

Appendix 14.4:

Wind Shear Adjustments

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DAY

Background noise levels standardised 92.5m to 10m and wind speeds equivalent for 138.5 to 10m

	1	2	3	4	5	6	7	8	9	10	11	12
Wind speed standardised 92.5m to 10m (m/s)												
Wind speed at 92.5m (de-standardised) (m/s) - IOA GPG SGN4 equation 1(log law)	1.4	2.8	4.3	5.7	7.1	8.5	9.9	11.4	12.8	14.2	15.6	17.0
Shear coefficient 92.5m to 138.5m	0.249	0.249	0.249	0.249	0.249	0.249	0.249	0.249	0.249	0.249	0.249	0.249
Wind speed at 138.5m (m/s) - IOA GPG SGN4 equation 2(power law)	1.6	3.1	4.7	6.3	7.9	9.4	11.0	12.6	14.1	15.7	17.3	18.8
Wind speed standardised 138.5m to 10m (m/s) - IOA GPG SGN4 equation 1(log law)	1.0	2.1	3.1	4.2	5.2	6.3	7.3	8.4	9.4	10.5	11.5	12.6
Smilttons -Background Noise (dB LA90)	29.0	30.1	31.2	32.2	33.2	34.2	35.2	36.3	37.5	38.7	40.1	41.6
1 Muirdrochwood - Background Noise (dB LA90)	21.5	22.7	24.4	26.3	28.5	30.8	33.1	35.3	37.3	39.0	40.2	41.0
Furmiston - Background Noise (dB LA90)	24.7	26.8	29.0	31.3	33.6	35.9	38.1	40.3	42.4	44.3	46.1	47.7
Neither Loskie- Background Noise (dB LA90)	29.9	31.0	32.0	33.1	34.1	35.2	36.2	37.4	38.6	39.9	41.3	42.8
Marbrack - Background Noise (dB LA90)	31.8	33.5	35.2	36.9	38.6	40.4	42.3	44.2	46.2	48.2	50.3	52.6
Craigengillan Cottage -Background Noise (dB LA90)	37.0	37.9	38.7	39.6	40.4	41.3	42.2	43.3	44.5	45.8	47.4	49.2
Moorbrock - Background Noise (dB LA90)	26.7	27.9	29.4	31.1	33.0	34.8	36.7	38.5	40.0	41.4	42.5	43.1

Background noise levels standardised 138.5m to 10m

	1	2	3	4	5	6	7	8	9	10	11	12
Wind speed standardised 138.5m to 10m (m/s)												
Smilttons -Background Noise (dB LA90)	29.0	30.0	31.0	32.0	33.0	33.9	34.9	35.9	37.0	38.1	39.4	40.8
1 Muirdrochwood - Background Noise (dB LA90)	21.1	22.6	24.1	25.9	28.0	30.1	32.3	34.4	36.4	38.2	39.6	40.6
Furmiston - Background Noise (dB LA90)	24.5	26.6	28.7	30.9	33.1	35.2	37.4	39.5	41.5	43.4	45.2	46.8
Neither Loskie- Background Noise (dB LA90)	29.9	30.9	31.9	32.9	33.9	34.9	35.9	36.9	38.1	39.3	40.5	41.9
Marbrack - Background Noise (dB LA90)	31.7	33.3	34.9	36.5	38.2	39.9	41.7	43.5	45.3	47.2	49.2	51.3
Craigengillan Cottage - Background Noise (dB LA90)	37.0	37.8	38.6	39.4	40.2	41.0	41.9	42.9	44.0	45.2	46.6	48.2
Moorbrock - Background Noise (dB LA90)	26.4	27.8	29.2	30.8	32.5	34.3	36.1	37.8	39.4	40.8	41.9	42.7

NIGHT

	1	2	3	4	5	6	7	8	9	10	11	12
Wind speed at 92.5m (de-standardised) (m/s) - IOA GPG SGN4 equation 1(log law)	1.4	2.8	4.3	5.7	7.1	8.5	9.9	11.4	12.8	14.2	15.6	17.0
Shear coefficient 92.5m to 138.5m	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278
Wind speed at 138.5m (m/s) - IOA GPG SGN4 equation 2(power law)	1.6	3.2	4.8	6.4	7.9	9.5	11.1	12.7	14.3	15.9	17.5	19.1
Wind speed standardised 138.5m to 10m (m/s) - IOA GPG SGN4 equation 1(log law)	1.1	2.1	3.2	4.2	5.3	6.4	7.4	8.5	9.6	10.6	11.7	12.7
Smilttons -Background Noise (dB LA90)	29.5	30.1	30.9	31.7	32.7	33.7	34.8	36.0	37.3	38.7	40.1	41.6
1 Muirdrochwood - Background Noise (dB LA90)	21.1	21.9	23.3	25.2	27.3	29.7	32.2	34.7	37.1	39.3	41.2	42.6
Furmiston - Background Noise (dB LA90)	25.8	26.4	27.6	29.3	31.3	33.6	36.1	38.6	41.2	43.6	45.8	47.6
Neither Loskie- Background Noise (dB LA90)	31.3	31.7	32.4	33.1	34.0	35.0	36.1	37.2	38.3	39.4	40.5	41.5
Marbrack - Background Noise (dB LA90)	33.0	33.3	34.2	35.6	37.4	39.5	41.7	44.0	46.3	48.4	50.3	51.8
Craigengillan Cottage -Background Noise (dB LA90)	37.1	37.7	38.4	39.3	40.2	41.3	42.5	43.8	45.2	46.6	48.1	49.7
Moorbrock - Background Noise (dB LA90)	29.5	29.7	30.4	31.4	32.8	34.4	36.1	37.8	39.4	40.9	42.1	43.0

	1	2	3	4	5	6	7	8	9	10	11	12
Wind speed standardised 138.5m to 10m (m/s)												
Smilttons -Background Noise (dB LA90)	29.3	30.0	30.7	31.5	32.4	33.4	34.4	35.5	36.6	37.9	39.2	40.5
1 Muirdrochwood - Background Noise (dB LA90)	20.6	21.8	23.1	24.7	26.7	28.9	31.2	33.6	35.9	38.1	40.0	41.6
Furmiston - Background Noise (dB LA90)	25.3	26.4	27.4	28.9	30.7	32.8	35.1	37.5	39.8	42.2	44.4	46.3
Neither Loskie- Background Noise (dB LA90)	31.1	31.7	32.2	32.9	33.8	34.7	35.7	36.7	37.7	38.8	39.8	40.8
Marbrack - Background Noise (dB LA90)	32.5	33.3	34.0	35.3	36.9	38.7	40.8	43.0	45.1	47.2	49.1	50.8
Craigengillan Cottage - Background Noise (dB LA90)	37.0	37.6	38.3	39.1	40.0	41.0	42.0	43.2	44.4	45.8	47.2	48.6
Moorbrock - Background Noise (dB LA90)	29.1	29.7	30.2	31.2	32.4	33.8	35.4	37.0	38.6	40.0	41.3	42.4