

Tangy IV Wind Farm Section 36C Variation

Technical Appendix 11.2: Site Specific Noise Limit Derivation



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Tangy IV Wind Farm S36C Variation Application

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1. Introduction

This Technical Appendix supports **Volume 2 Chapter 11: Noise** of the Environmental Impact Assessment ('EIA') Report submitted in support of the Section 36C application to vary the terms of consent for Tangy IV Wind Farm (the Proposed Varied Development). It details the derivation of Site-Specific Noise Limits ('SSNLs') for use in the assessment presented in **Chapter 11** of the EIA Report, and which ultimately may be incorporated into conditions attached to any consent granted in relation to the application.

This Technical Appendix has been prepared by SSE Renewables' in house acoustics team under the supervision of Michael Reid MIOA. All acoustics team members are also full (corporate) members of the Institute of Acoustics ('IOA') and are therefore obliged under its code of conduct to conduct their work objectively and in the public interest. Michael Reid has over 20 years' experience of the assessment of noise from wind farm developments and is a member of the IOA Renewable Energy Advisory Group.

2. Methodology

The analysis presented within this TA has been carried out in accordance with the relevant requirements of ETSU-R-97¹ and the IOA GPG². In outline:

- Noise limits, which are applicable to cumulative wind turbine noise levels, have been derived in accordance with ETSU-R-97 from baseline background noise levels measured at a range of residential receptor locations located in the vicinity of the site. The relationship between wind speed and background noise level has been updated as described in **Technical Appendix 11.1** to account for the change in hub height which would occur as a result of the proposed increase in tip height to 200m.
- As recommended by the IOA GPG:
 - Acoustically relevant other wind energy developments that currently operational, consented or the subject of a valid consent application have been identified.
 - Likely operational noise levels for these other developments have been calculated, using the methodology described in the IOA GPG for the prediction of wind turbine noise levels.
 - These predicted levels have been compared with noise limits applied, or likely to be applied through conditions attached to each other development's consent and an appropriate additional factor applied to account for potential increases in noise emission levels, within the consented limits.
 - The increased noise levels have then been logarithmically subtracted from the ETSU-R-97-derived cumulative noise limits to quantify the remaining noise 'budget' which forms the basis of the SSNLs.

¹ ETSU-R-97 The Assessment and Rating of Noise from Wind Turbines, ETSU for the DTI, 1996

² A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, Institute of Acoustics, May 2013.

- Where the remaining noise ‘budget’ does not follow a trend of increasing with wind speed, the SSNL at lower wind speeds has been set to the minimum value from across the full range of wind speeds considered.

In carrying out the above analysis, reference has been made to the location of potential noise-sensitive receptors within the area surrounding the site. Noise contour calculations have been carried out for a reference standardised 10m wind speed of 7 ms^{-1} , the lowest wind speed at which the maximum noise output (sound power level) occurs for the candidate turbine for the Proposed Varied Development. See **Volume 3a Figure 11.1**³ of the EIA Report. These contours have been used to identify whether cumulative assessment is required, as follows:

- Where predicted cumulative noise levels are shown in **Figure 11.1** to be lower than the minimum noise limit defined in ETSU-R-97 of 35 dB, $L_{A90,10\text{min}}$, i.e. the receptors are located outside of the 35dB contour line, no specific assessment is required.
- Where predicted cumulative noise levels shown in **Figure 11.1** are greater than 35 dB, $L_{A90,10\text{min}}$ but the predicted contribution of the Proposed Varied Development is 10dB or more below the combined effect of the other wind energy developments, no specific assessment is required, as the Proposed Varied Development is not likely to have a significant effect on cumulative noise levels. This area is illustrated in **Figure 11.1** using light grey shading.
- Where predicted cumulative noise levels shown in **Figure 11.1** are greater than 35 dB, $L_{A90,10\text{min}}$ and the predicted contribution of the Proposed Varied Development is within 10dB of the combined effect of the other wind energy developments, cumulative assessment is required. This area is illustrated in **Figure 11.1** using light blue shading.
- Where predicted cumulative noise levels shown in **Figure 11.1** are greater than 35 dB, $L_{A90,10\text{min}}$ but the predicted contribution of the Proposed Varied Development is 10dB or more above the combined effect of the other wind energy developments, cumulative assessment is not required, as the other developments are not likely to have a significant effect on cumulative noise levels. Assessment of the noise impacts of the Proposed Varied Development itself are however required. This area is illustrated in **Figure 11.1** using light pink shading.

SSNLs have therefore been calculated for NSRs:

- Within the light blue shaded area in **Figure 11.1** i.e., where cumulative levels are likely to exceed 35 dB, $L_{A90,10\text{min}}$ and the contribution of the Proposed Varied Development to cumulative noise levels is likely to be within 10dB of the combined effect of the nearby development; and
- On a precautionary basis, for NSRs within the light pink shaded area, i.e. where cumulative noise level are likely to exceed 35 dB, $L_{A90,10\text{min}}$ and the contribution of the Proposed Varied Development to cumulative noise levels is likely 10dB or more above the combined effect of the other developments.

Each of the above stages is described in more detail in the following sections.

³ Figure 11.1 is presented in two parts, 11.1a and 11.1b. 11.1a shows the full cumulative noise study area, whereas 11.1b focuses on the Noise Assessment Locations identified and considered within the assessment.

3. Derivation of ETSU-R-97 Noise Limits

3.1. Background Noise Levels

A background noise survey was carried out by Hoare Lea Acoustics in 2013 as part of the Tangy III Wind Farm EIA and was subsequently referred to in the 2018 EIA Report submitted in support of the Consented Development. In the absence of significant changes in the baseline noise environment in the area, these measurements remain valid. However, as wind farm noise assessments consider background noise in relation to standardised 10m wind speeds, which are derived from hub height wind speeds, the analysis of the relationship between background noise and wind speed has been updated by Hoare Lea to take account of the proposed increase in hub height to 125m. Hoare Lea's Data Reanalysis report is included in **Appendix 1**.

Tables 1 and 2 detail the updated relationship between wind speed and background noise.

Table 1: Quiet Daytime Background Noise Levels, dB, $L_{A90,10min}$

Reference	Property Name	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
NML01	Killocrew	25.6	26.1	26.8	27.8	29.0	30.5	32.1	34.1	36.3	38.7
NML02	Drum Farm	28.6	30.1	31.5	33.1	34.7	36.4	38.1	39.9	41.8	43.7
NML03	Gobagrennan	23.1	24.3	25.8	27.5	29.4	31.5	33.7	35.9	38.1	40.1
NML04	Corrylach	28.0	28.0	28.6	29.9	31.8	34.0	36.5	39.0	41.3	43.5

Table 2: Night-time Background Noise Levels, dB, $L_{A90,10min}$

Reference	Property	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
NML01	Killocrew	24.6	25.8	27.0	28.2	29.4	30.6	31.8	33.1	34.3	35.5
NML02	Drum Farm	27.2	28.2	29.4	30.8	32.4	34.3	36.4	38.6	41.1	43.8
NML03	Gobagrennan	23.4	24.2	25.4	26.8	28.5	30.2	32.1	34.0	35.8	37.6
NML04	Corrylach	26.6	27.0	27.7	28.9	30.6	32.7	35.2	38.2	41.6	45.4

3.2. ETSU-R-97 Cumulative Noise Limits

Table 3 and **Table 4** detail cumulative noise limits derived in accordance with ETSU-R-97 from the background noise levels detailed in **Tables 1** and **2**.

Table 3: Quiet Daytime ETSU Noise Limits, dB, $L_{A90,10min}$

Reference	Property Name	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
NML01	Killocrew	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NML02	Drum Farm	38.0	38.0	38.0	38.1	39.7	41.4	43.1	44.9	46.8	48.7
NML03	Gobagrennan	38.0	38.0	38.0	38.0	38.0	38.0	38.7	40.9	43.1	45.1
NML04	Corrylach	38.0	38.0	38.0	38.0	38.0	39.0	41.5	44.0	46.3	48.5

Table 4: Night-time ETSU Noise Limits, dB, $L_{A90,10min}$

Reference	Property Name	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
NML01	Killocrew	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NML02	Drum Farm	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.6	46.1	48.8
NML03	Gobagrennan	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NML04	Corrylach	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.2	46.6	50.4

4. Noise Sensitive Receptors

A review of noise sensitive receptors (NSRs) has been carried out using Ordnance Survey Address Base data and Argyll and Bute council's online map-based planning search. The NSRs identified are shown in **Figure 11.1**.

Table 5 lists the NSRs which are considered further within the assessment, referred to here as Noise Assessment Locations ('NALs') and which are also shown in **Figure 11.1**. Where a number of NSRs are located within a small area, the closest of these to the nearest turbine location have been selected to also represent those nearby. The specific point representing each NAL has been placed to represent the worst-case location, i.e., closest to the Proposed Varied Development, within each receptors assumed outdoor amenity area, identified through examination of aerial photography.

Table 5 also details the background noise monitoring location (NML) from which background noise levels have been used to derive limits for each. The assignment of background noise monitoring locations to noise assessment locations is consistent with the approach taken in the 2018 EIA Report. The table also indicates with an asterisk which properties are subject to a fixed lower noise limit of 45 dB, $L_{A90,10min}$ during both day and night in relation to financial involvement in the Proposed Varied Development, and again the approach taken here is consistent with that in the 2018 EIA Report.

Table 5: Noise Assessment Locations

Reference	Name	Easting	Northing	NML
NAL01	Tangy Farm*	167404	627749	NML02
NAL02	Tangylea*	167437	627626	NML02
NAL03	Dalnaspidal ⁴	167615	627332	NML02
NAL04	Breakachy	167072	626908	NML02
NAL05	Tangy Mill Croft	166146	627659	NML01
NAL06	Tangy Mill	166303	627737	NML01
NAL07	Tangy Cottages	166079	627771	NML01
NAL08	22/01793/PP ⁵	166088	627850	NML01
NAL09	Maleen	165975	627917	NML01
NAL10	Killarow Farm*	166284	628007	NML01
NAL11	Tigh Na Mara	166095	628176	NML01
NAL12	Tangy Moil*	166228	628553	NML01
NAL13	Tighnamoile	166255	628589	NML01
NAL15	Lagalgarve	165952	629318	NML01
NAL16	Killocrow	166113	630660	NML01
NAL17	Valtos Putechantuy	166542	631468	NML01
NAL18	High Bellochantuy	166275	632095	NML01
NAL19	Gobagrennan	170579	628607	NML03
NAL20	Corrylach	170508	630368	NML04
NAL21	Dorran Cottage	170643	630481	NML04

Table 6 and **Table 7** detail the ETSU-R-97 Cumulative Noise Limits applied at each NAL for daytime and night-time respectively.

⁴ Referred to as Hazel's Cottage in 2018 Report EIA

⁵ Two dwellings granted planning permission by Argyll & Bute Council under planning reference 22/01793/PP

Table 6: ETSU-R97 Daytime Cumulative Noise Limits Applied at NALs, dB, LA90,10min

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms-1									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.8	48.7
NAL02	Tangylea*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.8	48.7
NAL03	Dalnaspidal	38.0	38.0	38.0	38.1	39.7	41.4	43.1	44.9	46.8	48.7
NAL04	Breakachy	38.0	38.0	38.0	38.1	39.7	41.4	43.1	44.9	46.8	48.7
NAL05	Tangy Mill Croft	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL06	Tangy Mill	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL07	Tangy Cottages	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL08	22/01793/PP	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL09	Maleen	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL10	Killarow Farm*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
NAL11	Tigh Na Mara	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL12	Tangy Moil*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
NAL13	Tighnamoile	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL15	Lagalgarve	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL16	Killocrow	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL17	Valtos Putechantuy	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL18	High Bellochantuy	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.3	43.7
NAL19	Gobagrennan	38.0	38.0	38.0	38.0	38.0	38.0	38.7	40.9	43.1	45.1
NAL20	Corrylach	38.0	38.0	38.0	38.0	38.0	39.0	41.5	44.0	46.3	48.5
NAL21	Dorran Cottage	38.0	38.0	38.0	38.0	38.0	39.0	41.5	44.0	46.3	48.5

Table 7: ETSU-R97 Night-time Cumulative Noise Limits Applied at NALs, dB, L_{A90,10min}

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms ⁻¹									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.1	48.8
NAL02	Tangylea*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.1	48.8
NAL03	Dalnaspidal	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.6	46.1	48.8
NAL04	Breakachy	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.6	46.1	48.8
NAL05	Tangy Mill Croft	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL06	Tangy Mill	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL07	Tangy Cottages	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL08	22/01793/PP	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL09	Maleen	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL10	Killarow Farm*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
NAL11	Tigh Na Mara	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL12	Tangy Moil*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
NAL13	Tighnamoile	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL15	Lagalgarve	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL16	Killocrow	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL17	Valtos Putechantuy	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL18	High Bellochantuy	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL19	Gobagrennan	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
NAL20	Corrylach	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.2	46.6	50.4
NAL21	Dorran Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.2	46.6	50.4

5. Other Wind Energy Developments

The cumulative baseline scenario comprises 25 operational, consented / under construction and proposed (application) wind developments, within 60km of the Proposed Varied Development, as illustrated on **Figure 5.9** and detailed in **Technical Appendix 5.5**. This represents the baseline situation as of 5 January 2026.

The closest and acoustically relevant⁶, operational, consented or application stage wind energy developments to the Proposed Varied Development are:

- Cnoc Buidhe Wind Energy Hub (approximately 1km to the north); and
- Beinn an Tuirc Phase 3 (approximately 5km to the north-east).

Phases 1 and 2 of Beinn an Tuirc (and other wind energy developments considered in the Cnoc Buidhe Wind Energy Hub EIA Report) are located further to the north than phase 3 and therefore would not contribute significantly to cumulative levels.

5.1. Noise Emission Data for Other Wind Energy Developments

Noise emission data for the other acoustically relevant wind energy developments has been sourced from the EIA Report for Cnoc Buidhe⁷ and verified against data held by SSE.

In accordance with the IOA GPG, additions have been applied to these data to account for uncertainties in the data and to take account of noise limits applied or likely to be applied in conditions attached to each development's consent. These additions are referred to below as uncertainty factors and cumulative assessment factors, respectively.

Beinn an Tuirc Phase 3

Beinn an Tuirc Phase 3 consists of Vestas V112 3.45MW turbines with a hub height of 80m. The data presented for Beinn an Tuirc Phase 3 in the Cnoc Buidhe Wind Energy Hub EIA was inclusive of a 2.2 dB uncertainty factor, and a further 2 dB cumulative assessment factor was applied. This approach has been replicated in the current assessment as shown in **Table 8**.

Table 8: Noise Emission Data for Beinn an Tuirc Phase 3, Vestas V112, 3.45MW, Hub Height 80m

Standardised 10m Wind Speed, ms ⁻¹	Sound Power Level, L _{WA} , at octave band centre frequencies ⁸								Overall L _{WA}
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
3	74.6	85.1	88.0	90.4	89.4	86.7	81.5	65.5	95.5
4	76.6	87.1	90.0	92.4	91.4	88.7	83.5	67.5	97.5
5	80.8	91.3	94.2	96.6	95.6	92.9	87.7	71.7	101.7

⁶ Acoustically relevant other wind energy developments are those where their associated noise levels are likely to be within 10dB of those of the Proposed Varied Development

⁷ Cnoc Buidhe Wind Energy Hub, EIA-R Technical Appendix 10.1: Environmental Noise Assessment, Revision 3 – 28 January 2025, Author: Rylan Norcross, Hoare Lea Acoustics Ltd.

⁸ Inclusive of 2.2dB(A) uncertainty factor, exclusive of 2dB cumulative assessment factor

Standardised 10m Wind Speed, ms ⁻¹	Sound Power Level, L _{WA} , at octave band centre frequencies ⁸								Overall L _{WA}
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
6	84.5	95.0	97.9	100.3	99.3	96.6	91.4	75.4	105.4
7	86.3	96.8	99.7	102.1	101.1	98.4	93.2	77.2	107.2
8	86.5	97.0	99.9	102.3	101.3	98.6	93.4	77.4	107.4
9	86.5	97.0	99.9	102.3	101.3	98.6	93.4	77.4	107.4
10	86.5	97.0	99.9	102.3	101.3	98.6	93.4	77.4	107.4
11	86.5	97.0	99.9	102.3	101.3	98.6	93.4	77.4	107.4
12	86.5	97.0	99.9	102.3	101.3	98.6	93.4	77.4	107.4

Cnoc Buidhe Wind Energy Hub

The Cnoc Buidhe Wind Energy Hub EIA considered a candidate turbine of the Vestas V150 6MW with hub heights of 105 and 125m. The data presented in the Cnoc Buidhe Wind Energy Hub EIA Report has been supplemented with manufacturer datasheets held by SSE to obtain octave-band spectra specific to each wind speed. As in the Cnoc Buidhe Wind Energy Hub EIA, 2 dB has been added to account for uncertainty. A cumulative assessment factor of 0.8 to 2 dB has also been added in the current assessment calculated by comparing predicted levels and proposed limits for Cnoc Buidhe Wind Energy Hub presented in the Cnoc Buidhe Wind Energy Hub EIA for the most sensitive receptors⁹ (controlling properties). **Table 9** and **Table 10** detail the data for each hub height.

Table 9: Noise Emission Data for Cnoc Buidhe, Vestas V150, 6MW, Hub Height 105m

Standardise d 10m Wind Speed, ms ⁻¹	Sound Power Level, L _{WA} , at octave band centre frequencies ¹⁰									Cumulative Assessment Factor
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overall L _{WA}	
3	75.6	83.4	88.2	90.0	88.8	84.6	77.4	67.2	94.8	2.0
4	78.9	86.7	91.6	93.4	92.3	88.1	80.9	70.7	98.2	2.0
5	83.2	91.0	95.8	97.7	96.6	92.4	85.3	75.1	102.5	2.0
6	86.5	94.4	99.3	101.1	100.0	95.9	88.8	78.6	106.0	1.2
7	87.2	95.1	100.1	102.0	100.9	96.8	89.7	79.5	106.8	0.9
8	87.8	95.5	100.2	102.1	100.9	96.8	89.8	79.7	106.9	0.8

⁹ Tables 11, and 19 and 20 of Cnoc Buidhe EIA, combination of Drumore-na-bodach and Killocraw Farm, daytime levels and limits.

¹⁰ Inclusive of 2dB uncertainty factor, exclusive of cumulative assessment factors as detailed in table

Standardise d 10m Wind Speed, ms ⁻¹	Sound Power Level, L _{WA} , at octave band centre frequencies ¹⁰									Cumulative Assessment Factor
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overall L _{WA}	
9	88.3	95.7	100.2	102.0	100.9	96.8	90.0	80.2	106.9	0.8
10	88.1	95.5	100.2	102.0	100.9	97.0	90.4	80.8	106.9	0.8
11	87.8	95.3	100.0	101.9	101.0	97.3	90.9	81.5	106.9	2.0
12	87.2	94.9	99.7	101.9	101.2	97.7	91.5	82.3	106.9	2.0

Table 10: Noise Emission Data for Cnoc Buidhe, Vestas V150, 6MW, Hub Height 125m

Standardise d 10m Wind Speed, ms ⁻¹	Sound Power Level, L _{WA} , at octave band centre frequencies									Cumulative Assessment Factor
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overall L _{WA} ¹¹	
3	75.8	83.6	88.3	90.2	89.0	84.8	77.6	67.3	95.0	2.0
4	79.3	87.1	92.0	93.8	92.7	88.5	81.3	71.1	98.6	2.0
5	83.6	91.5	96.3	98.1	97.0	92.8	85.8	75.6	103.0	2.0
6	86.8	94.7	99.6	101.5	100.4	96.3	89.2	79.0	106.3	1.2
7	87.3	95.2	100.1	102.0	100.9	96.8	89.7	79.5	106.8	0.9
8	87.9	95.6	100.3	102.0	100.9	96.8	89.8	79.8	106.9	0.8
9	88.2	95.7	100.2	102.0	100.9	96.9	90.1	80.3	106.9	0.8
10	88.0	95.5	100.1	102.0	100.9	97.1	90.5	81.0	106.9	0.8
11	87.7	95.2	99.9	101.9	101.0	97.4	91.0	81.7	106.9	2.0
12	87.0	94.7	99.7	101.8	101.2	97.8	91.7	82.6	106.9	2.0

¹¹ inclusive of 2dB uncertainty factor, exclusive of cumulative assessment factors as detailed in table

6. Site Specific Noise Limits

Site specific noise limits, applicable to the noise effects of the Proposed Varied Development only, have been derived from the ETSU-R-97 limits by logarithmically subtracting the predicted contribution of the other wind energy developments (Cnoc Buidhe Wind Energy Hub and Beinn an Tuirc Phase 3) from the ETSU-R-97 limits as detailed in the following sections.

6.1. Predicted Noise Levels for Other Wind Energy Developments

Table 11 details predicted noise levels for Beinn and Tuirc Phase 3 at the NALs detailed in **Table 5**.

Table 11: Predicted Noise Levels for Beinn an Tuirc Phase 3, dB, L_{A90,10min}

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms-1									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	7.8	9.8	14.0	17.7	19.5	19.7	19.7	19.7	19.7	19.7
NAL02	Tangylea	8.9	10.9	15.1	18.8	20.6	20.8	20.8	20.8	20.8	20.8
NAL03	Dalnaspidal	6.9	8.9	13.1	16.8	18.6	18.8	18.8	18.8	18.8	18.8
NAL04	Breakachy	10.4	12.4	16.6	20.3	22.1	22.3	22.3	22.3	22.3	22.3
NAL05	Tangy Mill Croft	5.1	7.1	11.3	15.0	16.8	17.0	17.0	17.0	17.0	17.0
NAL06	Tangy Mill	5.4	7.4	11.6	15.3	17.1	17.3	17.3	17.3	17.3	17.3
NAL07	Tangy Cottages	5.1	7.1	11.3	15.0	16.8	17.0	17.0	17.0	17.0	17.0
NAL08	22/01793/PP	5.1	7.1	11.3	15.0	16.8	17.0	17.0	17.0	17.0	17.0
NAL09	Maleen	5.0	7.0	11.2	14.9	16.7	16.9	16.9	16.9	16.9	16.9
NAL10	Killarow Farm	5.5	7.5	11.7	15.4	17.2	17.4	17.4	17.4	17.4	17.4
NAL11	Tigh Na Mara	5.4	7.4	11.6	15.3	17.1	17.3	17.3	17.3	17.3	17.3
NAL12	Tangy Moil	5.8	7.8	12.0	15.7	17.5	17.7	17.7	17.7	17.7	17.7
NAL13	Tighnamoile	5.9	7.9	12.1	15.8	17.6	17.8	17.8	17.8	17.8	17.8
NAL15	Lagalgarve	5.8	7.8	12.0	15.7	17.5	17.7	17.7	17.7	17.7	17.7
NAL16	Killocrow	6.6	8.6	12.8	16.5	18.3	18.5	18.5	18.5	18.5	18.5
NAL17	Valtos Putechantuy	7.6	9.6	13.8	17.5	19.3	19.5	19.5	19.5	19.5	19.5
NAL18	High Bellochantuy	7.1	9.1	13.3	17.0	18.8	19.0	19.0	19.0	19.0	19.0
NAL19	Gobagrennan	17.1	19.1	23.3	27.0	28.8	29.0	29.0	29.0	29.0	29.0
NAL20	Corrylach	21.0	23.0	27.2	30.9	32.7	32.9	32.9	32.9	32.9	32.9
NAL21	Dorran Cottage	21.6	23.6	27.8	31.5	33.3	33.5	33.5	33.5	33.5	33.5

Table 12 details predicted noise levels for Cnoc Buidhe Wind Energy Hub at the NALs detailed in **Table 5**.

Table 12: Predicted Noise Levels for Cnoc Buidhe, dB, $L_{A90,10min}$

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms^{-1}									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	17.1	20.6	24.9	27.4	27.8	27.9	28.0	27.9	28.9	28.7
NAL02	Tangylea	17.4	20.9	25.1	27.7	28.1	28.2	28.3	28.2	29.2	29.0
NAL03	Dalnaspidal	17.1	20.6	24.9	27.4	27.8	27.9	28.0	27.9	28.9	28.7
NAL04	Breakachy	16.3	19.7	24.0	26.6	27.0	27.1	27.2	27.1	28.1	27.8
NAL05	Tangy Mill Croft	14.2	17.7	22.0	24.5	24.9	25.1	25.1	25.0	26.0	25.8
NAL06	Tangy Mill	14.6	18.1	22.4	24.9	25.3	25.4	25.5	25.4	26.4	26.2
NAL07	Tangy Cottages	14.3	17.8	22.1	24.6	25.0	25.2	25.2	25.1	26.1	25.9
NAL08	22/01793/PP	14.5	17.9	22.2	24.8	25.2	25.3	25.4	25.3	26.3	26.0
NAL09	Maleen	15.2	18.7	22.9	25.5	25.9	26.1	26.1	26.0	27.1	26.8
NAL10	Killarow Farm	15.1	18.6	22.9	25.4	25.8	25.9	26.0	25.9	26.9	26.7
NAL11	Tigh Na Mara	15.8	19.3	23.6	26.1	26.6	26.7	26.7	26.7	27.7	27.4
NAL12	Tangy Moil	16.6	20.0	24.3	26.9	27.3	27.4	27.4	27.4	28.4	28.1
NAL13	Tighnamoile	16.7	20.1	24.4	27.0	27.4	27.5	27.6	27.5	28.5	28.3
NAL15	Lagalgarve	16.9	20.3	24.6	27.2	27.6	27.7	27.7	27.7	28.7	28.4
NAL16	Killocrow	20.3	23.7	28.0	30.6	31.0	31.1	31.1	31.1	32.1	31.9
NAL17	Valtos Putechantuy	23.7	27.2	31.4	34.0	34.5	34.5	34.6	34.5	35.6	35.4
NAL18	High Bellochantuy	22.9	26.4	30.6	33.2	33.7	33.7	33.7	33.7	34.7	34.6
NAL19	Gobagrennan	21.7	25.2	29.5	32.1	32.4	32.5	32.5	32.5	33.5	33.3
NAL20	Corrylach	29.5	33.1	37.4	39.9	40.3	40.3	40.3	40.2	41.3	41.2
NAL21	Dorran Cottage	29.7	33.3	37.6	40.2	40.5	40.5	40.5	40.4	41.5	41.4

Table 13 presents the combined noise levels for Beinn an Tuirc Phase 3 and Cnoc Buidhe.

Table 13: Combined Noise Levels for Other Wind Energy Developments, dB, $L_{A90,10min}$

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms^{-1}									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	17.6	20.9	25.2	27.8	28.4	28.5	28.6	28.5	29.4	29.2
NAL02	Tangylea	18.0	21.3	25.5	28.2	28.8	28.9	29.0	28.9	29.8	29.6
NAL03	Dalnaspidal	17.5	20.9	25.2	27.8	28.3	28.4	28.5	28.4	29.3	29.1
NAL04	Breakachy	17.3	20.4	24.7	27.5	28.2	28.3	28.4	28.3	29.1	28.9
NAL05	Tangy Mill Croft	14.7	18.1	22.4	25.0	25.5	25.7	25.7	25.6	26.5	26.3
NAL06	Tangy Mill	15.1	18.5	22.7	25.4	25.9	26.0	26.1	26.0	26.9	26.7
NAL07	Tangy Cottages	14.8	18.2	22.4	25.1	25.6	25.8	25.8	25.7	26.6	26.4
NAL08	22/01793/PP	15.0	18.2	22.5	25.2	25.8	25.9	26.0	25.9	26.8	26.5
NAL09	Maleen	15.6	19.0	23.2	25.9	26.4	26.6	26.6	26.5	27.5	27.2
NAL10	Killarow Farm	15.6	18.9	23.2	25.8	26.4	26.5	26.6	26.5	27.4	27.2
NAL11	Tigh Na Mara	16.2	19.6	23.9	26.4	27.1	27.2	27.2	27.2	28.1	27.8
NAL12	Tangy Moil	16.9	20.3	24.5	27.2	27.7	27.8	27.8	27.8	28.8	28.5
NAL13	Tighnamoile	17.0	20.4	24.6	27.3	27.8	27.9	28.0	27.9	28.9	28.7
NAL15	Lagalgarve	17.2	20.5	24.8	27.5	28.0	28.1	28.1	28.1	29.0	28.8
NAL16	Killocrow	20.5	23.8	28.1	30.8	31.2	31.3	31.3	31.3	32.3	32.1
NAL17	Valtos Putechantuy	23.8	27.3	31.5	34.1	34.6	34.6	34.7	34.6	35.7	35.5
NAL18	High Bellochantuy	23.0	26.5	30.7	33.3	33.8	33.8	33.8	33.8	34.8	34.7
NAL19	Gobagrennan	23.0	26.2	30.4	33.3	34.0	34.1	34.1	34.1	34.8	34.7
NAL20	Corrylach	30.1	33.5	37.8	40.4	41.0	41.0	41.0	40.9	41.9	41.8
NAL21	Dorran Cottage	30.3	33.7	38.0	40.7	41.3	41.3	41.3	41.2	42.1	42.1

6.1.1. Remaining Noise 'Budget'

Table 14 and **Table 15** detail the remaining noise 'budget' calculated by logarithmically subtracting the combined noise levels shown in **Table 13** from the noise limits in **Table 6** and **Table 7**.

Table 14: Remaining Noise 'Budget', Daytime, dB, LA90,10min

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms ⁻¹									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	46.7	48.7
NAL02	Tangylea	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	46.7	48.6
NAL03	Dalnaspidal	38.0	37.9	37.8	37.7	39.4	41.2	42.9	44.8	46.7	48.7
NAL04	Breakachy	38.0	37.9	37.8	37.7	39.4	41.2	42.9	44.8	46.7	48.7
NAL05	Tangy Mill Croft	38.0	38.0	37.9	37.8	37.7	37.7	37.7	38.9	41.2	43.6
NAL06	Tangy Mill	38.0	38.0	37.9	37.8	37.7	37.7	37.7	38.9	41.1	43.6
NAL07	Tangy Cottages	38.0	38.0	37.9	37.8	37.7	37.7	37.7	38.9	41.2	43.6
NAL08	22/01793/PP	38.0	38.0	37.9	37.8	37.7	37.7	37.7	38.9	41.1	43.6
NAL09	Maleen	38.0	37.9	37.9	37.7	37.7	37.7	37.7	38.9	41.1	43.6
NAL10	Killarow Farm	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL11	Tigh Na Mara	38.0	37.9	37.8	37.7	37.6	37.6	37.6	38.8	41.1	43.6
NAL12	Tangy Moil	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL13	Tighnamoile	38.0	37.9	37.8	37.6	37.6	37.5	37.5	38.8	41.0	43.6
NAL15	Lagaltarve	38.0	37.9	37.8	37.6	37.5	37.5	37.5	38.7	41.0	43.6
NAL16	Killochraw	37.9	37.8	37.5	37.1	37.0	36.9	36.9	38.3	40.7	43.4
NAL17	Valtos Putechantuy	37.8	37.6	36.9	35.7	35.3	35.3	35.2	37.2	39.9	43.0
NAL18	High Bellochantuy	37.9	37.7	37.1	36.2	35.9	35.9	35.9	37.6	40.2	43.1
NAL19	Gobagrennan	37.9	37.7	37.2	36.2	35.8	35.7	36.8	39.9	42.4	44.7
NAL20	Corrylach	37.2	36.1	24.6	n/a	n/a	n/a	31.6	41.0	44.3	47.5
NAL21	Dorran Cottage	37.2	36.0	n/a	n/a	n/a	n/a	28.2	40.8	44.2	47.4

Table 15: Remaining Noise 'Budget', Night-time, dB, L_{A90,10min}

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms ⁻¹									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	46.0	48.8
NAL02	Tangylea	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	46.0	48.7
NAL03	Dalnaspidal	43.0	43.0	42.9	42.9	42.9	42.8	42.8	43.5	46.0	48.8
NAL04	Breakachy	43.0	43.0	42.9	42.9	42.9	42.8	42.8	43.5	46.0	48.8
NAL05	Tangy Mill Croft	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL06	Tangy Mill	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL07	Tangy Cottages	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL08	22/01793/PP	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL09	Maleen	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL10	Killarow Farm	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL11	Tigh Na Mara	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL12	Tangy Moil	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL13	Tighnamoile	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.8	42.8
NAL15	Lagalgarve	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9	42.8	42.8
NAL16	Killocrow	43.0	42.9	42.9	42.7	42.7	42.7	42.7	42.7	42.6	42.6
NAL17	Valtos Putechantuy	42.9	42.9	42.7	42.4	42.3	42.3	42.3	42.3	42.1	42.1
NAL18	High Bellochantuy	43.0	42.9	42.7	42.5	42.4	42.4	42.4	42.4	42.3	42.3
NAL19	Gobagrennan	43.0	42.9	42.8	42.5	42.4	42.4	42.4	42.4	42.3	42.3
NAL20	Corrylach	42.8	42.5	41.4	39.5	38.7	38.6	38.6	39.3	44.8	49.8
NAL21	Dorran Cottage	42.8	42.5	41.3	39.1	38.2	38.1	38.1	38.9	44.7	49.7

As can be seen in **Table 14**, there are a number of instances at Corrylach and Dorran Cottage, shown as n/a. In these instances, the combined predicted levels of Cnoc Buidhe Wind Energy Hub and Benn an Tuirc Phase 3 are higher than the applicable ETSU-R-97 cumulative noise limit. These receptors are stated within the Cnoc Buidhe Wind Energy Hub EIAR as being financially involved with that development, and therefore an increased fixed lower noise limit of 45 dB was applied, which has not yet been taken into consideration here. Cnoc Buidhe Wind Energy Hub is the dominant contributor to the combined noise level.

To address this, SSNLs for these receptors have been set at levels which will ensure that the cumulative effects of the Proposed Varied Development and nearby acoustically relevant developments will not exceed the full ETSU-R-97 cumulative noise limits applicable where there is such financial involvement. This is detailed further in the following section.

6.1.2. Site Specific Noise Limits

Table 16 and **Table 17** detail the site specific noise limits derived from the remaining noise budget shown in **Table 14** and **Table 15**. Where the remaining noise 'budget' does not follow a trend of increasing with wind speed, the SSNL at lower wind speeds has been set to the minimum value from across the full range of wind speeds considered as described above.

Table 16: Site-Specific Noise Limits, Daytime, dB, L_{A90,10min}

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms ⁻¹									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	46.7	48.7
NAL02	Tangylea	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	46.7	48.6
NAL03	Dalnaspidal	37.7	37.7	37.7	37.7	39.4	41.2	42.9	44.8	46.7	48.7
NAL04	Breakachy	37.7	37.7	37.7	37.7	39.4	41.2	42.9	44.8	46.7	48.7
NAL05	Tangy Mill Croft	37.7	37.7	37.7	37.7	37.7	37.7	37.7	38.9	41.2	43.6
NAL06	Tangy Mill	37.7	37.7	37.7	37.7	37.7	37.7	37.7	38.9	41.1	43.6
NAL07	Tangy Cottages	37.7	37.7	37.7	37.7	37.7	37.7	37.7	38.9	41.2	43.6
NAL08	22/01793/PP	37.7	37.7	37.7	37.7	37.7	37.7	37.7	38.9	41.1	43.6
NAL09	Maleen	37.7	37.7	37.7	37.7	37.7	37.7	37.7	38.9	41.1	43.6
NAL10	Killarow Farm	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL11	Tigh Na Mara	37.6	37.6	37.6	37.6	37.6	37.6	37.6	38.8	41.1	43.6
NAL12	Tangy Moil	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL13	Tighnamoile	37.5	37.5	37.5	37.5	37.5	37.5	37.5	38.8	41.0	43.6
NAL15	Lagalgarve	37.5	37.5	37.5	37.5	37.5	37.5	37.5	38.7	41.0	43.6
NAL16	Killocrow	36.9	36.9	36.9	36.9	36.9	36.9	36.9	38.3	40.7	43.4
NAL17	Valtos Putechantuy	35.2	35.2	35.2	35.2	35.2	35.2	35.2	37.2	39.9	43.0
NAL18	High Bellochantuy	35.9	35.9	35.9	35.9	35.9	35.9	35.9	37.6	40.2	43.1
NAL19	Gobagrennan	35.7	35.7	35.7	35.7	35.7	35.7	36.8	39.9	42.4	44.7
NAL20	Corrylach	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
NAL21	Dorran Cottage	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0

Table 17: Site-Specific Noise Limits, Night-time, dB, $L_{A90,10min}$

Dwelling ID	Dwelling Name	Standardised 10m Wind Speed, ms ⁻¹									
		3	4	5	6	7	8	9	10	11	12
NAL01	Tangy Farm	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	46.0	48.8
NAL02	Tangylea	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	46.0	48.7
NAL03	Dalnaspidal	42.8	42.8	42.8	42.8	42.8	42.8	42.8	43.5	46.0	48.8
NAL04	Breakachy	42.8	42.8	42.8	42.8	42.8	42.8	42.8	43.5	46.0	48.8
NAL05	Tangy Mill Croft	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL06	Tangy Mill	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL07	Tangy Cottages	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL08	22/01793/PP	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL09	Maleen	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL10	Killarow Farm	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL11	Tigh Na Mara	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9
NAL12	Tangy Moil	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
NAL13	Tighnamoile	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
NAL15	Lagalgarve	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
NAL16	Killocrow	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6
NAL17	Valtos Putechantuy	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1
NAL18	High Bellochantuy	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3
NAL19	Gobagrennan	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3
NAL20	Corrylach	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
NAL21	Dorran Cottage	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0

In the cases of Corrylach and Dorran Cottage, where at certain daytime wind speeds the dominant influence of Cnoc Buidhe Wind Energy Hub requires that their financial involvement in that development is taken into account, SSNLs for the Proposed Varied Development have been set to a fixed level of 35 dB, $L_{A90,10min}$, for the following reasons:

- This is the minimum limit recommended by ETSU-R-97 and the basis of a simplified noise criterion described within that guidance.
- Beinn an Tuirc is subject to the same simplified noise criterion of 35dB.
- This results in a combined noise limit for the Proposed Varied Development and Beinn an Tuirc of 38dB. This corresponds to the daytime fixed lower noise limit applied in respect of cumulative noise between Tangy and Beinn an Tuirc in the 2018 EIA Report, at which time Cnoc Buidhe Wind Energy Hub was not a consideration.

- As shown in **Table 18** and **Table 19**, when these limits are added to the predicted noise level (inclusive of cumulative assessment factors) for Cnoc Buidhe, shown in **Table 12**, the total is below 45 dB, the relevant fixed lower noise limit where there is a financial involvement.
- As the SSNL for the Proposed Varied Development is 10dB below the fixed lower limit for financial involvement, even if operation of Cnoc Buidhe Wind Energy Hub were to result in noise levels greater than that assumed here, it would not be possible for Tangy to contribute significantly to cumulative noise in excess of the financially involved ETSU limits.
- This process therefore fulfils the requirements of the IOA GPG that SSNLs should be set such that cumulative effects will not exceed relevant ETSU-R-97 noise limits, and that where a receptor in a cumulative assessment has a financial involvement in particular development other than the proposed development, limits are set such that the proposed development in isolation will comply with the non-financially involved criteria.

Table 18: Cumulative Analysis for Corrylach, dB, L_{A90,10min}

Item	Standardised 10 m Wind Speed (m/s)									
	3	4	5	6	7	8	9	10	11	12
Beinn an Tuirc Limit	35	35	35	35	35	35	35	35	35	35
Tangy SSNL	35	35	35	35	35	35	35	35	35	35
Cnoc Buidhe Wind Energy Hub (inc. cumulative factor)	29.5	33.1	37.4	39.9	40.3	40.3	40.3	40.2	41.3	41.2
Sum	38.6	39.2	40.7	42.1	42.3	42.3	42.3	42.3	43.0	42.9

Table 19: Cumulative Analysis for Dorran Cottage, dB, L_{A90,10min}

Item	Standardised 10 m Wind Speed (m/s)									
	3	4	5	6	7	8	9	10	11	12
Beinn an Tuirc Limit	35	35	35	35	35	35	35	35	35	35
Tangy SSNL	35	35	35	35	35	35	35	35	35	35
Cnoc Buidhe Wind Energy Hub (inc. cumulative factor)	29.7	33.3	37.6	40.2	40.5	40.5	40.5	40.4	41.5	41.4
Sum	38.6	39.3	40.8	42.3	42.4	42.4	42.4	42.4	43.1	43.0

7. Conclusions

The SSNLs for the Proposed Varied Development which are detailed in Table 16 and Table 17 meet the requirements of ETSU-R-97 and the IOA GPG and are therefore suitable for use in Chapter 11: Noise for the assessment of operational noise from the proposed varied development, and for eventual inclusion in a condition attached to consent for the Proposed Varied Development.

If consent is not granted for Cnoc Buidhe Wind Energy Hub, more noise 'budget' would be available and therefore it may be appropriate to recalculate SSNLs for inclusion in a consent condition to maximise the productivity of the Proposed Varied Development.