

Lochluichart East BESS: Noise Impact Assessment consultation

To:

Address: Highland Council,
Community Services,
38 Harbour Road,
Inverness, IV1 1UF

TNEI Ref.:

17101-003 R0

Date: 9 May, 2025

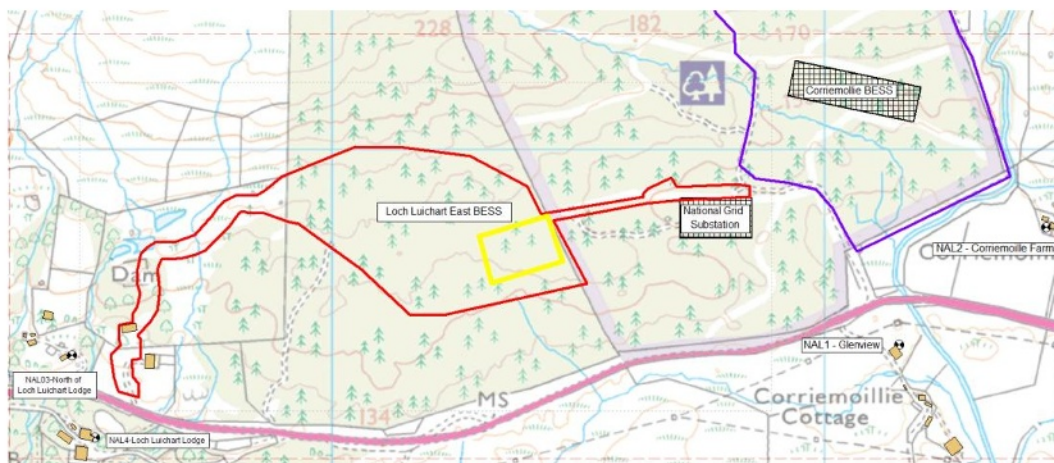
By email only

Dear

Introduction and site location

TNEI Services Ltd (TNEI) have been commissioned by Boralex to undertake a Noise Impact Assessment to accompany the planning application for the proposed Lochluichart East BESS (LLE BESS), comprising a Battery Energy Storage System under 50 MW. The proposed LLE BESS would be north of the A832 road near the proposed Corriemollie BESS and have similar noise sensitive receptors, labelled as Noise Assessment Locations (NALs) in the below Image 1.

Image 1: Approximate site location in context of nearby other proposed BESS



The Highland Council (THC) issues a screening opinion for this proposed Development in a letter dated 8th April 2025 and THC considered that Environmental Impact Assessment is NOT required, and that any planning application should however consider the potential impacts of noise and vibration (amongst other topics).

Furthermore, a Pre-Application Advice (ref 24/05054/PREMAJ) response was also received from THC for this development, where noise is discussed in the Residential Amenity section, extract below:

Residential Amenity
Noise Impacts – Operational Environmental Health indicate that levels should be limited to no more than 100Hz frequency and that noise levels should not increase beyond existing background levels.
Noise Impacts – Construction The CEMP should consider amenity impact on adjacent residential properties and other noise sensitive receptors. This should include consideration of noise levels associated with various stages of construction and hours of operation.

This letters in the below sections outline a proposed methodology for the 2 separate criteria of operational noise (i.e. overall noise levels and 100 Hz) and outline suggested content for the CEMP.

Operational Noise – Methodology and criteria

The operational noise assessment for overall noise levels would be in line with BS 4142:2014+A1-2019 *Methods for Rating and Assessing Industrial and Commercial Sound* (BS 4142), and with due regard to the BS 4142:2014+A1:2019 *Technical Note* published by the Association of Noise Consultants (ANC) in 2020.

As part of the BS 4142 noise assessment process, an initial estimate is made by comparing the background sound level with the Rating Level, however, to complete the assessment, BS 4142 Section 11 requires that the context in which the sound occurs is also considered, and as such there is no definitive pass/fail element to the standard.

The initial assumption is that the greater the increase between the Rating Level over the Background Sound Level, the greater the impact may be, however, this can then be modified when considering the context. The initial estimate guidance given by BS 4142 is as follows:

- *“A difference of around +10dB or more is likely to be an indication of a ‘significant adverse’ impact, depending on the context.*
- *A difference of around +5dB is likely to be an indication of an ‘adverse’ impact, depending on the context.*
- *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a ‘low’ impact, depending on the context.”*

Following the initial estimate of the impact, the context assessment is undertaken. BS 4142 states that all pertinent factors should be taken into consideration, including:

- The absolute level of sound;
- The character and level of the residual sound compared to the character and level of the specific sound;
- The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions;
- Any other criteria that could be relevant;

Some examples are given for some situations where the findings from the initial estimate is not the most relevant, for example, in a low background environment. In this regard, Section 11 of BS4142 states:

‘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.’

In 2020, the Association of Noise Consultants (ANC) produced a Technical note on BS4142 to provide further guidance on the use of BS 4142. The Technical note state:

‘There is no theoretical limit to how the context can or should influence the impact assessment, but any alteration of the conclusions of an assessment due to the context should be sufficiently explained and justified for the specific circumstances in question.’

The ANC BS 4142 Technical Note provides additional information to define low background and low ratings and states :

‘The note to the Scope of the 1997 version of BS 4142 defined very low background sound levels as being less than about 30 dB LA90, and low rating levels as being less than about 35 dB LAr,Tr.’

It is likely the background sound levels at receptors in this area will be low or very low therefore absolute levels will need to be considered in detail in the context assessment, along with any other relevant contextual elements.

TNEI suggest to undertake a BS4142 assessment and the key objective will be to ensure the development includes sufficient noise mitigation to avoid an adverse impact, with consideration of the context. The suggested threshold in the Pre-Application response pack of ‘noise levels should not increase beyond background levels’ may be considered following the full assessment process, but it is understood that this is an aspirational criteria from THC, not an absolute criteria.

In regards to the 100Hz criteria, following recent work by TNEI on BESS projects in THC area, it is clear that a 100Hz criteria precise requirement and wording has evolved over time. It is TNEI's understanding that at the time writing this consultation letter, predictions of the proposed BESS noise levels in any noise report must be shown for at least the 100 Hz frequency band and it should be confirmed that no tonality is expected using for example the BS 4142 Objective Tonal Assessment Method. This approach is suggested for the noise assessment of LLE BESS.

Operational Noise – Existing information from nearby Corriemoillie BESS noise assessment

TNEI have carried out some initial noise assessment work to appraise the Lochluichart East BESS (LLE BESS) potentially operating near the proposed Corriemoillie BESS, and also appraise the location of receptors which may already have known baseline noise levels.

In Image 1 (above), four Noise Assessment Locations (NALs) labelled NAL1-NAL4 have been selected by TNEI for a detailed assessment, these are the nearest of all receptors in the area and all are residential properties and are located either side of the A832. The locations NAL1 and NAL2 are some of the closest to LLE BESS and are also the closest to the Corriemoillie BESS.

TNEI conducted a brief review of the WSP noise report for the Corriemoillie BESS. WSP undertook a noise survey at Glenview and Corriemoillie Farm (essentially NAL1 and NAL2). The survey was conducted from the 8th of May to the 15th of May 2024 and determined the background levels which were then used to assess the potential noise impact from the consented Corriemoillie BESS development. The background levels at both Glenview and Corriemoillie Farm are nearly identical within ~2dB. Although WSP did not conduct a noise survey near NALs 3-4, TNEI believe that the background noise at the quietest of NAL1 and NAL2 would be representative of background noise at NALs 3-4, which have similar set back distances from the A832. The important information found in the Corriemoillie BESS assessment and applied to all four NALs 1-4 is summarised in Table 1 below.

Table 1 – Summary of important information found in the Corriemoillie BESS noise assessment

NAL	Noise Predictions (dB LAeq)	Suggested representative Background Noise Levels (dB LA90)		TNEI comment
	Corriemoillie BESS by WSP with 5m barrier(Day&Night)	Day	Night	
NAL01-Glenview	29	36	29	Important 2 x receptors for cumulative impact, very good starting point to have known background levels and accurate predictions already from Corriemoillie BESS noise assessment.
NAL02-Corriemoillie Farm	23	34	28	
NAL03-North of Loch Luichart Lodge	N/A-To be extrapolated by TNEI if required	34*	28*	These 2 x receptors are at fair distances from Corriemoillie BESS so whilst predictions from that scheme are not known yet (no prediction were done by WSP there), they are likely to be low and can be estimated by extrapolation of predictions at the other 2 x receptors.
NAL04-Loch Luichart Lodge	N/A-To be extrapolated by TNEI if required	34*	28*	

* Using background measured at Corriemoillie Farm as worst-case (quietest available).

An initial assessment done by TNEI indicates that based on the above known existing noise parameters, and given the distances and land available for the proposed LLE BESS, there is scope for cumulative noise to meet the required noise criteria.

Construction Environmental Management Plan (CEMP)

As stated in the EIA Screening Request and as requested by THC in the Pre-application advice, construction noise would be managed through the adoption of best practice measures incorporated within a Construction Environmental Management Plan (CEMP). A detailed CEMP would be prepared prior to the start of construction and would identify the nearby receptors to noisy construction activities and outline best practice to be employed during construction to minimise noise. It would also include detail of construction hours beyond which construction works would not be able to take place.

The construction period for the Proposed Development is currently expected to be up to 12 months maximum, however noisy activities such as earthwork would only be in the first few months. The temporary nature of the construction phase, and with construction works being limited to certain hours of the day, including reduced hours on a Saturday and avoiding Sundays and Bank Holidays, means that construction noise would not be expected to result in significant effects.

Effects during eventual decommissioning of the Proposed Development would be similar to those during construction.

Summary

We would like to agree that:

- the Noise Assessment Locations from Image 1 and Table 1 above are the only receptors to be assessed.
- the background sound levels from the Table 1 above can be used for the noise assessment and no new noise survey is required.
- operational noise cumulative impact with Corriemoillie BESS should be considered, based on the noise levels predicted from this development as listed in Table 1 above.
- the operational noise assessment will need to be undertaken following the full process of BS 4142 to ensure the development include sufficient noise mitigation to avoid an adverse impact, with

consideration of the context. The criteria of 'no increase beyond background levels' is aspirational only.

- the operational noise assessment must show predictions for at least the 100 Hz frequency band and it should be confirmed that no tonality is expected using for example the BS 4142 Objective Tonal Assessment Method.
- A CEMP would be prepared prior to the start of construction and include consideration of noise. It would identify the nearby receptors and outline best practice to be employed during construction to minimise noise.

I would be very grateful if you could confirm your acceptance of this approach, or otherwise. If there is any aspect you would like to discuss in more detail, please do not hesitate to get in touch.

Yours sincerely,



Moise Coulon
Principal Consultant
TNEI Services Ltd

Mathew Robinson

From: Moise Coulon [REDACTED]
Sent: 10 June 2025 14:13
To: [REDACTED] (Environmental Health (Mid 1))
Cc: [REDACTED]
Subject: Re: Lochluichart East BESS - Noise Consultation

Hi [REDACTED] - Thank you for getting back to me and confirming. We will progress the noise assessment on the basis of that consultation letter.

Kind Regards
Moise



Moise Coulon
Principal Consultant



From: [REDACTED]
Sent: Monday, June 9, 2025 15:05
To: Moise Coulon [REDACTED]
Cc: [REDACTED]
Subject: FW: Lochluichart East BESS - Noise Consultation

You don't often get email from [REDACTED] [Learn why this is important](#)

Hi Moise,

I would agree with your proposed approach and apologies for the delay in responding.

[REDACTED]
Environmental Health Officer
Place Service Cluster – Environmental Health
The Highland Council | County Buildings, 84 High Street, Dingwall, IV15 8QN

From: [REDACTED]
Sent: 22 May 2025 09:19
To: [REDACTED]
Subject: FW: Lochluichart East BESS - Noise Consultation

Hi [REDACTED] this came my way but I see from Flare you are dealing with it. Let me know if any probs.

Regards,
[REDACTED]

Environmental Health Officer
Highland Council, 38 Harbour Road, Inverness, IV1 1UF
Telephone: [REDACTED]

From: Moise Coulon [REDACTED]
Sent: 09 May 2025 10:14
To: [REDACTED]
Cc: [REDACTED]
Subject: Lochluichart East BESS - Noise Consultation

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Good morning [REDACTED]

I have prepared the enclosed noise consultation letter intended for the Environmental Health Officer who will be dealing with noise for the proposed Lochluichart East BESS by Boralex. There has already been screening and pre-application advice (24/05054/PREMAJ) with noise comments and I refer to these in the letter. Apologies, [REDACTED] (cc'd) and I were uncertain who to address - so feel free to forward to the relevant person or just let me know who I should contact instead.

Looking forward to hearing from you.

Kind Regards
Moise



Moise Coulon
Principal Consultant



7th Floor, West One, Forth Banks, Newcastle, NE1 3PA, United Kingdom



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