  
 Created on: 10/4/2017

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)
26	135			24.0	42.3	36.6	-5.7	-2.0	-3.7
307	135			25.6	43.9	40.5	-3.4	-2.0	-1.4
478	136			24.4	42.7	36.2	-6.4	-2.0	-4.4
80	136			23.9	42.1	38.9	-3.2	-2.0	-1.2
463	136			24.7	43.0	39.2	-3.8	-2.0	-1.8
373	136			24.5	42.8	34.1	-8.7	-2.0	-6.7
508	137			25.7	44.0	35.3	-8.6	-2.0	-6.6
161	137			25.1	43.4	38.1	-5.3	-2.0	-3.3
155	137			23.1	41.4	39.2	-2.2	-2.0	-0.2
160	137			23.7	42.0	37.7	-4.2	-2.0	-2.2
159	138			24.5	42.8	36.9	-5.9	-2.0	-3.9
29	138			23.4	41.7	41.4	-0.3	-2.0	1.7
30	138			24.6	42.9	42.7	-0.2	-2.0	1.9
506	138			23.7	42.0	40.7	-1.3	-2.0	0.7
505	138			24.9	43.2	40.8	-2.4	-2.0	-0.3
214	139			24.3	42.6	41.6	-1.1	-2.0	0.9
162	147			22.1	40.4	29.9	-10.5	-2.0	-8.5
Average	138						-3.4	-2.0	-1.4



# Table D.03 Tonality Assessment Table - 9.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

Page 1 of 1  
 Created on: 10/4/2017

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)
261	1553			20.3	42.2	35.5	-6.7	-3.3	-3.5
471	1558			20.0	42.0	37.3	-4.6	-3.3	-1.4
168	1558			20.8	42.7	41.7	-0.9	-3.3	2.3
228	1559			21.0	42.9	38.5	-4.4	-3.3	-1.1
141	1559			20.2	42.1	37.2	-4.8	-3.3	-1.6
137	1560			20.9	42.8	37.8	-5.0	-3.3	-1.7
499	1561			20.3	42.2	40.9	-1.3	-3.3	1.9
328	1562			21.1	43.1	39.9	-3.2	-3.3	0.1
252	1563			21.0	42.9	38.8	-4.2	-3.3	-0.9
59	1563			20.8	42.8	42.3	-0.5	-3.3	2.8
296	1564			21.2	43.1	39.9	-3.2	-3.3	0.0
533	1564			21.3	43.2	34.2	-9.0	-3.3	-5.8
366	1564			20.8	42.8	41.4	-1.4	-3.3	1.9
183	1565			20.8	42.7	35.7	-7.0	-3.3	-3.7
540	1565			21.5	43.5	36.0	-7.5	-3.3	-4.2
11	1565			21.6	43.5	34.9	-8.7	-3.3	-5.4
77	1565			20.8	42.7	41.3	-1.4	-3.3	1.8
422	1565			20.8	42.7	37.5	-5.2	-3.3	-2.0
294	1566			21.5	43.4	37.0	-6.4	-3.3	-3.1
372	1566			20.4	42.3	39.6	-2.7	-3.3	0.5
500	1566			20.6	42.5	32.5	-10.1	-3.3	-6.8
386	1566			21.2	43.1	36.6	-6.5	-3.3	-3.3
20	1567			19.7	41.7	42.1	0.4	-3.3	3.7
301	1568			20.6	42.5	37.3	-5.2	-3.3	-2.0
300	1568			20.1	42.1	37.2	-4.9	-3.3	-1.6
23	1568			20.6	42.5	38.0	-4.5	-3.3	-1.3
502	1570			20.7	42.7	36.0	-6.7	-3.3	-3.4
78	1570			20.0	41.9	37.9	-4.0	-3.3	-0.7
389	1570			21.0	43.0	40.4	-2.6	-3.3	0.7
50	1571			21.1	43.0	35.3	-7.7	-3.3	-4.4
263	1571			20.4	42.4	37.6	-4.8	-3.3	-1.5
265	1571			21.1	43.1	39.2	-3.9	-3.3	-0.7
477	1572			21.7	43.6	36.6	-7.1	-3.3	-3.8
62	1572			20.8	42.7	39.5	-3.2	-3.3	0.1
539	1572			21.6	43.5	40.0	-3.6	-3.3	-0.3
139	1574			21.2	43.2	38.5	-4.7	-3.3	-1.4
211	1575			21.1	43.1	36.8	-6.3	-3.3	-3.0
528	1577			21.0	42.9	37.9	-5.0	-3.3	-1.8
79	1578			20.0	42.0	39.5	-2.5	-3.3	0.8
138	1578			20.6	42.6	37.3	-5.3	-3.3	-2.1
291	1579			22.3	44.3	32.2	-12.1	-3.3	-8.8
63	1579			20.3	42.3	39.8	-2.5	-3.3	0.8
64	1579			20.4	42.3	39.6	-2.7	-3.3	0.5
132	1580			21.1	43.1	37.0	-6.0	-3.3	-2.8
462	1581			20.3	42.3	36.7	-5.5	-3.3	-2.3
264	1581			20.7	42.7	38.0	-4.7	-3.3	-1.4
501	1581			20.9	42.9	37.9	-5.0	-3.3	-1.7
534	1582			23.5	45.5	32.2	-13.3	-3.3	-10.0
435	1583			20.5	42.5	37.9	-4.6	-3.3	-1.3
535	1585			23.2	45.2	35.9	-9.3	-3.3	-6.0
182	1586			20.6	42.6	39.1	-3.5	-3.3	-0.2
212	1586			20.8	42.8	33.3	-9.5	-3.3	-6.2
61	1588			20.7	42.7	38.2	-4.5	-3.3	-1.2
84	1589			20.0	42.0	35.5	-6.5	-3.3	-3.2
131	1589			20.5	42.5	39.4	-3.1	-3.3	0.1
22	1591			20.7	42.7	35.1	-7.6	-3.3	-4.3
388	1594			20.8	42.8	37.2	-5.6	-3.3	-2.3
24	1601			21.3	43.3	36.7	-6.6	-3.3	-3.3
474	1604			20.5	42.5	37.5	-5.0	-3.3	-1.7
164	1606			19.3	41.3	30.8	-10.5	-3.3	-7.2
Average	1574						-4.5	-3.3	-1.2

# Table D.02 Tonality Assessment Table - 9 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

Page 1 of 2  
 Created on: 10/4/2017

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)
10	136			22.7	41.0	39.6	-1.4	-2.0	0.6
475	136			25.4	43.7	36.7	-7.0	-2.0	-4.9
129	136			24.0	42.3	37.5	-4.8	-2.0	-2.8
472	136			24.5	42.8	39.1	-3.7	-2.0	-1.7
181	136			23.9	42.2	39.5	-2.7	-2.0	-0.7
424	136			24.0	42.3	38.2	-4.0	-2.0	-2.0
303	137			24.9	43.2	36.0	-7.3	-2.0	-5.3
367	137			25.0	43.3	37.4	-5.9	-2.0	-3.9
145	137			23.5	41.8	36.7	-5.1	-2.0	-3.1
142	137			23.3	41.6	34.5	-7.0	-2.0	-5.0
432	137			23.7	42.0	36.7	-5.3	-2.0	-3.3
213	137			25.2	43.5	35.5	-8.0	-2.0	-6.0
503	137			23.6	41.9	39.2	-2.7	-2.0	-0.7
385	137			24.8	43.1	33.8	-9.2	-2.0	-7.2
60	137			23.9	42.2	37.2	-4.9	-2.0	-2.9
390	137			23.8	42.1	34.7	-7.4	-2.0	-5.4
21	137			24.0	42.3	39.1	-3.3	-2.0	-1.3
51	138			23.7	42.0	38.0	-4.0	-2.0	-2.0
143	138			23.5	41.8	35.2	-6.5	-2.0	-4.5
387	138			24.1	42.4	40.3	-2.1	-2.0	-0.1
425	138			24.4	42.7	39.2	-3.4	-2.0	-1.4
504	138			24.5	42.8	41.4	-1.5	-2.0	0.5
507	138			25.4	43.7	36.3	-7.4	-2.0	-5.3
374	138			23.8	42.1	37.3	-4.8	-2.0	-2.8
130	138			24.3	42.6	38.8	-3.8	-2.0	-1.7
509	138			24.8	43.1	39.0	-4.1	-2.0	-2.1
305	138			24.6	42.9	39.0	-3.9	-2.0	-1.9
433	138			24.1	42.4	37.7	-4.7	-2.0	-2.7
304	138			24.1	42.4	38.8	-3.6	-2.0	-1.6
144	138			23.7	42.0	35.3	-6.7	-2.0	-4.7
302	138			24.1	42.4	38.4	-4.1	-2.0	-2.1
83	139			23.0	41.3	41.4	0.1	-2.0	2.1
163	142			21.7	40.0	29.7	-10.3	-2.0	-8.3
Average	137						-4.3	-2.0	-2.3

# Table D.02 Tonality Assessment Table - 9 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

Page 2 of 2  
 Created on: 10/4/2017

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)
374	384			23.3	42.0	41.8	-0.2	-2.2	2.0
367	385			23.4	42.1	46.2	4.2	-2.2	6.4
385	388			22.0	40.7	39.7	-1.0	-2.2	1.2
129	388			21.7	40.4	40.1	-0.3	-2.2	1.9
424	389			22.2	40.9	34.3	-6.5	-2.2	-4.4
10	412			20.9	39.7	27.9	-11.8	-2.2	-9.5
21	414			20.9	39.7	27.3	-12.4	-2.2	-10.2
Average	394						-0.9	-2.2	1.3

# Table D.04 Tonality Assessment Table - 10 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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)
165	1551			19.7	41.6	42.3	0.7	-3.2	3.9
277	1556			19.1	41.1	38.1	-2.9	-3.3	0.3
513	1557			20.7	42.6	37.3	-5.3	-3.3	-2.1
493	1560			22.5	44.4	40.2	-4.2	-3.3	-1.0
251	1561			21.0	42.9	40.9	-2.1	-3.3	1.2
189	1561			21.0	43.0	40.0	-2.9	-3.3	0.3
286	1561			19.7	41.6	35.5	-6.1	-3.3	-2.8
544	1562			23.2	45.2	36.7	-8.5	-3.3	-5.2
257	1563			21.7	43.6	29.8	-13.9	-3.3	-10.6
272	1563			21.6	43.5	35.6	-7.9	-3.3	-4.7
18	1564			20.1	42.0	40.3	-1.7	-3.3	1.6
320	1564			20.8	42.8	40.9	-1.9	-3.3	1.4
407	1564			20.8	42.7	40.9	-1.8	-3.3	1.5
46	1564			21.0	43.0	42.0	-1.0	-3.3	2.3
459	1564			20.6	42.5	39.2	-3.3	-3.3	0.0
180	1564			20.0	41.9	42.2	0.2	-3.3	3.5
76	1565			19.7	41.6	40.7	-0.9	-3.3	2.4
431	1565			21.0	43.0	42.8	-0.2	-3.3	3.1
524	1565			23.0	44.9	36.1	-8.9	-3.3	-5.6
532	1565			21.1	43.1	39.4	-3.7	-3.3	-0.4
494	1566			20.5	42.4	39.4	-3.0	-3.3	0.3
408	1566			21.2	43.2	38.2	-5.0	-3.3	-1.7
241	1566			21.4	43.3	42.6	-0.8	-3.3	2.5
326	1567			20.8	42.8	39.0	-3.8	-3.3	-0.5
392	1567			20.8	42.7	39.6	-3.1	-3.3	0.1
457	1567			21.1	43.0	41.0	-2.0	-3.3	1.3
293	1567			20.3	42.3	41.8	-0.5	-3.3	2.7
57	1569			19.7	41.7	39.9	-1.8	-3.3	1.4
370	1569			20.7	42.6	40.9	-1.7	-3.3	1.6
49	1570			20.5	42.4	41.1	-1.4	-3.3	1.9
53	1570			20.8	42.8	42.8	0.0	-3.3	3.3
436	1570			21.8	43.7	28.0	-15.8	-3.3	-12.5
47	1571			21.3	43.3	38.7	-4.6	-3.3	-1.3
167	1571			20.3	42.3	42.3	0.0	-3.3	3.2
461	1572			20.7	42.6	39.3	-3.3	-3.3	-0.1
5	1573			20.2	42.1	42.1	0.0	-3.3	3.3
58	1574			21.0	42.9	40.1	-2.8	-3.3	0.4
371	1574			20.6	42.5	43.0	0.5	-3.3	3.8
522	1574			20.6	42.5	41.1	-1.5	-3.3	1.8
170	1574			19.5	41.5	40.2	-1.2	-3.3	2.0
3	1575			20.5	42.5	42.4	-0.1	-3.3	3.1
403	1577			20.8	42.8	39.9	-2.9	-3.3	0.3
19	1579			20.2	42.2	41.3	-0.9	-3.3	2.3
9	1579			18.9	40.9	41.3	0.4	-3.3	3.7
34	1579			20.3	42.3	40.0	-2.3	-3.3	0.9
258	1579			22.7	44.7	33.4	-11.3	-3.3	-8.0
54	1579			20.9	42.9	39.9	-2.9	-3.3	0.3
523	1580			22.0	44.0	39.9	-4.1	-3.3	-0.8
322	1580			20.4	42.4	40.8	-1.6	-3.3	1.7
423	1581			20.4	42.4	39.3	-3.0	-3.3	0.2
529	1581			21.0	42.9	36.5	-6.5	-3.3	-3.2
495	1582			21.8	43.7	36.9	-6.8	-3.3	-3.5
510	1583			21.1	43.1	33.8	-9.4	-3.3	-6.1
184	1584			20.9	42.9	40.2	-2.6	-3.3	0.6
262	1585			20.7	42.6	36.1	-6.5	-3.3	-3.2
541	1585			22.0	44.0	32.9	-11.1	-3.3	-7.8
253	1585			22.6	44.6	34.4	-10.2	-3.3	-7.0
71	1586			20.5	42.5	40.2	-2.2	-3.3	1.0
410	1587			22.6	44.5	37.1	-7.4	-3.3	-4.1
479	1589			21.6	43.6	39.3	-4.3	-3.3	-1.0
306	1589			22.2	44.2	33.6	-10.6	-3.3	-7.3
278	1590			20.6	42.6	38.6	-4.1	-3.3	-0.8
527	1592			21.5	43.5	39.7	-3.8	-3.3	-0.6
434	1596			21.1	43.1	29.5	-13.6	-3.3	-10.3
467	1598			22.0	44.0	29.6	-14.4	-3.3	-11.1
25	1598			20.9	42.9	37.1	-5.8	-3.3	-2.5
31	1603			22.0	44.0	29.7	-14.4	-3.3	-11.1
Average	1574						-3.0	-3.3	0.3

# Table D.05 Tonality Assessment Table - 10.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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)
166	1552			20.1	42.0	42.2	0.2	-3.3	3.4
33	1557			19.7	41.6	40.9	-0.7	-3.3	2.6
17	1559			20.1	42.0	42.8	0.8	-3.3	4.0
402	1560			21.2	43.1	42.5	-0.6	-3.3	2.7
531	1560			21.0	42.9	38.0	-4.9	-3.3	-1.6
227	1562			20.0	42.0	42.8	0.8	-3.3	4.1
455	1563			22.0	43.9	42.1	-1.8	-3.3	1.4
70	1563			18.6	40.6	40.8	0.2	-3.3	3.4
319	1564			20.7	42.7	42.5	-0.2	-3.3	3.1
48	1564			20.1	42.0	39.2	-2.8	-3.3	0.4
41	1564			19.6	41.5	41.6	0.0	-3.3	3.3
171	1565			20.3	42.2	37.6	-4.6	-3.3	-1.3
179	1565			20.4	42.4	40.8	-1.5	-3.3	1.7
239	1565			20.2	42.2	42.1	-0.1	-3.3	3.2
498	1566			20.6	42.5	40.8	-1.8	-3.3	1.5
318	1566			20.7	42.6	43.6	0.9	-3.3	4.2
444	1566			19.6	41.6	40.4	-1.1	-3.3	2.1
4	1567			20.1	42.1	42.8	0.7	-3.3	4.0
430	1567			20.4	42.3	41.3	-1.0	-3.3	2.3
44	1568			21.8	43.8	40.9	-2.8	-3.3	0.4
140	1568			20.3	42.2	38.3	-3.9	-3.3	-0.6
406	1568			20.6	42.6	41.8	-0.7	-3.3	2.5
327	1568			21.0	42.9	36.1	-6.8	-3.3	-3.6
537	1570			23.1	45.1	39.2	-5.9	-3.3	-2.6
325	1570			19.3	41.2	40.4	-0.8	-3.3	2.4
8	1570			18.7	40.7	42.1	1.4	-3.3	4.7
369	1570			20.1	42.1	40.9	-1.2	-3.3	2.1
13	1570			19.6	41.6	41.4	-0.1	-3.3	3.1
2	1573			19.2	41.2	39.5	-1.7	-3.3	1.6
460	1574			21.7	43.6	41.2	-2.4	-3.3	0.8
178	1574			20.3	42.3	43.5	1.2	-3.3	4.5
134	1574			20.9	42.9	39.6	-3.3	-3.3	0.0
469	1574			20.4	42.4	42.5	0.1	-3.3	3.3
75	1574			19.8	41.7	40.8	-1.0	-3.3	2.3
538	1577			20.5	42.5	38.6	-3.9	-3.3	-0.6
242	1578			21.6	43.6	41.6	-2.0	-3.3	1.3
169	1579			20.6	42.6	40.7	-1.9	-3.3	1.4
512	1579			22.8	44.8	39.8	-5.0	-3.3	-1.7
56	1579			19.5	41.5	40.8	-0.7	-3.3	2.6
224	1579			20.4	42.3	42.1	-0.3	-3.3	3.0
404	1579			21.2	43.1	39.8	-3.4	-3.3	-0.1
65	1579			20.4	42.4	39.7	-2.7	-3.3	0.6
66	1579			19.8	41.8	41.3	-0.5	-3.3	2.8
321	1580			19.9	41.9	40.7	-1.1	-3.3	2.2
135	1580			20.2	42.2	40.5	-1.7	-3.3	1.6
136	1581			21.0	43.0	41.2	-1.8	-3.3	1.5
458	1581			20.9	42.9	40.4	-2.5	-3.3	0.8
290	1581			21.7	43.7	38.4	-5.3	-3.3	-2.0
441	1581			19.8	41.8	40.2	-1.6	-3.3	1.7
279	1584			20.1	42.1	41.2	-0.9	-3.3	2.4
185	1584			21.3	43.3	35.4	-8.0	-3.3	-4.7
1	1584			20.7	42.6	37.0	-5.7	-3.3	-2.4
268	1584			20.3	42.3	38.9	-3.4	-3.3	-0.1
426	1585			22.5	44.5	37.9	-6.7	-3.3	-3.4
256	1585			20.0	42.0	39.5	-2.5	-3.3	0.8
133	1586			20.5	42.5	38.8	-3.8	-3.3	-0.5
298	1587			20.1	42.1	41.5	-0.6	-3.3	2.7
55	1587			20.0	42.0	41.3	-0.7	-3.3	2.6
427	1588			21.1	43.1	41.8	-1.4	-3.3	1.9
297	1589			21.6	43.6	37.6	-6.0	-3.3	-2.7
223	1589			20.7	42.7	41.5	-1.2	-3.3	2.1
6	1590			20.4	42.4	39.7	-2.8	-3.3	0.5
42	1590			21.0	43.0	41.0	-2.1	-3.3	1.2
271	1590			20.5	42.5	32.1	-10.4	-3.3	-7.1
542	1591			22.1	44.1	39.2	-4.9	-3.3	-1.6
450	1592			22.1	44.1	36.9	-7.2	-3.3	-3.9
514	1594			21.7	43.7	37.1	-6.7	-3.3	-3.4
480	1595			20.7	42.7	36.2	-6.5	-3.3	-3.2
511	1599			22.2	44.2	34.4	-9.8	-3.3	-6.6

## Table D.05 Tonality Assessment Table - 10.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement

Report ID: 08020.04.T15.RP3

Page 2 of 2

Created on: 10/4/2017

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)
295	1601			20.3	42.3	31.3	-11.0	-3.3	-7.7
52	1604			21.6	43.6	36.8	-6.8	-3.3	-3.5
368	1607			22.1	44.2	34.6	-9.6	-3.3	-6.3
375	1610			21.3	43.3	27.6	-15.8	-3.3	-12.5
Average	1577						-2.0	-3.3	1.2

# Table D.06 Tonality Assessment Table - 11 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

Page 1 of 1  
 Created on: 10/4/2017

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)
547	1544			24.4	46.3	34.7	-11.6	-3.2	-8.3
395	1551			21.7	43.6	34.4	-9.2	-3.2	-6.0
440	1556			20.3	42.2	40.8	-1.4	-3.3	1.8
492	1558			21.2	43.1	38.4	-4.7	-3.3	-1.4
312	1560			21.7	43.6	40.3	-3.3	-3.3	-0.1
317	1564			21.6	43.6	44.0	0.4	-3.3	3.7
443	1566			20.5	42.5	40.8	-1.7	-3.3	1.6
470	1568			20.5	42.5	39.5	-3.0	-3.3	0.3
280	1570			21.1	43.0	39.1	-4.0	-3.3	-0.7
337	1570			19.7	41.7	41.8	0.1	-3.3	3.4
172	1575			20.1	42.1	39.3	-2.8	-3.3	0.5
496	1576			21.4	43.3	41.7	-1.6	-3.3	1.6
237	1576			20.1	42.1	42.0	0.0	-3.3	3.2
73	1576			19.0	41.0	41.7	0.7	-3.3	4.0
497	1576			21.9	43.9	41.8	-2.0	-3.3	1.2
428	1577			21.5	43.5	39.8	-3.7	-3.3	-0.4
412	1577			21.2	43.1	39.6	-3.6	-3.3	-0.3
429	1577			20.5	42.5	38.4	-4.1	-3.3	-0.8
270	1578			21.1	43.1	39.7	-3.3	-3.3	-0.1
72	1579			20.3	42.3	42.4	0.1	-3.3	3.4
240	1580			21.4	43.4	44.0	0.6	-3.3	3.8
74	1580			19.9	41.8	41.6	-0.2	-3.3	3.1
405	1581			20.6	42.6	42.7	0.1	-3.3	3.4
16	1582			21.1	43.1	40.6	-2.5	-3.3	0.8
250	1583			21.9	43.9	39.2	-4.7	-3.3	-1.4
530	1584			20.7	42.7	40.3	-2.4	-3.3	0.8
437	1585			19.9	41.8	40.2	-1.6	-3.3	1.6
456	1586			21.6	43.6	41.4	-2.2	-3.3	1.1
260	1586			19.7	41.7	37.5	-4.2	-3.3	-1.0
67	1586			20.2	42.2	42.2	-0.1	-3.3	3.2
299	1587			19.7	41.7	42.3	0.6	-3.3	3.9
175	1588			19.9	41.9	41.9	0.0	-3.3	3.3
287	1589			21.0	43.0	41.8	-1.2	-3.3	2.1
557	1591			23.1	45.1	36.3	-8.8	-3.3	-5.6
35	1594			21.6	43.6	39.4	-4.2	-3.3	-0.9
393	1595			21.9	43.9	36.5	-7.4	-3.3	-4.1
Average	1576						-1.9	-3.3	1.3

# Table D.07 Tonality Assessment Table - 11.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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)
398	1543			21.6	43.5	38.8	-4.7	-3.2	-1.5
420	1559			23.7	45.6	41.9	-3.7	-3.3	-0.5
236	1560			20.7	42.6	44.5	1.9	-3.3	5.1
517	1563			20.7	42.6	42.1	-0.6	-3.3	2.7
394	1565			22.5	44.5	35.2	-9.2	-3.3	-6.0
336	1566			19.8	41.7	41.1	-0.6	-3.3	2.7
40	1566			20.2	42.2	41.9	-0.3	-3.3	3.0
438	1567			20.2	42.2	40.6	-1.6	-3.3	1.6
284	1567			21.3	43.2	42.4	-0.8	-3.3	2.4
15	1569			20.4	42.4	43.2	0.8	-3.3	4.1
177	1570			20.9	42.9	43.5	0.6	-3.3	3.9
311	1571			20.9	42.9	40.7	-2.2	-3.3	1.1
267	1571			21.4	43.3	38.0	-5.4	-3.3	-2.1
255	1572			20.7	42.7	42.2	-0.5	-3.3	2.7
421	1572			22.4	44.3	37.1	-7.2	-3.3	-4.0
283	1573			20.7	42.6	42.9	0.3	-3.3	3.6
276	1574			20.2	42.2	41.2	-1.0	-3.3	2.3
188	1576			20.9	42.9	41.8	-1.0	-3.3	2.2
225	1577			20.8	42.8	39.2	-3.6	-3.3	-0.4
187	1577			21.7	43.6	39.9	-3.8	-3.3	-0.5
521	1577			20.5	42.5	41.4	-1.1	-3.3	2.2
45	1580			21.6	43.5	41.0	-2.5	-3.3	0.7
289	1580			21.6	43.6	42.3	-1.3	-3.3	2.0
543	1581			22.2	44.2	35.8	-8.3	-3.3	-5.0
186	1583			20.2	42.1	41.7	-0.5	-3.3	2.8
230	1586			20.3	42.3	41.2	-1.1	-3.3	2.2
323	1586			20.4	42.4	37.4	-4.9	-3.3	-1.7
43	1589			20.7	42.7	42.7	0.0	-3.3	3.3
12	1589			20.8	42.8	39.7	-3.1	-3.3	0.2
481	1592			21.2	43.2	40.0	-3.2	-3.3	0.0
14	1594			20.8	42.8	38.6	-4.2	-3.3	-0.9
229	1595			20.9	43.0	40.8	-2.2	-3.3	1.1
Average	1575						-1.7	-3.3	1.6



# Table D.08 Tonality Assessment Table - 12 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement

Report ID: 08020.04.T15.RP3

Page 1 of 1

Created on: 10/4/2017

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)
335	1577			19.7	41.7	38.6	-3.1	-3.3	0.2
38	1579			20.6	42.5	43.2	0.6	-3.3	3.9
282	1586			20.0	42.0	40.5	-1.5	-3.3	1.7
174	1588			20.0	42.0	41.0	-0.9	-3.3	2.4
7	1590			19.9	41.9	39.9	-2.0	-3.3	1.3
36	1592			21.0	43.0	38.0	-5.0	-3.3	-1.7
32	1592			20.8	42.8	33.6	-9.3	-3.3	-6.0
516	1596			21.2	43.3	39.7	-3.6	-3.3	-0.3
259	1606			21.6	43.7	33.1	-10.6	-3.3	-7.3
411	1607			21.4	43.5	36.9	-6.6	-3.3	-3.3
445	1619			21.1	43.2	33.7	-9.5	-3.3	-6.2
Average	1594						-3.4	-3.3	-0.1

# Table D.09 Tonality Assessment Table - 12.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement

Report ID: 08020.04.T15.RP3

Page 1 of 1

Created on: 10/4/2017

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)
285	1571			20.3	42.3	43.1	0.9	-3.3	4.1
232	1576			19.9	41.9	38.5	-3.4	-3.3	-0.2
555	1577			23.7	45.7	41.4	-4.3	-3.3	-1.1
485	1578			21.3	43.2	40.6	-2.6	-3.3	0.6
324	1582			20.5	42.5	41.9	-0.6	-3.3	2.6
231	1589			19.4	41.4	40.8	-0.6	-3.3	2.7
439	1592			20.1	42.1	38.4	-3.7	-3.3	-0.4
451	1592			20.4	42.4	40.0	-2.4	-3.3	0.9
452	1594			21.0	43.0	40.6	-2.4	-3.3	0.9
515	1602			20.8	42.9	38.8	-4.1	-3.3	-0.8
176	1604			20.3	42.3	41.1	-1.2	-3.3	2.1
468	1608			20.4	42.5	39.7	-2.8	-3.3	0.5
Average	1589						-2.0	-3.3	1.3

# Table D.10 Tonality Assessment Table - 13 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement

Report ID: 08020.04.T15.RP3

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)
453	1559			22.1	44.0	38.7	-5.3	-3.3	-2.0
419	1559			22.4	44.3	42.0	-2.4	-3.3	0.9
454	1567			20.8	42.7	40.3	-2.4	-3.3	0.9
449	1569			21.3	43.2	38.4	-4.8	-3.3	-1.5
235	1569			21.0	42.9	42.7	-0.2	-3.3	3.0
69	1572			19.4	41.4	40.1	-1.3	-3.3	2.0
400	1577			20.9	42.9	42.0	-0.9	-3.3	2.4
520	1580			21.1	43.1	42.4	-0.7	-3.3	2.6
401	1584			21.2	43.2	41.7	-1.5	-3.3	1.7
418	1587			21.2	43.2	41.9	-1.3	-3.3	2.0
68	1589			19.7	41.7	42.4	0.7	-3.3	4.0
558	1595			21.7	43.7	41.5	-2.2	-3.3	1.1
233	1596			20.8	42.9	31.9	-11.0	-3.3	-7.7
281	1603			20.4	42.5	38.8	-3.7	-3.3	-0.4
482	1611			21.0	43.0	30.6	-12.4	-3.3	-9.1
Average	1581						-2.2	-3.3	1.0

# Table D.11 Tonality Assessment Table - 13.5 m/s

Project: McLean's Mountain Wind Farm- Turbine T15 - IEC 61400-11 Measurement

Report ID: 08020.04.T15.RP3

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)
553	1552			21.2	43.1	41.2	-1.9	-3.3	1.4
37	1563			21.2	43.1	38.3	-4.8	-3.3	-1.6
415	1566			21.7	43.7	41.2	-2.5	-3.3	0.7
519	1570			21.3	43.2	41.8	-1.5	-3.3	1.8
483	1577			22.3	44.3	36.0	-8.3	-3.3	-5.0
39	1578			20.8	42.8	40.5	-2.3	-3.3	1.0
234	1582			20.4	42.3	42.4	0.1	-3.3	3.4
173	1590			20.0	42.0	38.0	-4.0	-3.3	-0.8
226	1599			19.5	41.5	38.3	-3.2	-3.3	0.1
Average	1575						-2.6	-3.3	0.6

---

## Appendix E Measurement Data

---

Table E.01 Measurement data - Turbine ON  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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

Data Point #	Standardized Wind Speed	L50s	Turbine Power Output (kW)	Reference Yaw Angle (Deg)	Yaw Angle (Deg)	Pitch (Deg)	Rotor Speed (rpm)	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (hPa)	Relative Humidity (%)
1	10.5	53.5	1612	359.4	1.6	13.1	10.4	6.6	12	93	74	74
2	10.5	52.7	2100	359.4	362.8	2.3	13.0	6.6	12	94	74	74
3	10.1	53.4	2062	359.4	365.4	1.4	13.0	6.7	12	93	74	74
4	10.5	53.5	2170	359.4	357.7	3.1	13.0	8.9	8.4	12	93	74
5	10.0	53.2	2031	359.4	357.7	1.9	13.0	8.2	7.2	12	93	74
6	10.4	53.3	2130	359.4	357.7	1.4	13.1	9.8	7.8	12	93	74
7	12.2	53.3	2429	359.4	357.7	4.6	13.1	11.5	7.1	12	93	74
8	10.4	52.1	2125	359.4	357.7	5.0	12.9	11.0	8.3	12	93	74
9	10.2	52.6	2079	359.4	357.7	3.1	13.0	9.9	6.9	12	93	74
10	9.2	52.5	1743	359.4	357.7	0.8	12.9	9.8	7.8	12	93	74
11	9.6	53.9	1893	359.4	357.7	0.3	13.1	8.6	8.5	12	93	74
12	11.6	54.0	2380	359.4	357.7	3.5	13.2	10.0	9.4	12	93	74
13	10.5	53.3	1952	359.4	357.7	3.7	13.0	10.2	8.3	12	93	74
14	11.5	53.3	2357	359.4	357.7	3.9	13.1	11.8	9.2	12	93	74
15	11.3	53.1	2336	359.4	357.7	5.6	13.0	11.2	8.2	12	92	74
16	11.2	53.9	2318	359.4	357.7	5.0	13.0	10.7	7.7	12	92	74
17	10.7	53.3	2142	359.4	357.7	4.8	12.9	11.9	7.2	12	92	74
18	10.2	53.6	2090	359.4	357.7	3.4	13.0	11.2	6.1	12	92	74
19	10.0	53.6	2036	359.4	357.7	1.4	13.0	10.5	7.3	12	92	74
20	9.6	53.6	1890	359.4	357.7	0.9	12.9	9.6	10.1	12	92	74
21	9.1	53.2	1691	359.4	357.7	0.2	12.9	8.5	7.8	12	92	74
22	9.3	53.6	1767	359.4	357.7	0.3	13.0	9.4	6.4	12	92	74
23	9.4	53.9	1794	359.4	357.7	0.2	13.0	8.9	6.2	12	92	74
24	9.4	53.3	1820	359.4	357.7	0.1	13.1	8.6	7.0	12	92	74
25	10.1	54.2	2086	359.4	357.7	0.4	13.0	10.4	8.2	12	92	74
26	8.6	53.0	1465	359.4	357.7	0.4	12.8	7.8	8.3	12	93	74
27	8.1	53.0	1278	359.4	357.7	0.2	12.9	5.8	7.7	12	93	74
28	8.0	52.5	1222	359.4	357.7	0.2	12.8	6.2	7.6	12	93	74
29	8.4	52.6	1380	359.4	357.7	0.2	13.0	6.5	10.6	12	93	74
30	8.5	52.9	1428	359.4	357.7	0.2	13.0	7.9	5.7	12	93	74
31	10.0	54.0	2025	359.4	357.7	0.7	13.3	7.7	4.3	12	93	74
32	11.9	54.0	2517	359.4	357.7	4.2	13.3	11.3	4.3	12	93	74
33	10.3	52.8	2097	359.4	357.7	3.9	12.9	11.0	5.6	12	94	74
34	9.1	52.7	2011	359.4	357.7	1.7	13.0	9.2	13.0	12	94	74
35	10.8	54.1	2233	359.4	357.7	2.2	13.2	9.4	9.3	12	94	74
36	12.2	53.2	2555	359.4	357.7	6.7	13.3	11.6	9.8	12	94	74
37	13.4	53.3	2502	359.4	357.7	7.4	13.1	12.7	10.6	12	94	74
38	11.8	53.8	2505	359.4	357.7	6.6	13.0	11.1	9.2	12	93	74
39	13.4	53.2	2521	359.4	357.7	7.0	13.1	12.7	8.5	12	92	74
40	11.4	53.6	2347	359.4	357.7	6.6	12.9	11.8	11.3	12	92	74
41	10.3	52.6	2103	359.4	357.7	4.9	12.9	10.0	11.8	12	92	74
42	10.7	53.7	2294	359.4	357.7	3.4	13.1	10.1	8.6	12	92	74
43	11.4	53.9	2346	359.4	357.7	4.2	13.1	10.7	8.8	12	92	74
44	10.7	54.4	2204	359.4	357.7	5.0	12.9	11.2	8.4	12	92	74
45	11.6	54.7	2370	359.4	357.7	5.3	13.0	11.8	8.4	12	93	74
46	10.1	53.7	2065	359.4	357.7	4.1	12.9	11.1	12.3	12	93	74
47	10.2	53.7	2080	359.4	357.7	2.3	13.0	9.2	7.1	12	93	74
48	10.6	53.5	2182	359.4	357.7	3.5	13.0	10.4	7.2	12	93	74
49	9.9	52.8	1888	359.4	357.7	1.9	12.9	9.2	6.4	12	93	74
50	9.4	53.8	1787	359.4	357.7	0.7	12.9	9.5	6.7	12	93	74
51	9.0	53.2	1658	359.4	357.7	0.3	13.0	9.4	8.5	12	93	74
52	10.3	54.0	2116	359.4	357.7	0.9	13.2	10.2	8.2	12	93	74
53	9.8	54.5	1958	359.4	357.7	1.1	12.9	9.3	9.1	12	93	74
54	9.8	53.7	1954	359.4	357.7	0.4	13.0	9.4	7.8	12	93	74
55	10.4	53.2	2132	359.4	357.7	1.2	13.1	9.7	7.7	12	93	74
56	10.5	53.0	2165	359.4	357.7	2.6	13.0	10.0	7.4	12	93	74
57	10.2	52.3	2082	359.4	357.7	2.9	13.0	10.6	8.4	12	92	74
58	10.2	53.4	2073	359.4	357.7	1.7	13.0	10.4	8.8	12	92	74
59	9.6	54.3	1864	359.4	357.7	0.8	12.9	8.8	8.0	12	92	74
60	9.2	53.5	1743	359.4	357.7	0.2	12.9	8.2	6.7	12	92	74
61	9.5	53.5	1835	359.4	357.7	0.3	13.1	8.3	6.1	12	92	74
62	9.6	53.3	1878	359.4	357.7	0.2	13.0	8.9	6.4	12	93	74
63	9.7	53.3	1906	359.4	357.7	0.2	13.0	9.3	8.4	12	93	74
64	9.7	53.2	1903	359.4	357.7	0.4	13.0	10.0	6.6	12	93	74
65	10.5	53.0	2162	359.4	357.7	1.4	13.1	9.9	6.8	12	93	74
66	10.5	53.2	2171	359.4	357.7	2.9	13.0	11.1	7.9	12	93	74
67	10.8	52.9	2240	359.4	357.7	3.4	13.0	10.6	6.1	12	93	74
68	13.0	53.2	2440	359.4	357.7	5.1	13.1	12.4	5.9	12	93	74
69	13.0	52.7	2404	359.4	357.7	5.6	13.0	12.3	4.7	12	93	74
70	10.4	52.3	2127	359.4	357.7	5.2	12.9	11.2	5.2	12	93	74
71	9.9	52.7	1989	359.4	357.7	10.1	13.0	11.1	7.4	12	93	74
72	11.1	53.3	2309	359.4	357.7	2.4	13.1	11.6	7.4	12	93	74
73	11.1	52.5	2313	359.4	357.7	5.6	13.0	11.8	6.4	12	93	74
74	10.9	52.1	2287	359.4	357.7	4.5	13.0	11.3	9.9	12	92	74
75	10.5	52.4	2160	359.4	357.7	11.6	13.0	11.6	8.8	12	92	74
76	10.1	52.5	2047	359.4	357.7	3.1	12.9	10.9	8.2	12	92	74
77	9.7	53.2	1934	359.4	357.7	1.1	12.9	9.5	7.3	12	92	74
78	9.4	53.6	1822	359.4	357.7	0.3	12.9	8.8	7.7	12	92	74
79	9.5	53.3	1838	359.4	357.7	0.3	13.0	9.0	6.9	12	92	74
80	8.7	53.3	1523	359.4	357.7	0.3	12.8	7.3	6.9	12	93	74
81	8.0	53.5	1216	359.4	357.7	0.2	12.8	6.7	5.7	12	93	74
82	8.0	52.7	1232	359.4	357.7	0.2	12.8	7.1	4.8	12	93	74
83	8.1	52.8	1259	359.4	357.7	0.2	12.8	7.4	4.8	12	93	74
84	9.5	53.2	1827	359.4	358.1	0.2	13.1	9.4	4.7	12	93	74
85	53.3	1663	359.4	107.1	0.2	13.0	9.7	5.2	12	93	74	
86	53.3	1454	359.4	14.3	0.2	12.9	9.0	7.0	12	93	74	
87	52.9	1422	359.4	14.2	0.2	13.0	8.6	8.3	12	93	74	
88	52.7	1290	359.4	14.2	0.2	12.9	7.5	6.5	12	93	74	

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

Data Point #	Standardized Wind Speed	L50s	Turbine Power Output (kW)	Reference Yaw Angle (Deg)	Yaw Angle (Deg)	Pitch (Deg)	Rotor Speed (rpm)	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (hPa)	Relative Humidity (%)
89		52.1	1141	359.4	14.2	0.2	12.3	6.9	8.9	12	93	74
90		1371	359.4	14.2	0.2	12.8		6.9	7.7	12	93	74
91		2182	359.4	14.2	1.5	13.3	9.5	7.2	12	93	74	
92		2421	359.4	14.2	4.5	13.1	11.6	7.4	12	93	74	
93	53.0	2173	359.4	14.2	3.9	13.0	12.0	7.7	12	92	74	
94		52.6	1804	359.4	14.2	1.1	12.9	9.4	6.8	12	92	74
95		53.5	1368	359.4	14.2	0.2	12.7	5.9	6.2	12	92	74
96		52.3	1154	359.4	14.2	0.2	12.5	6.3	5.5	12	92	74
97		1118	359.4	14.2	0.2	12.2	8.5	3.9	12	92	74	
98		1860	359.4	14.2	0.1	13.0	9.4	5.3	12	93	74	
99		2219	359.4	14.2	2.4	13.1	9.9	5.3	12	93	74	
100		2053	359.4	14.2	2.4	13.0	8.6	5.2	12	93	74	
101	53.4	2270	359.4	14.2	3.4	13.1	11.7	6.2	12	93	74	
102		52.8	2054	359.4	14.2	3.2	12.9	13.0	7.8	12	93	74
103		53.4	2274	359.4	14.2	3.2	13.1	10.9	6.4	12	93	74
104		52.6	2073	359.4	14.2	3.0	12.9	9.8	6.7	12	93	74
105		53.1	1916	359.4	13.3	1.5	12.9	8.1	8.2	12	93	74
106		53.9	1895	359.								

Table E.01 Measurement data - Turbine On  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 08020.04.T15.RP3

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

Data Point #	Standardized Wind Speed	Wind Speed	Ls (m)	Turbine Power (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch (°)	Rotor Speed (RPM)	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (hPa)	Relative Humidity (%)
177	11.4	53.9	2350	356.4	356.7	5.1	12.9	12.2	6.8	12	92	74	
178	10.5	53.2	2172	356.4	356.7	4.7	13.0	9.8	9.3	12	92	74	
179	10.4	53.3	2134	356.4	356.7	3.6	12.9	10.5	9.2	12	92	74	
180	9.9	53.2	2099	356.4	356.7	2.6	12.9	9.9	9.3	12	92	74	
181	9.2	53.4	1721	356.4	356.7	0.5	12.9	9.1	8.6	12	92	74	
182	9.7	53.8	1917	356.4	356.7	0.1	13.1	8.5	8.4	12	92	74	
183	9.3	53.6	1769	356.4	356.7	0.5	12.9	8.4	9.2	12	92	74	
184	9.8	53.8	1856	356.4	356.7	0.3	13.1	8.3	7.8	12	92	74	
185	10.6	53.8	2152	356.4	356.7	1.8	13.1	10.8	8.6	12	92	74	
186	11.7	53.5	2388	356.4	356.7	4.2	13.1	10.2	8.3	12	92	74	
187	11.5	53.6	2363	356.4	356.7	5.5	13.0	12.6	9.6	12	92	74	
188	11.4	54.0	2353	356.4	356.7	5.6	13.0	10.3	9.9	12	92	74	
189	11.6	53.3	2090	356.4	356.7	4.4	12.9	9.0	10.9	12	92	74	
190			2220	356.4	356.7	3.3	13.1	10.3	10.9	12	92	74	
191			2146	356.4	356.7	3.7	13.0	10.4	10.3	12	92	74	
192			2083	356.4	356.7	2.7	13.0	9.7	9.0	12	92	74	
193			2022	356.4	356.7	1.5	13.0	10.7	7.4	12	92	74	
194			1922	356.4	356.7	0.7	13.0	9.7	6.7	12	92	74	
195			1726	356.4	356.7	0.1	12.9	10.0	6.4	12	92	74	
196			1487	356.4	356.7	0.2	12.9	8.2	6.9	12	92	74	
197			1250	356.4	356.7	0.2	12.8	7.2	6.4	12	92	74	
198			1174	356.4	356.7	0.2	12.6	7.6	6.2	12	92	74	
199			1119	356.4	356.7	0.2	12.4	6.4	5.7	12	92	74	
200			1012	356.4	356.7	0.2	11.8	6.5	5.7	12	92	74	
201			958	356.4	356.7	0.2	11.6	6.9	5.8	12	92	74	
202			1085	356.4	356.7	0.2	12.3	7.9	5.1	13	93	74	
203			1160	356.4	356.7	0.2	12.6	8.1	5.1	13	93	74	
204			1101	356.4	356.7	0.2	12.2	7.0	5.8	13	93	74	
205			1088	356.4	356.7	0.2	12.2	7.1	5.3	13	93	74	
206			1158	356.4	356.7	0.2	12.6	7.5	6.1	13	93	74	
207			1161	356.4	356.7	0.2	12.5	6.6	6.4	13	93	74	
208			1232	356.4	356.7	0.2	12.7	7.5	6.8	13	93	74	
209			1319	356.4	356.6	0.2	12.9	6.4	7.3	12	93	74	
210			1071	356.4	356.6	0.2	13.2	7.7	6.8	12	93	74	
211	9.6	53.5	1861	356.4	356.6	0.2	13.1	9.1	6.5	12	93	74	
212	9.5	53.8	1834	356.4	356.6	0.2	13.0	7.9	5.6	13	93	74	
213	8.9	53.4	1589	356.4	356.6	0.3	12.9	8.7	6.0	13	93	74	
214	8.7	53.6	1526	356.4	356.6	0.2	13.0	7.8	5.2	13	93	74	
215			1575	356.4	356.6	0.2	13.0	8.4	5.0	13	93	74	
216			1408	356.4	356.6	0.2	13.0	7.9	7.8	13	93	74	
217			1290	356.4	356.6	0.2	12.9	7.6	8.6	13	93	74	
218			1688	356.4	356.6	0.2	13.2	9.0	8.0	13	92	74	
219			1821	356.4	356.6	0.3	13.1	9.1	6.0	13	92	74	
220			2073	356.4	356.6	0.5	13.1	9.7	6.2	13	92	74	
221			2059	356.4	356.6	1.1	13.0	9.7	6.1	13	92	74	
222			1991	356.4	356.6	0.7	13.0	8.5	7.1	12	92	74	
223	10.5	53.7	2167	356.4	356.6	1.7	13.1	10.3	6.4	13	92	74	
224	10.6	53.5	2188	356.4	356.6	3.5	13.0	9.7	7.2	13	92	74	
225	11.4	53.6	2353	356.4	356.6	4.1	13.1	9.5	6.4	13	92	74	
226	13.6	52.5	2553	356.4	356.6	5.8	13.2	12.8	8.2	13	92	74	
227	10.4	52.7	2141	356.4	356.6	5.6	12.9	11.4	7.4	13	92	74	
228	9.6	52.8	1864	356.4	356.6	1.6	12.9	9.5	8.1	13	92	74	
229	11.4	53.9	2341	356.4	356.6	2.5	13.2	10.1	8.7	13	92	74	
230	11.6	53.7	2079	356.4	356.6	5.4	13.0	11.7	9.2	13	92	74	
231	12.4	52.9	2551	356.4	356.6	5.9	13.1	11.8	9.3	13	92	74	
232	12.6	52.2	2429	356.4	356.6	5.8	13.0	12.0	8.2	13	92	74	
233	13.2	52.9	2566	356.4	356.6	9.0	13.3	12.5	8.5	13	92	74	
234	13.7	52.8	2557	356.4	356.6	9.2	13.1	12.9	9.4	13	92	74	
235	12.9	53.4	2533	356.4	356.6	8.4	13.0	12.2	9.3	13	92	74	
236	11.3	53.6	2333	356.4	356.6	6.7	12.9	10.9	8.2	13	92	74	
237	11.2	53.4	2320	356.4	356.6	5.7	13.0	12.0	10.9	13	92	74	
238			2457	356.4	356.6	5.6	13.1	10.2	9.6	13	92	74	
239	10.6	53.1	2175	356.4	356.6	5.3	12.9	11.6	7.4	13	92	74	
240	11.1	53.6	2300	356.4	356.6	4.0	13.0	9.7	7.8	13	92	74	
241	10.1	54.1	2050	356.4	356.6	3.3	12.9	9.9	8.1	13	92	74	
242	10.7	54.7	2220	356.4	356.6	2.6	13.1	9.9	6.9	13	92	74	
243			1940	356.4	356.6	4.9	13.1	10.5	8.8	13	92	74	
244	14.8	53.8	2577	356.4	356.6	8.2	13.3	14.0	6.3	13	92	74	
245			2484	356.4	356.6	7.1	13.0	14.5	6.7	13	92	74	
246			2020	356.4	356.6	5.5	12.8	11.7	7.5	13	92	74	
247			1971	356.4	356.6	1.4	13.0	8.3	8.2	13	92	74	
248			2153	356.4	356.6	2.2	13.0	11.1	7.9	13	92	74	
249			1945	356.4	356.6	1.2	12.9	9.4	5.6	13	92	74	
250	10.8	54.2	2242	356.4	356.6	2.5	13.1	9.1	6.3	13	92	74	
251	9.9	53.6	2091	356.4	356.6	2.8	12.9	11.2	20.1	13	91	74	
252	9.4	53.3	1813	356.4	356.6	0.4	12.9	9.0	5.9	13	92	74	
253	10.1	54.7	2052	356.4	356.6	0.6	13.1	7.2	8.4	13	92	74	
254	12.1	54.1	2558	356.4	356.6	6.4	13.4	11.5	10.0	13	92	74	
255	11.5	52.4	2363	356.4	356.6	6.3	13.0	10.9	28.6	7.9	91	74	
256	10.5	53.0	2167	356.4	356.6	4.4	13.0	10.2	7.3	91	74		
257	9.9	53.4	2010	356.4	356.6	2.6	12.9	9.2	7.3	13	91	74	
258	9.8	54.6	1988	356.4	356.6	1.7	12.9	10.5	7.2	13	91	74	
259	11.8	55.3	2495	356.4	356.6	3.3	13.2	11.1	7.7	13	91	74	
260	11.2	52.8	2115	356.4	356.6	4.9	13.0	11.8	7.0	13	92	74	
261	9.5	52.1	1828	356.4	356.6	2.5	12.8	9.2	7.1	13	92	74	
262	9.9	53.4	1990	356.4	356.6	0.5	13.0	9.4	7.8	13	92	74	
263	9.3	53.4	1767	356.4	356.6	0.3	12.9	9.5	7.1	13	92	74	
264	9.6	54.1	1891	356.4	356.6	0.2	13.0	8.3	8.0	13	92	74	

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

Data Point #	Standardized Wind Speed	Wind Speed	Ls (m)	Turbine Power (kW)	Reference Yaw Angle (°)	Yaw Angle (°)	Pitch (°)	Rotor Speed (RPM)	Nacelle Anemometer Wind Speed (m/s)	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (hPa)	Relative Humidity (%)	
265	9.6	53.7	1887	356.4	356.6	0.3	13.0	7.3	8.4	13	92	74		
266	11.5	54.1	2360	356.4	356.6	3.0	13.3	11.2	8.4	13	92	74		
267	11.4	53.4	2347	356.4	356.6	5.6	13.1	10.2	8.5	13	92	74		
268	10.7	53.5	2209	356.4	356.6	4.3	13.0	10.5	9.0	13	92	74		
269			52.8	2440	356.4	356.6	6.8	13.1	10.4	9.0	13	92	74	
270			10.8	2249	356.4	356.6	5.4	12.9	10.8	8.2	13	92	74	
271			10.7	2223	356.4	356.6	3.7	13.0	10.1	7.0	13	92	74	
272			9.9	53.7	1984	356.4	356.6	3.4	12.9	10.2	6.9	13	92	74
273			53.8	2428	356.4	356.6	3.8	13.2	10.0	8.2	13	92	74	
274			13.7	53.7	2575	356.4	356.6	9.2	13.4	13.0	8.2	13	92	74
275			14.0	53.1	2425	356.4	356.6	8.1	13.0	13.3	8.7	13	92	74
276			11.4	53.0	2350	356.4	356.6	5.9	13.0	11.6	8.0	13	92	74
277			10.0	52.8	2029	356.4	356.6	4.8	12.8	9.6	8.0	13	92	74
278			10.1	52.6	2056	356.4	356.6	1.8	13.0	8.7	7.0	13	92	74
279			10.6	53.5	2200	356.4	356.6	3.0	13.0	10.2	8.0	13	91	74
280			11.2	52.6	2325	356.4	356.6	4.0	13.1	9.7	8.4	13	91	74
281			13.2	53.4	2550	356.4	356.6	6.6	13.2	12.5	9.1	13	91	74
282			12.0	53.3	2531									

Table E.01 Measurement data - Turbine On  
Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
Report ID: 08020.04.T15.RP3

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

Data Point #	Standardized Wind Speed	Lat	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 (hPa)	Relative Humidity (%)	
353	54.1	2521	359.4	10.3	5.7	13.4	12.8	5.6	13	93	74		
354	52.9	2206	359.4	10.3	4.8	13.0	11.2	5.1	13	93	74		
355	53.5	2546	359.4	10.3	5.5	13.2	12.3	6.5	13	93	74		
356	52.6	2381	359.4	10.3	5.6	13.0	10.6	5.8	13	92	74		
357	52.7	2167	359.4	10.3	4.4	13.0	8.8	7.5	13	92	74		
358	52.9	2489	359.4	10.3	5.6	13.1	11.8	6.5	13	92	74		
359	52.9	2350	359.4	10.3	5.7	13.0	11.5	9.3	13	92	74		
360	52.3	2251	359.4	10.3	5.6	12.9	11.3	7.3	13	92	74		
361	52.2	1975	359.4	10.3	2.7	12.9	9.8	8.9	13	92	74		
362	53.5	1930	359.4	10.3	4.0	13.0	8.8	8.9	13	91	74		
363	54.0	2181	359.4	10.3	1.6	13.1	9.1	9.4	13	91	74		
364	54.0	2065	359.4	10.3	3.3	12.9	9.1	9.0	13	91	74		
365	53.6	2185	359.4	10.3	2.1	13.0	9.0	8.7	13	91	74		
366	9.6	55.4	1888	359.4	357.4	1.3	12.9	7.8	8.5	13	91	74	
367	9.1	54.8	1708	359.4	351.9	0.2	12.9	8.4	7.6	13	91	74	
368	10.3	56.1	2100	359.4	348.9	0.8	13.2	9.8	7.2	13	91	74	
369	10.6	54.4	2184	359.4	348.9	0.3	13.0	11.5	21.6	13	91	74	
370	10.1	53.4	2060	359.4	348.9	2.6	13.0	10.5	6.8	13	91	74	
371	10.2	53.7	2072	359.4	348.9	2.2	13.0	9.8	6.7	13	91	74	
372	9.5	53.3	1824	359.4	348.9	0.7	12.9	8.9	6.7	13	91	74	
373	8.6	53.4	1495	359.4	348.9	0.2	12.9	8.1	7.5	13	91	74	
374	8.8	53.7	1554	359.4	350.7	0.2	13.0	9.2	8.3	13	91	74	
375	10.6	54.4	2180	359.4	356.2	0.9	13.3	11.5	7.7	13	91	74	
376	53.8	2507	359.4	137.0	4.6	13.2	11.4	8.7	13	91	74		
377	53.4	2184	359.4	10.3	6.0	12.9	9.1	9.1	13	91	74		
378	53.0	2430	359.4	12.3	5.6	13.0	11.3	8.6	13	91	74		
379	52.9	1834	359.4	12.3	3.6	12.8	9.7	9.5	13	91	74		
380	53.5	1892	359.4	12.3	0.5	13.0	8.8	8.8	13	91	74		
381	54.2	2103	359.4	12.3	1.0	13.1	10.4	10.2	13	91	74		
382	53.7	2405	359.4	12.3	4.1	13.1	12.8	10.3	13	91	74		
383	53.3	2413	359.4	12.3	5.6	13.1	14.2	8.8	13	91	74		
384	53.7	2208	359.4	157.6	5.5	12.9	9.9	8.4	13	91	74		
385	9.2	53.3	1738	359.4	357.0	1.5	12.8	8.7	7.6	13	91	74	
386	9.3	53.5	1791	359.4	356.7	0.2	13.0	8.9	7.2	13	92	74	
387	9.0	53.6	1663	359.4	356.7	0.2	13.0	8.1	6.2	13	92	74	
388	9.7	53.9	1825	359.4	356.7	0.4	13.1	9.7	6.3	13	92	74	
389	9.6	53.9	1880	359.4	356.7	0.4	13.0	7.7	6.6	13	92	74	
390	9.5	53.5	1698	359.4	356.7	0.2	12.9	8.4	8.4	13	92	74	
391	9.9	53.3	2008	359.4	356.7	0.5	13.2	8.8	6.5	13	92	74	
392	9.9	53.8	2005	359.4	356.7	1.2	13.0	8.7	7.2	13	92	74	
393	10.8	54.6	2249	359.4	356.7	2.4	13.1	9.8	7.6	13	92	74	
394	11.7	54.4	2291	359.4	356.7	1.4	13.0	11.9	9.8	13	92	74	
395	10.9	53.9	2256	359.4	356.7	4.7	13.0	10.8	8.3	13	92	74	
396	14.1	53.7	2576	359.4	356.7	8.2	13.3	13.3	8.0	13	92	74	
397	14.7	52.6	2560	359.4	356.7	11.6	13.3	13.9	7.2	13	92	74	
398	11.6	53.5	2371	359.4	356.7	13.2	13.2	13.3	10.3	13	92	74	
399	14.1	52.9	2479	359.4	356.7	6.8	13.0	13.3	7.4	13	91	74	
400	13.2	54.0	2464	359.4	356.7	6.5	13.0	12.5	8.4	13	91	74	
401	13.1	53.5	2484	359.4	356.7	6.5	13.0	12.4	8.8	13	91	74	
402	10.6	54.5	2164	359.4	356.7	6.0	12.9	9.7	8.9	13	91	74	
403	10.1	53.5	2058	359.4	356.7	3.4	13.0	10.2	9.1	13	91	74	
404	10.6	53.8	2192	359.4	356.7	3.4	13.0	8.9	9.1	13	91	74	
405	11.0	54.0	2285	359.4	356.7	3.7	13.0	10.1	9.2	13	91	74	
406	10.6	53.7	2189	359.4	356.7	3.9	13.0	10.6	9.0	13	91	74	
407	10.0	52.5	2015	359.4	356.7	2.4	13.0	8.8	8.2	13	91	74	
408	9.9	53.6	2000	359.4	356.7	1.2	13.0	8.3	7.1	13	91	74	
409	9.5	53.5	1858	359.4	356.7	0.4	13.0	8.5	10.2	13	91	74	
410	10.2	54.8	2077	359.4	356.7	0.9	13.1	8.6	10.1	13	91	74	
411	12.0	54.5	2447	359.4	356.7	4.1	13.2	11.4	9.4	13	91	74	
412	11.2	54.0	2322	359.4	356.7	5.7	13.0	10.3	10.4	13	91	74	
413	53.9	2522	359.4	356.7	6.1	13.2	10.2	10.4	13	91	74		
414	13.8	53.9	2568	359.4	356.7	9.7	13.3	13.0	8.3	13	91	74	
415	13.7	54.3	2423	359.4	356.7	7.7	13.0	13.0	7.8	13	91	74	
416	53.7	2507	359.4	356.7	6.7	13.0	10.0	8.5	13	91	74		
417	53.6	2526	359.4	356.7	6.7	13.0	10.5	10.7	13	90	74		
418	12.9	54.1	2567	359.4	356.7	7.2	13.1	12.3	12.5	13	90	74	
419	12.9	53.9	2539	359.4	356.7	6.9	13.0	12.2	11.4	13	90	74	
420	11.3	54.9	2331	359.4	356.7	5.9	13.0	12.6	9.3	13	90	74	
421	11.5	55.7	2365	359.4	356.7	5.7	13.0	11.7	8.8	13	90	74	
422	9.6	54.1	1868	359.4	356.7	3.1	12.8	9.1	9.6	13	90	74	
423	9.8	53.8	1944	359.4	356.7	0.7	13.0	8.3	7.9	14	90	74	
424	8.8	53.3	1569	359.4	355.8	0.4	12.8	8.2	6.7	14	90	74	
425	9.1	53.9	1677	359.4	354.7	0.2	13.0	7.5	7.9	14	90	74	
426	10.6	54.7	2192	359.4	354.7	1.4	13.2	10.4	9.1	14	90	74	
427	10.5	54.5	2156	359.4	354.7	5.3	13.0	9.3	9.9	14	90	74	
428	11.1	54.3	2306	359.4	354.7	3.9	13.0	10.0	7.6	14	91	74	
429	10.9	54.1	2265	359.4	354.7	4.0	13.0	11.3	6.8	14	91	74	
430	10.5	52.3	2166	359.4	354.7	3.6	13.0	10.3	6.5	14	91	74	
431	9.8	53.9	1959	359.4	354.7	2.5	12.9	9.1	7.9	14	91	74	
432	9.2	53.8	1723	359.4	354.7	0.4	12.9	8.7	7.0	14	91	74	
433	9.2	53.6	1717	359.4	354.7	0.3	13.0	8.3	6.4	14	91	74	
434	9.8	54.4	1953	359.4	354.7	0.4	13.1	9.1	6.8	14	91	74	
435	9.6	53.8	1865	359.4	354.7	0.4	13.0	9.3	9.2	14	91	74	
436	9.8	53.9	1961	359.4	354.7	0.5	13.1	9.7	9.2	14	91	74	
437	11.2	53.8	2317	359.4	354.7	2.9	13.1	10.9	10.5	14	91	74	
438	11.5	52.7	2368	359.4	354.7	5.4	13.0	11.0	8.5	14	91	74	
439	12.4	53.2	2542	359.4	354.7	6.2	13.2	11.7	7.9	14	91	74	
440	11.0	53.3	2291	359.4	354.7	6.4	12.9	11.7	8.5	14	91	74	

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

Data Point #	Standardized Wind Speed	Lat	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 (hPa)	Relative Humidity (%)	
441	10.6	53.0	2182	359.4	354.7	4.1	13.0	10.4	9.3	14	90	74	
442	10.6	53.1	2403	359.4	354.7	4.5	13.1	10.5	9.3	14	90	74	
443	10.9	53.3	2255	359.4	354.7	5.4	12.9	11.8	9.0	14	90	74	
444	10.1	53.3	2142	359.4	354.7	4.0	13.0	9.2	8.0	14	90	74	
445	12.0	53.4	2481	359.4	354.7	5.7	13.3	11.3	8.7	14	90	74	
446	14.8	53.7	2567	359.4	354.7	8.3	13.3	14.0	10.4	14	90	74	
447	15.5	54.2	2556	359.4	354.7	10.5	13.2	14.6	10.2	14	90	74	
448	13.9	52.8	2547	359.4	354.7	9.5	12.9	13.2	12.9	14	90	74	
449	12.9	53.8	2405	359.4	354.7	8.0	12.9	12.2	9.5	14	90	74	
450	10.3	53.7	2102	359.4	354.7	5.2	12.9	9.3	8.9	14	90	74	
451	12.3	54.8	2534	359.4	354.7	5.7	13.1	11.6	9.4	14	90	74	
452	12.5	53.3	2550	359.4	354.7	6.9	13.1	11.8	9.8	14	90	74	
453	12.9	54.2	2408	359.4	354.7	6.8	13.0	12.2	10.9	14	90	74	
454	12.8	53.2	2420	359.4	354.7	6.5	13.0	12.1	10.4	14	90	74	
455													



Table E.01 Measurement data - Turbine ON  
Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
Report ID: 08020.04.T15.RP3

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

Data Point #	Standardized Wind Speed	Lsq	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 (Pa)	Relative Humidity (%)
529	10.1	63.9	2049	359.4	345.0	0.6	13.1	10.3	6.1	14	90	74
530	10.9	64.1	2270	359.4	345.0	3.0	13.1	10.8	7.1	14	90	74
531	10.5	63.4	2164	359.4	345.0	4.3	12.9	10.5	6.9	14	91	74
532	9.8	63.3	1968	359.4	345.0	2.0	12.9	8.5	7.3	14	91	74
533	9.5	63.9	1856	359.4	345.0	0.4	12.9	9.1	8.0	14	91	74
534	9.6	65.2	1886	359.4	345.0	0.2	13.0	9.1	8.8	14	91	74
535	9.7	66.5	1934	359.4	345.0	0.2	13.0	8.4	9.8	14	91	74
536	9.7	66.7	1926	359.4	345.0	0.2	13.0	7.1	10.0	14	90	74
537	10.4	65.5	2135	359.4	345.0	1.7	13.1	8.6	9.2	14	90	74
538	10.5	64.7	2155	359.4	345.0	2.6	13.0	10.8	8.5	14	90	74
539	9.7	63.4	1915	359.4	345.0	1.5	12.9	8.7	7.5	14	90	74
540	9.3	64.8	1759	359.4	345.0	0.3	12.9	8.7	7.4	14	90	74
541	10.1	64.5	2056	359.4	345.0	0.6	13.1	8.2	8.6	14	90	74
542	10.5	64.9	2157	359.4	345.0	1.4	13.0	9.7	8.1	14	90	74
543	11.3	64.6	2328	359.4	346.5	4.8	13.0	12.1	8.9	14	91	74
544	10.1	65.1	2056	359.4	349.9	3.6	12.9	8.8	9.1	14	91	74
545	11.7	65.6	2389	359.4	349.9	6.2	13.4	11.1	9.6	14	91	74
546	16.6	65.2	2529	359.4	349.9	12.1	13.2	15.8	10.0	14	91	74
547	11.1	65.6	2305	359.4	349.9	8.2	12.8	13.8	10.5	14	91	74
548	14.5	66.4	2562	359.4	349.9	9.9	13.3	13.8	11.0	14	90	74
549	13.9	63.9	2261	359.4	349.9	6.6	13.1	13.1	12.0	14	90	74
550	14.1	65.1	2567	359.4	349.9	10.8	13.1	13.3	10.4	14	90	74
551	13.8	65.0	2503	359.4	349.9	9.5	12.9	13.1	10.1	14	90	74
552	13.9	65.5	2594	359.4	349.9	9.6	13.2	13.1	10.3	14	90	74
553	13.4	63.8	2417	359.4	349.9	6.4	12.9	12.7	9.1	14	90	74
554	12.4	64.2	2436	359.4	349.9	6.5	13.0	10.7	10.6	14	90	74
555	12.4	65.7	2416	359.4	349.9	6.4	13.0	11.7	11.9	14	90	74
556	11.8	66.2	2443	359.4	349.9	6.0	13.1	11.1	11.8	14	90	74
557	11.2	64.6	2327	359.4	349.9	5.8	13.0	11.7	11.0	14	90	74
558	13.1	65.4	2527	359.4	349.9	6.2	13.1	12.4	8.8	14	90	74
559												
560												
561												
562												
563												
564												
565												
566												
567												
568												
569												
570												
571												
572												
573												
574												
575												
576												
577												
578												
579												
580												
581												
582												
583												
584												
585												
586												
587												
588												
589												
590												
591												
592												
593												
594												
595												
596												
597												
598												
599												
600												
601												
602												
603												
604												
605												
606												
607												
608												
609												
610												
611												
612												
613												
614												
615												
616												

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

Data Point #	Standardized Wind Speed	Lsq	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 (Pa)	Relative Humidity (%)
617												
618												
619												
620												
621												
622												
623												
624												
625												
626												
627												
628												
629												
630												
631												
632												
633												
634												
635												
636												
637												
638												
639												
640												
641												
642												
643												
644												
645												
646												
647												
648												
649												
650												
651												
652												
653												
654												
655												
656												
657												
658												
659												
660												
661												
662												
663												
664												
665												
666												
667												
668												
669												
670												
671												
672												
673												
674												
675												
676												
677												
678												
679												
680												
681												
682												
683												
684												
685												
686												
687												
688												
689												
690												
691												
692												
693												
694												
695												
696												
697												
698												
699												

Table E.02 Measurement data - Background  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 0820.04.T15.RP3

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (hPa)	Relative Humidity (%)
1	9.7	43.9	0.3	7.3	7	97	74
2	9.9	44.4	0.4	7.4	7	97	74
3	7.3	44.8	0.3	5.5	7	97	74
4	8.2	46.9	0.2	6.1	7	97	74
5	10.3	45.3	0.2	7.7	7	97	74
6	10.2	44.7	0.2	7.7	7	97	74
7	10.2	46.8	0.3	7.7	7	97	74
8	10.5	47.4	0.3	7.9	7	97	74
9	12.0	47.0	0.2	9.0	7	97	74
10	9.6	47.2	0.2	7.2	7	97	74
11	9.6	48.9	0.6	6.6	7	97	74
12	8.2	48.4	0.5	6.1	7	97	74
13	8.1	50.5	0.2	6.1	7	97	74
14	9.4	50.9	0.2	7.1	7	97	74
15	11.4	49.7	0.3	8.5	7	97	74
16	11.1	52.0	0.5	8.3	7	97	74
17	10.3	50.6	0.5	7.8	7	97	74
18	11.7	49.6	0.6	8.8	7	97	74
19	10.4	50.8	0.6	7.8	7	97	74
20	10.0	49.2	0.5	7.5	7	96	74
21	10.8	50.3	0.5	8.1	7	96	74
22	10.1	50.8	0.6	7.6	7	96	74
23	9.6	50.4	0.7	7.2	7	96	74
24	9.6	51.4	0.5	7.2	7	96	74
25	10.5	49.0	0.4	7.9	7	96	74
26	10.6	47.5	0.4	7.9	7	97	74
27	11.6	47.1	0.6	8.7	7	97	74
28	10.6	46.6	0.6	7.9	7	97	74
29	11.9	45.3	0.7	8.9	7	97	74
30	12.8	47.5	0.7	9.6	7	97	74
31	12.0	47.0	0.6	9.0	7	96	74
32	11.5	47.5	0.7	8.7	7	96	74
33	11.6	48.2	0.6	8.7	7	96	74
34	11.2	49.6	0.5	8.4	7	96	74
35	11.1	47.4	0.5	8.3	7	96	74
36	9.7	47.1	0.4	7.3	7	96	74
37	10.2	48.5	0.3	7.7	7	96	74
38	9.6	45.7	0.3	7.2	7	96	74
39	9.9	44.9	0.4	7.5	7	96	74
40	9.2	46.2	0.4	6.9	7	96	74
41	9.3	45.7	0.5	6.2	7	96	74
42	7.3	46.8	0.7	5.5	7	96	74
43	10.5	43.6	0.6	7.9	7	96	74
44	9.4	44.0	0.5	7.1	7	97	74
45	10.7	44.4	0.5	8.0	7	97	74
46	11.1	43.4	0.4	8.3	7	97	74
47	11.7	45.3	0.7	8.8	7	97	74
48	12.0	50.9	0.5	9.0	7	97	74
49	12.1	52.8	0.3	9.1	7	97	74
50	12.8	52.3	0.2	9.6	7	97	74
51	11.8	49.2	0.3	8.9	7	97	74
52	11.0	48.6	0.3	8.2	7	97	74
53	10.9	52.6	0.4	8.2	7	97	74
54	9.5	49.1	0.3	7.2	7	97	74
55	11.3	46.2	0.4	8.5	7	97	74
56	11.1	44.1	0.4	8.3	7	97	74
57	11.8	44.6	0.5	8.9	7	97	74
58	10.3	46.9	0.4	7.8	7	97	74
59	10.2	46.7	0.3	7.7	7	97	74
60	10.7	51.0	0.3	8.0	7	97	74
61	10.2	51.3	0.4	7.6	7	97	74
62	7.5	49.1	0.4	5.6	7	97	74
63	8.4	50.7	0.3	6.3	7	97	74
64	10.4	51.3	0.6	7.8	7	97	74
65	10.7	48.9	0.5	8.0	7	97	74
66	15.4	48.0	0.5	11.6	7	97	74
67	15.1	51.5	0.4	11.3	7	97	74
68	10.4	51.9	0.6	7.8	7	96	74
69	8.9	49.8	0.5	6.7	7	96	74
70	10.0	52.4	0.4	7.5	7	96	74
71	10.2	49.2	0.4	7.6	7	96	74
72	10.6	48.3	0.4	7.9	7	96	74
73	9.7	47.0	0.4	7.3	7	96	74
74	7.4	47.0	0.4	5.5	7	97	74
75	10.7	46.5	0.4	5.3	7	97	74
76	9.4	47.8	0.2	7.0	7	97	74
77	14.5	49.7	0.2	10.9	7	97	74
78	15.7	44.6	0.3	11.8	7	97	74
79	12.3	44.0	0.2	9.2	7	97	74
80	12.0	44.9	0.5	9.0	7	96	74
81	9.7	45.6	0.6	7.3	7	96	74
82	10.0	43.7	0.5	7.5	7	96	74
83	9.2	45.1	0.2	6.9	7	96	74

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (hPa)	Relative Humidity (%)
84	9.6	45.8	0.5	6.4	7	96	74
85	6.7	46.8	0.7	5.0	7	96	74
86	8.2	46.7	0.5	6.2	7	96	74
87	11.5	43.4	0.4	8.7	7	96	74
88	11.6	43.5	0.4	8.7	7	96	74
89	15.9	44.2	0.3	11.9	7	96	74
90	14.9	46.4	0.3	11.2	7	96	74
91			0.4	7.6	7	96	74
92			0.4	8.5	7	96	74
93			0.4	8.8	7	96	74
94			0.6	6.6	7	96	74
95			0.2	7.0	7	96	74
96			0.2	6.9	7	96	74
97	10.4	44.5	0.2	7.8	7	96	74
98	10.0	43.8	0.4	7.5	7	97	74
99	9.3	44.3	0.4	6.9	7	97	74
100	10.0	43.2	0.4	7.5	7	97	74
101	10.8	44.0	0.5	8.1	7	97	74
102	11.0	45.7	0.3	8.2	7	97	74
103	12.5	48.0	0.2	9.4	7	97	74
104	13.6	45.1	0.3	10.2	96	74	
105	12.0	46.6	0.4	9.0	7	96	74
106	12.4	42.0	0.3	9.3	7	96	74
107	13.1	41.7	0.2	9.8	7	96	74
108	12.1	44.0	0.4	9.1	7	96	74
109	10.6	42.7	0.4	7.9	7	96	74
110	9.6	43.5	0.2	7.2	7	96	74
111	10.7	42.1	0.2	8.0	7	96	74
112	11.6	43.5	0.1	8.7	7	96	74
113	13.2	44.1	0.1	9.9	7	96	74
114	15.7	41.1	0.2	10.6	96	74	
115	11.9	44.7	0.2	8.9	7	96	74
116	12.3	43.6	0.2	9.2	7	96	74
117	11.2	44.3	0.3	8.4	7	96	74
118	11.6	43.2	0.2	8.7	7	96	74
119	9.3	45.2	0.2	6.9	7	96	74
120			0.3	8.8	7	96	74
121			0.4	9.1	7	96	74
122			0.4	7.8	7	96	74
123			0.4	6.9	7	96	74
124	9.5	43.9	0.4	7.1	7	96	74
125	10.1	41.2	0.4	7.6	7	96	74
126	10.6	40.2	0.3	8.0	7	96	74
127	10.3	42.1	0.3	7.7	7	96	74
128	8.4	41.6	0.4	6.3	7	97	74
129	9.8	41.5	0.5	7.4	7	97	74
130	9.8	41.1	0.6	7.4	7	97	74
131	11.8	41.0	0.5	8.9	7	97	74
132	10.4	42.8	0.3	7.8	7	97	74
133	9.2	42.7	0.4	6.9	7	97	74
134	9.5	41.8	0.3	7.1	7	95	74
135	8.0	42.6	0.3	6.0	7	95	74
136	8.5	40.5	0.2	6.4	7	95	74
137	10.0	40.5	0.4	7.5	7	95	74
138			0.4	8.4	7	95	74
139			0.4	10.0	7	95	74
140			0.4	8.8	7	95	74
141			0.4	7.8	7	95	74
142			0.3	6.8	7	95	74
143	10.6	40.0	0.3	8.0	7	95	74
144	11.7	40.1	0.3	8.8	7	95	74
145	10.8	40.6	0.4	8.1	7	95	74
146	11.6	38.8	0.5	8.7	7	95	74
147	12.7	41.0	0.5	9.5	7	95	74
148	10.9	41.2	0.4	8.1	7	95	74
149	8.8	41.0	0.3	6.6	7	95	74
150	10.5	44.2	0.5	7.9	7	95	74
151	10.0	47.7	0.4	7.5	7	95	74
152	8.6	46.4	0.3	6.4	7	96	74
153	8.8	46.5	0.5	6.5	7	96	74
154	7.3	45.1	0.4	5.5	7	96	74
155	8.2	45.2	0.3	6.2	7	96	74
156	8.6	51.4	0.4	6.4	7	96	74
157	9.7	47.1	0.4	7.3	7	96	74
158	9.7	46.3	0.3	7.3	7	96	74
159	8.9	49.5	0.3	6.7	7	96	74
160	9.4	48.4	0.3	7.1	7	96	74
161	10.2	49.7	0.3	7.7	7	96	74
162	10.2	48.0	0.3	7.7	7	96	74
163	9.9	49.8	0.3	7.4	7	96	74
164	10.5	50.4	0.4	7.9	7	96	74
165	9.7	45.3	0.5	7.3	7	96	74
166	9.1	45.6	0.6	6.8	7	96	74

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (hPa)	Relative Humidity (%)
167	11.4	43.8	0.5	8.6	7	96	74
168	13.2	43.8	0.4	9.9	7	96	74
169			0.6	9.0	7	96	74
170			0.5	8.0	7	95	74
171			0.4	7.1	7	95	74
172			0.4	6.9	7	95	74
173			0.3	5.0	7	95	74
174			0.3	5.1	7	95	74
175			0.2	4.8	7	95	74
176			0.3	4.5	7	96	74
177			0.4	6.1	7	96	74
178			0.4	5.1	7	96	74
179			0.4	4.4	7	96	74
180			0.3	4.4	7	96	74
181</							

Table E.02 Measurement data - Background

Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
Report ID: 0820.04.T15.RP3

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (kPa)	Relative Humidity (%)
250	14.2	44.9	0.4	10.7	7	96	74
251	15.1	43.0	0.4	11.3	7	96	74
252	12.9	42.5	0.3	9.7	7	96	74
253	14.4	43.4	0.2	10.8	7	96	74
254	13.7	41.9	0.4	10.2	7	94	74
255	13.3	42.4	0.3	10.0	7	94	74
256	11.4	41.6	0.3	8.6	7	94	74
257	9.7	42.7	0.2	7.3	7	94	74
258	12.0	44.5	0.3	9.0	7	94	74
259	10.6	46.9	0.3	8.0	7	94	74
260	12.6	46.9	0.4	9.4	7	94	74
261	13.8	44.0	0.4	10.3	7	92	74
262	10.0	48.9	0.4	7.5	7	92	74
263	10.7	47.2	0.4	8.0	7	92	74
264	13.2	45.7	0.3	9.9	7	92	74
265	11.7	44.1	0.3	8.8	7	92	74
266	12.6	43.0	0.3	9.5	7	94	74
267	14.4	47.1	0.5	10.8	7	94	74
268	14.8	42.6	0.7	11.1	7	94	74
269	14.0	45.3	0.7	10.5	7	94	74
270	12.0	46.4	0.6	9.0	7	94	74
271	13.0	44.5	0.5	9.7	7	94	74
272		0.5	10.1	7	93	74	
273		0.4	11.8	7	93	74	
274		0.4	11.5	7	93	74	
275		0.6	11.0	7	93	74	
276		0.5	10.2	7	93	74	
277		0.4	9.6	7	93	74	
278		0.4	12.1	7	94	74	
279		0.4	9.1	7	94	74	
280	12.1	44.7	0.4	9.1	7	94	74
281	13.3	43.1	0.5	10.0	7	94	74
282	12.7	44.3	0.6	9.6	7	94	74
283	10.8	42.9	0.4	8.1	7	94	74
284	10.5	43.8	0.5	7.9	7	94	74
285	9.1	47.7	0.6	6.8	7	94	74
286	10.5	44.3	0.5	7.9	7	94	74
287	11.6	45.1	0.4	8.7	7	94	74
288		0.5	7.8	7	94	74	
289		0.5	7.6	7	94	74	
290		0.6	8.8	7	95	74	
291		0.5	7.1	7	95	74	
292		0.5	7.6	7	95	74	
293		0.5	7.2	7	95	74	
294		0.6	7.2	7	95	74	
295		0.6	8.8	7	95	74	
296		0.5	8.5	7	94	74	
297		0.7	9.1	7	94	74	
298		0.6	10.2	7	94	74	
299		0.5	10.1	7	94	74	
300		0.4	9.9	7	94	74	
301		0.4	9.1	7	94	74	
302		0.4	7.5	7	94	74	
303		0.5	6.9	7	94	74	
304		0.3	6.7	7	94	74	
305	9.5	45.8	0.5	7.1	7	94	74
306	9.7	46.6	0.5	7.3	7	94	74
307	9.2	49.3	0.4	6.9	7	94	74
308	8.0	48.9	0.6	6.0	7	94	74
309	7.6	47.1	0.5	5.7	7	94	74
310	8.5	46.5	0.6	6.4	7	94	74
311		0.7	7.6	7	94	74	
312		0.6	7.7	7	94	74	
313		0.4	5.8	7	94	74	
314		0.3	7.8	7	96	74	
315		0.4	8.8	7	96	74	
316		0.4	8.0	7	96	74	
317	13.6	48.9	0.4	10.2	7	96	74
318	15.8	45.6	0.5	11.8	7	96	74
319	15.0	47.2	0.5	11.3	7	96	74
320	14.5	47.8	0.3	10.9	7	94	74
321	11.7	45.0	0.3	8.8	7	94	74
322	9.8	46.1	0.3	7.4	7	94	74
323	11.9	44.0	0.3	8.9	7	94	74
324	10.4	43.2	0.5	7.8	7	94	74
325	12.5	42.1	0.3	5.2	7	95	74
326	6.1	42.1	0.5	4.6	7	95	74
327	9.0	41.5	0.5	6.8	7	95	74
328	9.6	45.4	0.4	7.2	7	95	74
329	8.6	49.5	0.3	6.4	7	95	74
330	47.0	47.0	0.4	6.8	7	95	74
331	9.9	51.0	0.4	7.4	7	95	74
332	13.5	46.8	0.4	10.2	7	95	74

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (kPa)	Relative Humidity (%)
333	15.1	49.2	0.3	11.3	7	95	74
334	12.1	47.8	0.3	9.1	7	95	74
335	12.7	47.4	0.5	9.6	7	95	74
336	13.8	49.2	0.4	10.4	7	95	74
337	12.5	49.5	0.2	9.4	7	95	74
338	11.5	46.5	0.3	8.6	7	95	74
339	11.9	45.2	0.3	8.9	7	95	74
340	12.6	43.7	0.3	9.4	7	95	74
341	15.3	44.3	0.5	11.5	7	95	74
342	13.0	47.3	0.3	9.8	7	95	74
343		0.4	8.8	7	95	74	
344		0.5	10.4	7	94	74	
345		0.4	11.6	7	94	74	
346		0.3	9.1	7	94	74	
347		0.4	7.8	7	94	74	
348	11.6	45.8	0.4	8.7	7	94	74
349	13.5	45.4	0.3	10.1	7	94	74
350	16.7	45.5	0.2	12.5	7	94	74
351	15.8	45.9	0.4	11.9	7	94	74
352	14.7	47.0	0.3	11.0	7	94	74
353		0.3	9.6	7	94	74	
354		0.3	8.8	7	94	74	
355	10.7	46.7	0.3	8.0	7	94	74
356	9.8	49.8	0.3	7.4	7	94	74
357	11.0	48.4	0.4	8.2	7	94	74
358	11.0	49.0	0.4	8.7	7	94	74
359	10.5	48.4	0.4	7.9	7	94	74
360	13.0	47.8	0.6	9.8	7	94	74
361	10.8	45.3	0.5	8.1	7	94	74
362	10.6	44.8	0.5	7.9	7	94	74
363	12.3	43.0	0.5	9.2	7	94	74
364	11.5	45.1	0.5	8.6	7	94	74
365	9.9	46.8	0.6	7.5	7	94	74
366	11.2	44.5	0.5	8.4	7	94	74
367	12.0	49.4	0.4	9.0	7	94	74
368	14.4	49.3	0.4	10.8	7	94	74
369	14.1	46.8	0.4	10.6	7	94	74
370	13.9	43.7	0.7	10.4	7	94	74
371	12.4	42.2	0.5	9.3	7	94	74
372	12.0	43.2	0.6	8.4	7	94	74
373	14.9	44.9	0.4	10.6	7	94	74
374	13.4	46.7	0.6	10.1	7	94	74
375	14.3	49.1	0.5	10.8	7	94	74
376	14.5	48.8	0.5	10.9	7	94	74
377	12.2	47.2	0.5	9.1	7	94	74
378	13.9	47.0	0.4	10.4	7	94	74
379	12.3	46.2	0.6	9.2	7	94	74
380	11.4	48.0	0.4	8.6	7	94	74
381	12.2	47.2	0.4	9.1	7	94	74
382	10.4	47.0	0.4	7.8	7	94	74
383	11.2	45.4	0.5	8.4	7	94	74
384	10.8	43.3	0.5	8.1	7	94	74
385	8.9	45.0	0.5	6.7	7	94	74
386	7.3	47.7	0.4	5.5	7	95	74
387	5.8	46.8	0.4	4.3	7	95	74
388	6.6	46.6	0.3	5.0	7	95	74
389		0.2	6.1	7	95	74	
390		0.2	7.0	7	95	74	
391		0.2	7.5	7	95	74	
392		0.1	9.7	7	95	74	
393		0.2	10.2	7	95	74	
394		0.3	9.7	7	95	74	
395	14.5	46.4	0.4	10.9	7	95	74
396	13.1	47.6	0.4	9.8	7	95	74
397	12.4	46.0	0.4	9.3	7	95	74
398	9.5	45.4	0.4	7.1	7	94	74
399	9.6	46.3	0.3	7.2	7	94	74
400	11.9	47.0	0.5	9.0	7	94	74
401	11.4	46.5	0.4	8.6	7	94	74
402	11.0	47.1	0.4	8.2	7	94	74
403	8.9	43.9	0.4	6.6	7	94	74
404	9.5	44.2	0.6	7.2	7	95	74
405	12.1	44.0	0.6	9.1	7	95	74
406	12.3	41.6	0.5	9.2	7	95	74
407	12.5	41.3	0.5	9.4	7	95	74
408	10.3	46.3	0.4	7.7	7	95	74
409		0.3	6.7	7	95	74	
410		0.3	5.8	7	95	74	
411		0.2	6.5	7	95	74	
412		0.4	8.0	7	95	74	
413		0.4	8.5	7	95	74	
414		0.3	9.7	7	95	74	
415		0.3	9.4	7	95	74	

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

Data Point #	Standardized Wind Speed	Lag	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (C)	Pressure (kPa)	Relative Humidity (%)
416			0.2	8.0	7	94	74
417			0.2	7.8	7	94	74
418			0.2	7.7	7	94	74
419			0.3	8.2	7	94	74
420			0.3	8.6	7	94	74
421			0.5	8.2	7	94	74
422			0.5	9.3	7	95	74
423			0.3	8.8	7	95	74
424			0.3	8.5	7	95	74
425			0.5	8.7	7	95	74
426			0.6	9.1	7	95	74
427	11.1	46.5	0.7	8.3	7	95	74
428	7.7	47.5	0.5	5.8	7	95	74
429	5.8	45.8	0.4	4.4	7	95	74
430	5.7	46.5	0.4	4.3	7	95	74
431	6.4	45.5	0.2	4.8	7	95	74
432	6.2	45.2	0.3	4.6	7	95	74
433	7.4	42.8	0.4	5.5	7	95	74
434	7.3	43.9	0.4	5.5	8	96	74
435	9.7	46.5	0.				

Table E.02 Measurement data - Background  
 Project: McLeans Mountain Wind Farm - Turbine T15 - IEC 61400-11 Measurement  
 Report ID: 0820.04.T15.RP3

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

Data Point #	Standardized Wind Speed	L <sub>Aeq</sub>	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
499	10.5	46.9	0.6	7.9	8	93	74
500	9.5	45.3	0.5	7.1	8	93	74
501			0.4	9.7	8	93	74
502			0.5	10.8	8	93	74
503			0.4	12.3	8	93	74
504	15.5	45.5	0.2	11.6	8	93	74
505	16.6	47.9	0.2	12.5	8	93	74
506	14.2	49.3	0.4	10.7	8	93	74
507	11.4	48.2	0.3	8.6	8	93	74
508	11.4	45.1	0.4	8.6	8	93	74
509	9.8	42.8	0.4	7.4	8	93	74
510	11.1	42.4	0.3	8.3	8	93	74
511	11.4	46.1	0.5	8.5	8	93	74
512	11.8	46.4	0.4	8.9	8	94	74
513	11.4	46.2	0.4	8.6	8	94	74
514	11.0	46.5	0.3	8.3	8	94	74
515	13.0	46.9	0.3	9.8	8	94	74
516	9.7	45.7	0.4	7.3	8	94	74
517	10.5	46.0	0.4	7.9	8	94	74
518	10.6	49.1	0.4	7.9	8	93	74
519	8.7	50.8	0.4	6.5	8	93	74
520	7.9	50.8	0.6	5.9	8	93	74
521	14.0	51.2	0.3	10.5	8	93	74
522	13.3	49.8	0.4	9.9	8	93	74
523	17.0	49.1	0.3	12.8	8	93	74
524	17.4	47.2	0.2	13.1	8	92	74
525	14.8	51.4	0.1	11.1	8	92	74
526	17.0	51.5	0.1	12.8	8	92	74
527	17.1	50.0	0.3	12.9	8	92	74
528	16.4	48.8	0.6	12.3	8	92	74
529	14.2	45.8	0.5	10.7	8	92	74
530	12.3	47.8	0.4	9.2	8	92	74
531	12.2	46.5	0.3	9.2	8	92	74
532	9.6	44.1	0.2	7.2	8	92	74
533	9.3	42.4	0.5	6.9	8	92	74
534	8.8	41.1	0.5	6.6	8	92	74
535	8.8	43.5	0.3	6.6	8	92	74
536	8.5	46.3	0.3	6.4	8	92	74
537			0.3	6.3	8	92	74
538			0.3	6.2	8	92	74
539			0.4	5.9	8	92	74
540			0.4	7.1	8	92	74
541			0.4	6.2	8	93	74
542			0.4	7.1	8	93	74
543			0.4	7.7	8	93	74
544			0.4	5.8	8	93	74
545			0.3	5.9	8	93	74
546			0.3	8.9	8	93	74
547			0.3	8.5	8	93	74
548			0.5	6.7	8	91	74
549			0.3	7.0	8	91	74
550			0.3	6.6	8	91	74
551			0.3	7.6	8	91	74
552			0.5	8.4	8	91	74
553			0.3	9.5	8	91	74
554			0.3	8.4	8	92	74
555			0.3	8.3	8	92	74
556							
557							
558							
559							
560							
561							
562							
563							
564							
565							
566							
567							
568							
569							
570							
571							
572							
573							
574							
575							
576							
577							
578							
579							
580							
581							

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

Data Point #	Standardized Wind Speed	L <sub>Aeq</sub>	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)
582							
583							
584							
585							
586							
587							
588							
589							
590							
591							
592							
593							
594							
595							
596							
597							
598							
599							
600							
601							
602							
603							
604							
605							
606							
607							
608							
609							
610							
611							
612							
613							
614							
615							
616							
617							
618							
619							
620							
621							
622							
623							
624							
625							
626							
627							
628							
629							
630							
631							
632							
633							

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

Data Point #	Standardized Wind Speed	L <sub>Aeq</sub>	Rotor RPM	10m Anemometer Wind Speed (m/s)	Air Temperature (°C)	Pressure (kPa)	Relative Humidity (%)

---

**End of Report**

---