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Cummeennabuddoge Wind Farm

Technical Appendix P: Response to Cork County Council and the National Environmental Health Service

Cummeennabuddoge Wind (DAC)

March 2026

A.1. Comparative Operational Noise

A tabular comparison of operational noise levels against the relevant noise limits is included in the noise chapter of the EIAR. Nevertheless, a comparison of predicted operational noise levels (without mitigation) with the daytime baseline background noise levels is presented at Table Q-1 below.

The night hours comparison is not presented as the levels relative to the absolute limits is more critical and comparison of outdoor operational and background levels is less relevant as the night hours limit intended to protect residents from sleep disturbance indoors accounting for the attenuation through an open window.

It is important to note that, where background noise levels are low, fixed noise limits are applied as the absolute levels are more relevant than the relative levels. Therefore, it should be considered that the significance of the noise effect is related to both the predicted level relative to background as well as the overall level.

For this reason, it was considered in the EIAR that if the relevant noise limits are predicted to be met (which are a combination of fixed values and levels relative to background), then operational noise was considered not to give rise to significant effects. It is noted that BS4142 (which is referenced by NEHS when discussing the significance of the effects) acknowledges that both context and absolute levels are important when assessing noise effects. BS4142 states that '*where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night*'.

It should be noted that unlike a BS 4142 assessment the comparison presented here is the predicted L_{A90} noise level with the L_{A90} background sound levels as the relevant noise limits are set at plus 5 dB with both operational noise and background sound expressed as dB L_{A90}.

Table Q-1: Comparison of predicted noise levels (without mitigation) against daytime baseline background noise levels (dB)

A positive number and yellow highlighting indicates an excess above background.

Location	Standardised 10 m height wind speed (m/s)						
	4	5	6	7	8	9	10
R04	-8	-5	-3	-4	-7	-8	-8
R06	-5	-1	2	2	1	0	0
R54	-8	-5	-3	-4	-6	-7	-9
R56	-10	-7	-3	-3	-4	-4	-4
R59	-11	-7	-3	-3	-4	-4	-4
R64	-11	-8	-4	-4	-5	-5	-5
R65	-10	-6	-2	-3	-4	-5	-6
R72	-7	-4	-1	-3	-5	-7	-7
R73	-7	-3	-1	-2	-5	-6	-6
R93	-11	-7	-3	-3	-4	-4	-4
R109	-9	-6	-4	-5	-7	-8	-10
R110	-9	-6	-4	-5	-7	-8	-10

R115	-12	-8	-4	-4	-5	-5	-5
R122	-8	-5	-3	-4	-6	-7	-9
R129	-11	-7	-4	-3	-4	-4	-4
R132	-11	-7	-3	-3	-4	-4	-4
R144	-12	-8	-4	-4	-5	-5	-5
R153	6	10	13	12	11	10	10

Table Q-1 above shows that there are only two receptor locations (R06 and R153) where predicted (worst case downwind) operational noise levels from the proposed development are above the existing average background sound levels, taking into account their variation with wind speed. At location R06 predicted worst case noise levels are above background by a maximum of 2 dB. At location R153 predicted worst case noise levels are above background by up to 13 dB, however mitigation was presented in the EIAR that enables the relevant limits to be met.

It should be noted that it is more relevant to ensure that operational noise levels remain within the allowable noise limits which are set relative to the background noise levels. The EIAR showed that the relevant noise limits can be met, and noise limits are discussed in more detail in below sections, with the proposed noise limits included at Table Q-2 and Table Q-3 below.

A.2. Proposed Noise Limits

Cork County Council (CCC) have proposed a cumulative noise limit of the greater of 43 dB L_{A90} or plus 5 dB above background, the apportioned noise limits have been re-calculated using the same methodology as presented in the EIAR, with a minimum limit of 33 dB L_{A90} applied (i.e. 10 dB below the lower limiting value for cumulative operational noise; 43 dB L_{A90}).

This results in site-specific noise limits that apply to the proposed development which, when acting cumulatively with other consented wind farms developments in the vicinity, ensure that cumulative operational noise levels remain compliantwith those suggested by CCC. It is important that the noise limits set out in the planning conditions apply only to noise from the Proposed Development to ensure that the Proposed Development has control over the turbines being assessed.

The apportioned site-specific day and night limits are set out at Table Q-2 and Table Q-3 below. The noise limits derived for a standardised 10 m height wind speed of 10 m/s have been applied at wind speeds of 11 and 12 m/s.

Table Q-2: Proposed apportioned daytime noise limits (07:00-23:00), (dB LA90)

Location	Standardised 10 m height wind speed (m/s)								
	4	5	6	7	8	9	10	11	12
R04	43.0	42.9	42.9	42.8	44.4	46.2	46.2	46.2	46.2
R06	42.9	42.9	42.7	43.0	43.8	44.4	44.4	44.4	44.4
R54	42.7	42.3	41.1	40.5	42.7	44.8	46.8	46.8	46.8
R56	42.7	42.2	40.9	40.2	39.9	39.8	39.9	39.9	39.9
R59	42.7	42.3	41.2	40.6	40.4	40.3	40.3	40.3	40.3
R64	42.8	42.3	41.3	40.8	40.6	40.5	40.5	40.5	40.5
R65	42.5	41.4	38.1	34.7	37.9	41.0	43.7	43.7	43.7
R72	43.0	42.9	42.9	42.8	44.4	46.2	46.2	46.2	46.2

R73	43.0	42.9	42.8	42.8	44.3	46.2	46.2	46.2	46.2
R93	42.9	42.7	42.3	42.1	42.0	42.0	42.0	42.0	42.0
R109	42.8	42.4	41.6	41.2	43.0	45.1	47.0	47.0	47.0
R110	42.8	42.5	41.9	41.6	43.4	45.3	47.1	47.1	47.1
R115	42.8	42.5	41.8	41.4	41.3	41.2	41.2	41.2	41.2
R122	42.7	42.2	40.9	40.2	42.4	44.7	46.7	46.7	46.7
R129	42.9	42.7	42.4	42.2	42.2	42.2	42.2	42.2	42.2
R132	42.8	42.4	41.4	40.9	40.7	40.6	40.6	40.6	40.6
R144	42.8	42.6	41.9	41.6	41.5	41.5	41.5	41.5	41.5
R153	42.9	42.7	42.1	41.7	41.4	41.5	41.6	41.6	41.6

Table Q-3: Proposed apportioned night noise limits (23:00-07:00), (dB L_{A90})

Location	Standardised 10 m height wind speed (m/s)								
	4	5	6	7	8	9	10	11	12
R04	43.0	42.9	42.9	42.8	42.8	45.2	45.2	45.2	45.2
R06	42.9	42.9	42.7	42.6	43.0	45.0	45.0	45.0	45.0
R54	42.7	42.3	41.1	40.5	40.3	40.3	41.5	41.5	41.5
R56	42.7	42.2	40.9	40.2	39.9	39.8	39.9	39.9	39.9
R59	42.7	42.3	41.2	40.6	40.4	40.3	40.3	40.3	40.3
R64	42.8	42.3	41.3	40.8	40.6	40.5	40.5	40.5	40.5
R65	42.5	41.4	38.1	34.7	33.4	33.0	38.4	38.4	38.4
R72	43.0	42.9	42.9	42.8	42.8	45.2	45.2	45.2	45.2
R73	43.0	42.9	42.8	42.8	42.8	45.2	45.2	45.2	45.2
R93	42.9	42.7	42.3	42.1	42.0	42.0	42.0	42.0	42.0
R109	42.8	42.4	41.6	41.2	41.0	41.0	42.0	42.0	42.0
R110	42.8	42.5	41.9	41.6	41.5	41.4	42.4	42.4	42.4
R115	42.8	42.5	41.8	41.4	41.3	41.2	41.2	41.2	41.2
R122	42.7	42.2	40.9	40.2	40.0	39.9	41.2	41.2	41.2
R129	42.9	42.7	42.4	42.2	42.2	42.2	42.2	42.2	42.2
R132	42.8	42.4	41.4	40.9	40.7	40.6	40.6	40.6	40.6
R144	42.8	42.6	41.9	41.6	41.5	41.5	41.5	41.5	41.5
R153	42.9	42.7	42.1	41.7	41.4	41.3	41.3	41.3	41.3

It should be noted that the CCC proposed cumulative noise limits do not apply a 45 dB lower limiting value during the day as presented in the EIAR chapter, and therefore additional mitigation would be required during the daytime over that presented in the EIAR to meet these limits.

It is noted however, that because background noise levels are higher during the day than at night, less mitigation would be needed during the daytime than the night mitigation presented in the EIAR for the candidate turbine assessed.

A.3. Conclusion

This appendix has been produced to provide a concise response to comments from Cork County Council and the National Environmental Health Service.

Where additional information has been requested, this has been provided, and it is anticipated that operational noise will be controlled by the application of appropriate noise limits, and construction noise will be controlled via the construction environmental management plan which was submitted with the application.

It is noted that CCC have proposed a more stringent daytime lower limiting value of 43 dB LA90 which is 2 dB less than the lower limiting value applied in the EIAR. By adopting this lower limiting value during the daytime it means that more restrictive mitigation will be required than that presented in the EIAR to meet the proposed limits. Nevertheless, the mitigation would be less during the day hours than that detailed within the EIAR to meet the night limit.

CCC have suggested a proposed cumulative noise limit, but, as discussed in this note, the noise limits should apply only to the turbines being consented. Therefore 'remaining noise budget' noise limits have been derived for the proposed development and taking into account CCC's proposed daytime lower limiting value. These noise limits would apply to the proposed development turbines only, but are derived to ensure that if these limits are met cumulative operational noise levels remain within allowable levels. The proposed site-specific noise limits are set out at Table O2 and Table O3 above.