Technical Appendix 11.1

Summary of Policy and Guidance Relevant to Noise

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1 Policy and Guidance Relevant to Noise

1.1 Summary Relevant Planning Policy

1.1.1 The Planning Statement associated with this Section 36 application and **Chapter 5** of the Environmental Impact Assessment (EIA) Report sets out the planning policy framework that is relevant to the EIA. This Technical Appendix considers the relevant aspects of National Planning Framework 4 (NPF4), Planning Advice Notes (PANs), the South Lanarkshire Local Development Plan (LDP) (2021), and other relevant guidance. The following policies are relevant to this assessment:

National Planning Framework 4 (NPF4):

NPF4 - Policy 11:

"a) Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:

i. wind farms including repowering, extending, expanding and extending the life of existing wind farms;

…

e) In addition, project design and mitigation will demonstrate how the following impacts are addressed:

i. impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;"

NPF4 – Policy 23:

"Development proposals that are likely to raise unacceptable noise issues will not be supported. The agent of change principle applies to noise sensitive development. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely."

Scottish Government Online Planning Advice: Planning Advice Note 1/2011 and Technical Advice Note

1.1.2 Published in March 2011 and last updated in 2014, Planning Advice Note 1/2011 (Scottish Government, 2014) (PAN 1/2011) provides advice on the role of the planning system in helping to prevent and limit adverse effects of noise. Information and advice on noise assessment methods are provided in the accompanying Technical Advice Note (TAN): Assessment of Noise (Scottish Government, 2011). Included within the PAN document and the accompanying TAN are details of the legislation, technical standards and codes of practice for specific noise issues.

1.1.3 Regarding noise from wind turbines, paragraph 29 of PAN 1/2011 states the following:

"There are two sources of noise from wind turbines – the mechanical noise from the turbines and the aerodynamic noise from the blades. Mechanical noise is related to engineering design. Aerodynamic noise varies with rotor design and wind speed and is generally greatest at low speeds. Good acoustical design and siting of turbines is essential to minimise the potential to generate noise. Web based planning advice on renewable technologies for onshore wind turbines provides advice on 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97) published by the former Department of Trade and Industry (DTI) and the findings of the Salford University report into Aerodynamic Modulation of Wind Turbine Noise."

1.1.4 The web-based planning advice referred to in PAN1/2011 has since been withdrawn.

1.1.5 The Institute of Acoustics (IoA) has since published 'A Good Practice Guide to the application of ETSU-R-97 for the assessment rating of turbine noise' (IoA, 2013). The Scottish Government accepts that the guide represents current industry good practice.

1.1.6 Neither PAN 1/2011 nor the associated TAN provide specific guidance on the assessment of noise from fixed plant, but the TAN includes an example assessment scenario for 'New noisy development (including commercial and recreation) affecting a noise sensitive building', which is based on BS4142:1997: 'Method for rating industrial noise affecting mixed residential and industrial areas'. This British Standard (BS) has been superseded by BS4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' (BSi, 2019).

1.1.7 In summary, national planning policy on the assessment of operational noise impacts from wind farms stipulates the use of the ETSU-R-97 assessment method (which has now been updated and superseded by the Assessment and Rating of Wind Turbine Noise Guidance – ARWTNG) and application of the IoA Good Practice Guide (IoA GPG). These guidance documents, and others relevant to the assessment of possible noise impacts generated by the Proposed Development.

Onshore Wind Policy Statement 2022

1.1.8 Published 21 December 2022 (Scottish Government), the document summarises the Scottish Government policy to onshore wind as follows:

> *'Deployment of onshore wind is mission-critical for meeting our climate targets. As an affordable and reliable source of electricity generation, we must continue to maximise our natural resource and deliver net-zero in a way that is fully aligned with, and continues to protect, our natural heritage and native flora and fauna.'*

1.1.9 Noise is not specifically addressed within the Policy Statement.

Local Planning Policy

1.1.10 SLC's Local Development Plan 2 (LDP2) was adopted in 2021 and notes the following with regard to wind energy developments:

- *Noise to be assessed in accordance with ETSU-R-97 and the IoA GPG.*

1.2 Summary of Guidance

1.2.1 The primary noise guidance relating to the Proposed Development is summarised within **Chapter 11** of the EIA Report. Construction noise is scoped out of the assessment, on the basis that the construction schedule would not be developed until after consent and construction noise impacts can be controlled by production and implementation of a Construction Environmental Management Plan (CEMP). A brief summary of British Standard BS5228, and specifically methods provides for the setting of construction noise limits are provided below.

British Standard 5228:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites ('BS5228')

1.2.2 Part 1 (Noise) of BS5228 sets out techniques to predict the likely noise effects from construction works, based on detailed information on the type and number of plant items being used, their location and the length of time they are in operation.

1.2.3 The noise prediction methods can be used to establish likely noise levels in terms of the $L_{Aeq,T}$ over the core working day. This standard also documents a database of information, including previously measured sound pressure level data for a variety of different construction plant undertaking various common activities.

1.2.4 Three example methods are presented for determining the significance of construction noise impacts. In summary, these methods adopt either a series of fixed noise level limits, are concerned with ambient noise level changes as a result of the construction operations or a combination of the two.

1.2.5 With respect to absolute fixed noise limits, those detailed within Advisory Leaflet 72: 1976: '*Noise control on building sites'* are presented. These limits are presented according to the nature of the surrounding environment, for a 12-hour working day. The presented limits are:

- 70 dB(A) in rural, suburban and urban areas away from main road traffic and industrial noise; and
- 75 dB(A) in urban areas near main roads and heavy industrial areas.

1.2.6 The above noise level limits are applicable at the façade of the receptor in question (not free-field).

1.2.7 BS5228 goes on to provide methods for determining the significance of construction noise levels by considering the change in the ambient noise level that would arise as a result of the construction operations. Two example assessment methods are presented, these are the 'ABC method' as summarised within

1.2.8 **Table** 1 and the '5 dB(A) change' method as described below:

"Noise levels generated by construction activities are deemed to be significant if the total noise (pre construction ambient plus construction noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dBLAeq, from construction noise alone, for the daytime, evening and night-time periods, respectively; and a duration of one month or more, unless works of a shorter duration are likely to result in significant impact."

Table 1 – Example Threshold of Potential Significant Effect at Dwellings (Construction Noise) – ABC Method

Assessment Category and Threshold Value Period	Threshold Value in Decibels (dB) $L_{Aeq,T}$		
	Category A	Category B	Category C
Night-time (23:00 – 07:00)	45	50	55
Evenings and Weekends (D)	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75
NOTE 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level. NOTE 2: If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise. NOTE 3: Applied to residential receptors only			
A) Category A: threshold values to use when ambient levels (when rounded to the nearest 5 dB) are less than these values. B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values. C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values. D) 19.00-23.00 weekdays, 13.00-23.00 Saturdays and 07.00-23.00 Sundays			

1.3 References

National Planning Framework 4. Scottish Government. 2023. Retrieved from https://www.gov.scot/publications/national-planning-framework-4/

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BSi. (2014). BS5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise.

Department for Energy Security and Net Zero (DESNZ) (2026). Assessment and Rating of Wind Turbine Noise. UK Government. Retrieved from https://www.gov.uk/government/publications/assessment-and-rating-of-noise-from-wind-turbines-guidance

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