



ARCUS

**LOCHLUICHART WIND FARM EXTENSION II
SUPPLEMENTARY INFORMATION**

APPENDIX 8.A

WIND TURBINE NOISE EMISSION DATA

OCTOBER 2019



1 LOCHLUICHART AND LOCHLUICHART EXTENSION WIND FARMS: SIEMENS 3.0-101 74.5 M HUB HEIGHT

Table A8.1 Manufacturer's Noise Emission Data

	Standardised 10 m Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Sound Power Level, dB, LWA,								
Manufacturer's Sound Power Level, dB, LWA	94.9	99.6	104.8	106.9	108.0	108.0	108.0	108.0	108.0
Manufacturer's Sound Power Level, dB, LWA, including 2 dB allowance for Uncertainty	96.9	101.6	106.8	108.9	110.0	110.0	110.0	110.0	110.0
Manufacturer's Sound Power Level, dB, LWA, including 2 dB allowance for Uncertainty and 3 dB cumulative safety margin	99.9	104.6	109.8	111.9	113.0	113.0	113.0	113.0	113.0

Table A8.2 Manufacturer's Octave Band Spectra

	Octave Band Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
	Sound Power Level, dB, LWA,							
Manufacturer's Octave-band Sound Power Level, dB, LWA	82.8	94.7	101.4	104.7	101.4	93.5	82.6	79.3
Octave-band Sound Power Level, scaled to 110.0 dB, LWA	84.8	96.7	103.4	106.7	103.4	95.5	84.6	81.3
Octave-band Sound Power Level, scaled to 113.0 dB, LWA	87.8	99.7	106.4	109.7	106.4	98.5	87.6	84.3

2 CORRIEMOILLIE WIND FARM (GE 2.85-103 TURBINES, 73.5 M HUB HEIGHT)

Table A8.3 Manufacturer's Noise Emission Data

	Standardised 10 m Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Sound Power Level, dB, LWA,								
Manufacturer's Sound Power Level, dB, LWA	95.0	95.9	99.4	102.6	104.5	105.0	105.0	105.0	105.0
Manufacturer's Sound Power Level, dB, LWA, including 2 dB allowance for Uncertainty	97.0	97.9	101.4	104.6	106.5	107.0	107.0	107.0	107.0
Manufacturer's Sound Power Level, dB, LWA, including 2 dB allowance for Uncertainty and 3 dB cumulative safety margin	100.0	100.9	104.4	107.6	109.5	110.0	110.0	110.0	110.0

Table A8.4 Manufacturer's Octave Band Spectra

	Octave Band Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
	Sound Power Level, dB, LWA,							
Manufacturer's Octave-band Sound Power Level, dB, LWA	89.5	94.3	95.6	97.2	99.3	99.3	93.0	73.4
Octave-band Sound Power Level, scaled to 107.0 dB, LWA	91.5	96.3	97.6	99.2	101.3	101.3	95.0	75.4
Octave-band Sound Power Level, scaled to 110.0 dB, LWA	94.5	99.3	100.6	102.2	104.3	104.3	98.0	78.4