

23<sup>rd</sup> June 2026

your reference

-

our reference

23-111-E-TN02v2

**Re: 23-111 Kirkby BESS. Noise Assessment Planning Condition – Technical Note**

Battery Energy Storage System (BESS) technology, as well as the ‘duration’ of BESS facilities (i.e. the hours which the units can change its total energy capacity at its maximum rated power), are regularly changing due to advancements in equipment efficiency and changing energy needs. The developer is seeking to amend the drafted noise condition for application ref. 25/00285/FUL (currently under determination) to allow for 3dB(A) below background noise level (as opposed to 5dB(A) below) to provide flexibility to accommodate future change to BESS technology, as well as respond to changes to the UK’s energy needs.

The drafted noise condition for 25/00285/FUL currently states that:

*“Fixed plant and machinery associated with the development shall be designed to have a rating level that is at least 5dB(A) below the LA90 background noise level, during the relevant time period, as measured and assessed in accordance with BS4142: 2014.*

*Reason: To ensure that the occupiers of neighbouring properties do not suffer noise nuisance in the interests of residential amenity and to comply with Policies CS2 and CS19 of the Knowsley Local Plan Core Strategy and Saved Policy ENV2 of the Knowsley Replacement Unitary Development Plan adopted June 2006”*

As such, any assessment would be undertaken in line with British Standard 4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’ (BS 4142:2014+A1:2019)<sup>1</sup>.

The Site location and nearest Noise Sensitive Receptors (NSRs) can be seen below in Figure 1.

---

<sup>1</sup> British Standards Institute, British Standard 4142:2014+A1:2019. *Methods for rating and assessing industrial and commercial sound*, 2019.

FIGURE 1: SITE, NSRs AND SURROUNDING AREA



BS 4142:2014+A1:2019 recognises the importance of the context in which a sound occurs when assessing impacts.

It is noted that a noise impact assessment typically considers a worst-case scenario, with all batteries charging/discharging at the same time. At night, when cooling demand is lower, inverters and battery unit fans typically operate at lower duty, and therefore reduced sound levels.

BS 4142:2014+A1:2019 states that *“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.”*

Therefore, where predicted rating levels do not exceed the measured background sound levels, this is an indication of a low impact. A 2 dB(A) difference between 3dB(A) and 5 dB(A) below background noise level is unlikely to be perceptible at the NSRs therefore it is considered that a variation to Planning Condition 6 would remain a low impact with reference to BS 4142:2014+A1:2019 methodology.

Authored by:

NWilk

Natalie Wild BA (Hons) MIOA PISEP  
Principal Acoustic Consultant

T: 0117 325 3949

E: [natalie@inacoustic.co.uk](mailto:natalie@inacoustic.co.uk)