Technical Appendix 11.2 Adoption of Total Noise Assessment Criteria (TNAC)

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1 Introduction

1.1.1 This Technical Appendix sets out the Total Noise Assessment Criteria (TNACs) proposed or conditioned for each of the developments determined to have a potential cumulative contribution to noise levels at Noise Sensitive Receptors (NSRs) within the study area of the Proposed Development.

1.1.2 No baseline survey was conducted in support of the Proposed Development on the basis that the presence of existing wind farms in the area would make it very difficult to separate true background noise from operational noise. The TNACs derived by others at representative NSRs, and which apply to all cumulative wind turbines, have therefore been adopted as the TNACs applicable to the Proposed Development. This approach has been agreed with South Lanarkshire Council (SLC).

1.1.3 The noise survey locations for which baseline data and TNACs have been adopted for the assessment of the Proposed Development are shown on **Figure 11.2 (Volume 2 of the EIA Report)**.

2 Source of TNACs Applied Within Assessment

Bodinglee Wind Farm

2.1.1 At the time of undertaking this assessment (February 2026), the planning application for Bodinglee Wind Farm is yet to be determined. The TNACs provided in the Bodinglee Wind Farm noise assessment, which are derived from baseline data measured in 2022. The method of baseline noise characterisation reported in the noise assessment is in accordance with current guidance and best practice.

2.1.2 The monitoring locations used in the Bodinglee Wind Farm baseline survey are reported in **Table 1**.

Table 1 – Reported Baseline Survey Locations

Location Number	Location Name	Easting	Northing
1	Mount Stewart	288535	633382
2	Fallside farm	290833	630884
3	Midtown Farm	283241	629618
4	Redshaw	286036	628570
5	Redhurst	286318	633369
6	Parkhead Cottage	286326	630544
7	Glentaggart Cottage	281819	627059

2.1.3 Survey locations within the study area of the Proposed Development and relevant to the assessment are:

- Location 3 – Midtown Farm (noise limit applied at NSR25 – Weston)

2.1.4 All other locations are beyond the adopted study area, or are more distant from representative NSRs than monitoring locations used in the assessment of other cumulative developments.

2.1.5 The TNACs derived at representative NSRs within the study area of the Proposed Development are provided in **Table 2**.

Table 2 – TNACs Proposed in Bodinglee Wind Farm Noise Assessment

NSR	Wind Speed, ms^{-1}								
	4	5	6	7	8	9	10	11	12
	Noise limit, $dBL_{A90,10min}$								
NSR25 – Weston	*Daytime Period (07:00 – 23:00)*								
	40.0	40.0	40.0	40.0	40.1	41.6	44.5	49.3	49.3
	Night-time Period (23:00 – 07:00)								
	43.0	43.0	43.0	43.0	43.0	43.0	43.0	46.5	46.5

2.1.6 While the TNACs presented in **Table 2** are currently proposed, rather than forming the basis of a consented application, this assessment assumes that, should Bodinglee Wind Farm be consented, these would form the basis of planning conditions for noise limits.

Hagshaw Hill Repowering

2.1.7 Hagshaw Hill Wind Farm Repowering was consented in February 2020, now operational. The TNACs relied upon within its noise assessment rely on previously consented baseline noise characterisation undertaken for the consented Douglas West Wind Farm, now operational.

2.1.8 Two baseline surveys were undertaken for the Douglas West Wind Farm noise assessment: one in 2012 and one in 2015. The Douglas West Wind Farm noise assessment reports that representative background noise levels and noise limits were derived in accordance with the methods provided in the IoA GPG. Directional filtering was applied to limit the contribution of existing operational wind turbines to measured data.

2.1.9 The locations at which baseline monitoring was undertaken for Douglas West Wind Farm are provided in **Table 3**.

Table 3 – Reported Baseline Survey Locations

Location Number	Location Name	Easting	Northing
N1 (2012 measurement)	Westerhouse	282815	633495
N1 (2015 measurement)	Westerhouse	282822	633491
N2	Station House	282082	630957
N3	6 Middlemuir Road	281014	634436

2.1.10 The NSRs assessed in the Hagshaw Hill Wind Farm Repowering noise assessment and the proxy baseline data applied to them are set out below, according to the NSR IDs adopted in this assessment:

- NSR04 Inches, Monksfoot – referred to as receptor R2 'Monksfoot' in the Hagshaw Hill Wind Farm Repowering noise assessment and assigned proxy noise limits based on measured data from monitoring location N2;
- NSR23 Station House, Blackwood Cottage – referred to as receptor R10 Station House in the Hagshaw Hill Wind Farm Repowering noise assessment and assigned noise limits based on measured data from monitoring location N2; and
- NSR24 Scrogtonhead - referred to as receptor R13 Scrogtonhead in the Hagshaw Hill Wind Farm Repowering noise assessment and assigned noise limits based on measured data from monitoring location N2.

2.1.11 The adopted TNACs applied to NSRs in the Hagshaw Hill Wind Farm Repowering assessment, which formed the basis for its consented noise limits, are provided in **Table 4**. Note that the TNACs are presented rounded to the nearest integer dB, consistent with the source information.

Table 4 – TNACs from Hagshaw Hill Wind Farm Repowering

NSR	Wind Speed, ms^{-1}								
	4	5	6	7	8	9	10	11	12
	Noise limit, $dBL_{A90,10min}$								
NSR04	***Daytime Period (07:00 – 23:00)***								
	40	40	40	42	43	45	47	50	52
	Night-time Period (23:00 – 07:00)								
	43	43	43	43	43	43	43	43	43
NSR23	***Daytime Period (07:00 – 23:00)***								
	45	45	45	47	48	50	52	54	56
	Night-time Period (23:00 – 07:00)								
	45	45	45	45	45	45	45	45	45
NSR24	***Daytime Period (07:00 – 23:00)***								
	40	40	40	42	43	45	47	50	52
	Night-time Period (23:00 – 07:00)								
	43	43	43	43	43	43	43	43	43

2.1.12 The noise limits at NSR23 reflect the financial involvement of the two properties represented by this NSR ID with the Proposed Development and also with other developments.

2.2 References

Bodinglee Wind Farm Environmental Impact Assessment Report – Chapter 7 – June 2023 – Banks Renewables Limited – Available online via ECU Portal (www.energyconsents.scot) with reference ECU00004839

Douglas West Wind Farm Environmental Impact Assessment – Chapter 9 – 3R Energy. Available online: https://3renergy.co.uk/downloads/

Hagshaw Hill Wind Farm Repowering – Noise and Vibration – 3R Energy. Available online https://3renergy.co.uk/downloads/