

Appendix 7.D

Noise: Noise Assessment – Night-Time

Table 7.D1 Night-time Noise Assessment

Noise Parameters, $L_{A90, 10mins}$, dB	Standardised 10m Height Wind Speed (V_{10}) ms^{-1}									
	(dB LW _{Aeq})									
	3	4	5	6	7	8	9	10	11	12
R1 – Meikle Hill										
Background Noise Level	20.5	20.6	20.9	21.3	21.9	22.7	23.7	24.9	26.3	27.9
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	20.1	21.0	24.8	29.5	31.5	32.0	32.0	32.0	32.0	32.0
Margin Under Noise Limit#	-17.9	-17.0	-13.2	-8.5	-6.5	-6.0	-6.0	-6.0	-6.0	-6.0
R2 – Nith Lodge										
Background Noise Level	20.5	20.6	20.9	21.3	21.9	22.7	23.7	24.9	26.3	27.9
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	18.3	19.2	23.0	27.7	29.7	30.2	30.2	30.2	30.2	30.2
Margin Under Noise Limit#	-19.7	-18.8	-15.0	-10.3	-8.3	-7.8	-7.8	-7.8	-7.8	-7.8
R3 – Maneight										
Background Noise Level	20.5	20.6	20.9	21.3	21.9	22.7	23.7	24.9	26.3	27.9
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	20.7	21.6	25.4	30.1	32.1	32.6	32.6	32.6	32.6	32.6
Margin Under Noise Limit#	-17.3	-16.4	-12.6	-7.9	-5.9	-5.4	-5.4	-5.4	-5.4	-5.4
R4 - Knockburnie										
Background Noise Level	24.5	24.6	24.7	24.9	25.1	25.5	25.9	26.3	26.9	27.5
ETSU-R-97 Derived Noise Limit	45.0	45.0	44.9	44.9	44.8	44.8	44.8	44.8	44.8	44.8
Predicted Turbine Noise Level	20.7	21.6	25.4	30.1	32.1	32.6	32.6	32.6	32.6	32.6
Margin Under Noise Limit#	-24.3	-23.4	-19.5	-14.8	-12.7	-12.2	-12.2	-12.2	-12.2	-12.2
R5 – Dalleagles										
Background Noise Level	23.5	23.2	23.1	23.2	23.4	23.8	24.4	25.1	26.0	27.1
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	20.2	21.1	24.9	29.6	31.6	32.1	32.1	32.1	32.1	32.1
Margin Under Noise Limit#	-17.8	-16.9	-13.1	-8.4	-6.4	-5.9	-5.9	-5.9	-5.9	-5.9
R6 – Dalleagles Terrace										
Background Noise Level	23.5	23.2	23.1	23.2	23.4	23.8	24.4	25.1	26.0	27.1
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	19.0	19.9	23.7	28.4	30.4	30.9	30.9	30.9	30.9	30.9
Margin Under Noise Limit#	-19.0	-18.1	-14.3	-9.6	-7.6	-7.1	-7.1	-7.1	-7.1	-7.1

Noise Parameters, $L_{A90, 10mins}$, dB	Standardised 10m Height Wind Speed (V_{10}) ms^{-1} (dB LW _{Aeq})									
	3	4	5	6	7	8	9	10	11	12
R7 - Brockloch										
Background Noise Level	25.4	25.3	25.3	25.5	25.9	26.3	26.9	27.7	28.6	29.6
ETSU-R-97 Derived Noise Limit	45.0	45.0	44.9	44.8	44.7	44.7	44.7	44.7	44.7	44.7
Predicted Turbine Noise Level	17.4	18.3	22.1	26.8	28.8	29.3	29.3	29.3	29.3	29.3
Margin Under Noise Limit#	-27.6	-26.7	-22.8	-18.0	-15.9	-15.4	-15.4	-15.4	-15.4	-15.4
R8 - Laglaff										
Background Noise Level	25.4	25.3	25.3	25.5	25.9	26.3	26.9	27.7	28.6	29.6
ETSU-R-97 Derived Noise Limit	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Predicted Turbine Noise Level	16.4	17.3	21.1	25.8	27.8	28.3	28.3	28.3	28.3	28.3
Margin Under Noise Limit#	-21.6	-20.7	-16.9	-12.2	-10.2	-9.7	-9.7	-9.7	-9.7	-9.7