

## Appendix 9.7 Directivity Study – NSR14

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For Appendix 9.7

Turbine	LAeq	Correction																																						
		Visibility	Valley	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	
HoyT6	15.8	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2																		
HoyT5	16.3	0	3			-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2																	
HoyT1	14.5	0	0		-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2																		
HoyT4	13.3	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2																			
HoyT3	18.1	0	3		-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2																		
HoyT2	19.1	0	3				-2	-1.5	-2.5	-3	-3	-4	-4	-4.5	-5	-5	-5	-4.5	-4	-3	-2.5	-1.5	-2	-2																
Gable End	5.0	0	3	-7	-6	-5	-4	-3	-2	-2																														
Ore Burn	38.2	0	0	-2	-1	-1	-1.5	-1.8	-2	-2.2	-2.2	-2.2	-2.2	-2	-1.8	-1.5	-1	-1	-2	-2																				

Wind direction	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
Predicted Hoy level L90	24.8	24.2	23.7	22.5	22.1	21.1	20.3	19.9	19.2	19.1	18.9	18.6	18.7	19.1	19.8	20.6	21.3	22.3	22.9	23.3	23.7	24.4	24.7	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	18.6
Gable End	0.0	0.0	1.0	2.0	3.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	
Ore Burn	34.2	35.2	35.2	34.7	34.4	34.2	34.0	34.0	34.0	34.0	34.2	34.4	34.7	35.2	35.2	34.2	34.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	34.2	34.2	36.2	34.0	
Overall noise level (all turbines)	36.7	37.5	37.5	37.0	36.6	36.4	36.2	36.2	36.0	36.1	36.1	36.3	36.5	36.8	37.3	37.4	36.4	36.5	38.4	38.4	38.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	36.7	36.7	36.2	0.0	

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min		
All turbines - 35 dB ONL	1.7	2.5	2.5	2.0	1.6	1.4	1.2	1.2	1.1	1.1	1.1	1.3	1.5	1.8	2.3	2.4	1.4	1.5	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	1.7	1.7	3.5	1.1
All turbines - 38 dB ONL	-1.3	-0.5	-0.5	-1.0	-1.4	-1.6	-1.8	-1.8	-1.9	-1.9	-1.9	-1.7	-1.5	-1.2	-0.7	-0.6	-1.6	-1.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-1.3	-1.3	0.5	-1.9

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
Hoy - 35 dB limit	-0.2	-0.8	-1.3	-2.5	-2.9	-3.9	-4.7	-5.1	-5.8	-5.9	-6.1	-6.4	-6.3	-5.9	-5.2	-4.4	-3.7	-2.7	-2.1	-1.7	-1.3	-0.6	-0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-6.4
Hoy - 38 dB limit	-3.2	-3.8	-4.3	-5.5	-5.9	-6.9	-7.7	-8.1	-8.8	-8.9	-9.1	-9.4	-9.3	-8.9	-8.2	-7.4	-6.7	-5.7	-5.1	-4.7	-4.3	-3.6	-3.3	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-9.4

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dBL <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB RNL	Quiet daytime	25.0	25.0	25.0	25.0	25.0	26.9	39.2	44.1	47.6	
38 dB RNL	Quiet daytime	28.0	28.0	28.0	28.0	28.0	28.0	39.2	44.1	47.6	

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dBL <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB ONL	Daytime	35.0	35.0	35.0	35.0	35.0	38.0	41.8	45.1	48.1	
38 dB ONL		38.0	38.0	38.0	38.0	38.0	38.0	41.8	45.1	48.1	
40 dB ONL	Night-time	40.0	40.0	40.0	40.0	40.0	40.0	41.8	45.1	48.1	
43 dB ONL		43.0	43.0	43.0	43.0	43.0	43.0	43.1	46.3	49.1	













10m/s

Turbine	LAeq	Correction																																							
		Visibility	Valley	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
HoyT6	25.1	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
HoyT5	25.5	0	3	-2	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT1	23.8	0	0	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT4	22.6	0	3	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT3	27.4	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT2	28.3	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Gable End	19.5	0	3	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
Ore Burn	40.3	0	0	-2	-1	-1	-1.5	-1.8	-2	-2.2	-2.2	-2.2	-2.2	-2	-1.8	-1.5	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

Wind direction	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
Predicted Hoy level L90	34.1	33.5	33.0	31.7	31.3	30.3	29.6	29.1	28.4	28.3	28.1	27.9	28.0	28.3	29.1	29.9	30.5	31.5	32.1	32.6	33.0	33.6	33.9	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	27.9
Gable End	13.5	14.5	15.5	16.5	17.5	18.5	18.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	18.5	18.5	17.5	16.5	15.5	14.5	13.5	13.0	13.0	13.0	13.0	13.0	13.0	20.5	13.0	
Ore Burn	36.3	37.3	36.8	36.5	36.3	36.1	36.1	36.1	36.1	36.1	36.1	36.3	36.3	36.5	36.8	37.3	37.3	36.3	36.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	36.3	36.1		
Overall noise level (all turbines)	40.3	40.8	40.7	40.0	39.7	39.3	39.0	39.0	38.9	38.9	38.8	39.0	39.2	39.5	40.0	40.1	39.4	39.6	41.3	41.4	41.5	41.6	41.7	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	40.5	40.5	38.3	13.0	

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
All turbines - 35 dB ONL	-1.4	-1.0	-1.1	-1.8	-2.1	-2.4	-2.7	-2.8	-2.9	-2.9	-2.9	-2.8	-2.6	-2.3	-1.8	-1.7	-2.4	-2.1	-0.5	-0.4	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.3	0.0	-2.9
All turbines - 38 dB ONL	-1.4	-1.0	-1.1	-1.8	-2.1	-2.4	-2.7	-2.8	-2.9	-2.9	-2.9	-2.8	-2.6	-2.3	-1.8	-1.7	-2.4	-2.1	-0.5	-0.4	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	-1.3	0.0	-2.9

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
Hoy - 35 dB limit	-5.1	-5.7	-6.2	-7.4	-7.8	-8.8	-9.6	-10.0	-10.8	-10.8	-11.1	-11.3	-11.2	-10.8	-10.1	-9.3	-8.6	-7.6	-7.0	-6.6	-6.2	-5.5	-5.2	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-11.3
Hoy - 38 dB limit	-5.1	-5.7	-6.2	-7.4	-7.8	-8.8	-9.6	-10.0	-10.8	-10.8	-11.1	-11.3	-11.2	-10.8	-10.1	-9.3	-8.6	-7.6	-7.0	-6.6	-6.2	-5.5	-5.2	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7	-11.3

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dB <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB RNL	Quiet daytime	25.0	25.0	25.0	25.0	25.0	26.9	39.2	44.1	47.6	
38 dB RNL	Quiet daytime	28.0	28.0	28.0	28.0	28.0	28.0	39.2	44.1	47.6	

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dB <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB ONL	Daytime	35.0	35.0	35.0	35.0	35.0	38.0	41.8	45.1	48.1	
38 dB ONL		38.0	38.0	38.0	38.0	38.0	38.0	41.8	45.1	48.1	
40 dB ONL		40.0	40.0	40.0	40.0	40.0	40.0	41.8	45.1	48.1	
43 dB ONL	Night-time	43.0	43.0	43.0	43.0	43.0	43.1	46.3	49.1		

11m/s

Turbine	LAeq	Correction																																									
		Visibility	Valley	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350				
HoyT6	25.1	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2		
HoyT5	25.5	0	3	-2	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
HoyT1	23.8	0	0	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
HoyT4	22.6	0	3	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT3	27.4	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT2	28.3	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Gable End	19.5	0	3	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
Ore Burn	40.3	0	0	-2	-1	-1	-1.5	-1.8	-2	-2.2	-2.2	-2.2	-2.2	-2	-1.8	-1.5	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

Wind direction	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min
Predicted Hoy level L90	34.1	33.5	33.0	31.7	31.3	30.3	29.6	29.1	28.4	28.3	28.1	27.9	28.0	28.3	29.1	29.9	30.5	31.5	32.1	32.6	33.0	33.6	33.9	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	27.9
Gable End	13.5	14.5	15.5	16.5	17.5	18.5	18.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	18.5	18.5	18.5	17.5	16.5	15.5	14.5	13.5	13.0	13.0	13.0	13.0	13.0	20.5	13.0
Ore Burn	36.3	37.3	36.8	36.5	36.3	36.1	36.1	36.1	36.1	36.1	36.1	36.3	36.3	36.5	36.8	37.3	37.3	36.3	36.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	36.3	36.3	36.1
Overall noise level (all turbines)	40.3	40.8	40.7	40.0	39.7	39.3	39.0	39.0	38.9	38.9	38.8	39.0	39.2	39.5	40.0	40.1	39.4	39.6	41.3	41.4	41.5	41.6	41.7	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	40.5	40.5	38.3	13.0

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min		
All turbines - 35 dB ONL	-4.8	-4.3	-4.4	-5.1	-5.4	-5.8	-6.1	-6.1	-6.2	-6.2	-6.3	-6.1	-5.9	-5.6	-5.1	-5.0	-5.7	-5.5	-3.8	-3.7	-3.6	-3.5	-3.4	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-6.3	
All turbines - 38 dB ONL	-4.8	-4.3	-4.4	-5.1	-5.4	-5.8	-6.1	-6.1	-6.2	-6.2	-6.3	-6.1	-5.9	-5.6	-5.1	-5.0	-5.7	-5.5	-3.8	-3.7	-3.6	-3.5	-3.4	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-6.3

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
Hoy - 35 dB limit	-10.0	-10.6	-11.1	-12.3	-12.7	-13.7	-14.5	-14.9	-15.7	-15.7	-16.0	-16.2	-16.1	-15.8	-15.0	-14.2	-13.5	-12.5	-11.9	-11.5	-11.1	-10.5	-10.2	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-16.2
Hoy - 38 dB limit	-10.0	-10.6	-11.1	-12.3	-12.7	-13.7	-14.5	-14.9	-15.7	-15.7	-16.0	-16.2	-16.1	-15.8	-15.0	-14.2	-13.5	-12.5	-11.9	-11.5	-11.1	-10.5	-10.2	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6	-16.2

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dB <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB RNL	Quiet daytime	25.0	25.0	25.0	25.0	25.0	26.9	39.2	44.1	47.6	
38 dB RNL	Quiet daytime	28.0	28.0	28.0	28.0	28.0	28.0	39.2	44.1	47.6	

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dB <sub>Aeq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB ONL	Daytime	35.0	35.0	35.0	35.0	35.0	38.0	41.8	45.1	48.1	
38 dB ONL		38.0	38.0	38.0	38.0	38.0	38.0	41.8	45.1	48.1	
40 dB ONL		40.0	40.0	40.0	40.0	40.0	40.0	41.8	45.1	48.1	
43 dB ONL	Night-time	43.0	43.0	43.0	43.0	43.0	43.1	46.3	49.1		

12m/s

Turbine	LAeq	Correction																																							
		Visibility	Valley	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
HoyT6	25.1	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
HoyT5	25.5	0	3	-2	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT1	23.8	0	0	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT4	22.6	0	3	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT3	27.4	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
HoyT2	28.3	0	3	-2	-2	-3	-4	-5	-6	-7	-7.5	-7.5	-7.5	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Gable End	19.5	0	3	-7	-6	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
Ore Burn	40.3	0	0	-2	-1	-1	-1.5	-1.8	-2	-2.2	-2.2	-2.2	-2.2	-2	-1.8	-1.5	-1	-1	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2

Wind direction	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min
Predicted Hoy level L90	34.1	33.5	33.0	31.7	31.3	30.3	29.6	29.1	28.4	28.3	28.1	27.9	28.0	28.3	29.1	29.9	30.5	31.5	32.1	32.6	33.0	33.6	33.9	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	27.9
Gable End	13.5	14.5	15.5	16.5	17.5	18.5	18.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	18.5	18.5	17.5	16.5	15.5	14.5	13.5	13.0	13.0	13.0	13.0	13.0	20.5	13.0	
Ore Burn	36.3	37.3	36.8	36.5	36.3	36.1	36.1	36.1	36.1	36.1	36.1	36.3	36.3	36.5	36.8	37.3	37.3	36.3	36.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	36.3	36.3	36.1	
Overall noise level (all turbines)	40.3	40.8	40.7	40.0	39.7	39.3	39.0	39.0	38.9	38.9	38.8	39.0	39.2	39.5	40.0	40.1	39.4	39.6	41.3	41.4	41.5	41.6	41.7	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	40.5	40.5	38.3	13.0	

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min	
All turbines - 35 dB ONL	-7.7	-7.3	-7.4	-8.1	-8.4	-8.7	-9.1	-9.1	-9.2	-9.2	-9.2	-9.1	-8.9	-8.6	-8.1	-8.0	-8.7	-8.4	-6.8	-6.7	-6.6	-6.5	-6.4	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-7.6	-7.6	-6.3	-9.2
All turbines - 38 dB ONL	-7.7	-7.3	-7.4	-8.1	-8.4	-8.7	-9.1	-9.1	-9.2	-9.2	-9.2	-9.1	-8.9	-8.6	-8.1	-8.0	-8.7	-8.4	-6.8	-6.7	-6.6	-6.5	-6.4	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-6.3	-7.6	-7.6	-6.3	-9.2

Proposed Development exceeds RNL?	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	Max	Min
Hoy - 35 dB limit	-13.5	-14.1	-14.6	-15.9	-16.3	-17.3	-18.0	-18.5	-19.2	-19.3	-19.5	-19.7	-19.6	-19.3	-18.5	-17.7	-17.1	-16.1	-15.5	-15.0	-14.6	-14.0	-13.7	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-19.7
Hoy - 38 dB limit	-13.5	-14.1	-14.6	-15.9	-16.3	-17.3	-18.0	-18.5	-19.2	-19.3	-19.5	-19.7	-19.6	-19.3	-18.5	-17.7	-17.1	-16.1	-15.5	-15.0	-14.6	-14.0	-13.7	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-13.2	-19.7

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dBA <sub>eq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB RNL	Quiet daytime	25.0	25.0	25.0	25.0	25.0	26.9	29.2	44.1	47.6	
38 dB RNL	Quiet daytime	28.0	28.0	28.0	28.0	28.0	28.0	29.2	44.1	47.6	

NSR / Baseline survey monitoring position	Period	Wind speed (m/s) / Derived background noise level, dBA <sub>eq,10min</sub>									
		4	5	6	7	8	9	10	11	12	
35 dB ONL	Daytime	35.0	35.0	35.0	35.0	35.0	38.0	41.8	45.1	48.1	
38 dB ONL		38.0	38.0	38.0	38.0	38.0	38.0	41.8	45.1	48.1	
40 dB ONL		40.0	40.0	40.0	40.0	40.0	40.0	41.8	45.1	48.1	
43 dB ONL	Night-time	43.0	43.0	43.0	43.0	43.0	43.1	46.3	49.1		