wrexham
COUNTY BOROUGH COUNCIL
CYNGOR BWRDEISTREF SIROL
wrecsam

MEMORANDUM

From: **Ian Jones**
Head of Service Public Protection

To: **Matthew Phillips**
Head of Service Planning Development

Our Ref:

Your Ref: P/2025/0759

Date: 12-12-2025

Town and Country Planning Act 1990

Town and Country Planning (General Development Procedure) Order 1996

Re: P/2025/0759, LAND OFF HAFOD ROAD, HAFOD, RUABON, WREXHAM, LL14 6HF

GOSOD CYNLLUN SOLAR AR Y TIR A'R SEILWAITH CYSYLLTIEDIG / INSTALLATION OF GROUND-MOUNT SOLAR SCHEME AND ASSOCIATED INFRASTRUCTURE

RPT1 - REPORT REVIEW

P/2025/0759– Noise report queries - HM: 3776_R01_EXT2

This section has concerns about the potentialfor noise from the proposal to adversely affect nearby sensitive receptors. Itis the stance of this section that the noise from the proposal should not exceedthe existing background noise levels at the closest sensitive receptors. Itherefore mare the following comments and

recommendations relating to theprovided noise report, ‘Hafod Road Solar, BS 4142 Noise Assessment’ Report HM:3776_R01_EXT2, dated 27 March 2025 by Hayes McKenzie:

Single monitoring location

Baseline data come from a single siteadjacent to Hafod Road. There are no measurements at the nearest houses orgardens to confirm the quietest receptor.

The report assumes the monitoring position isrepresentative of the properties, but the monitor is closer to the A483 sliproad and to the Bangor Road. Roadside activity such as vehicles accelerating tojoin the A483 or traffic from the moderately busy Bangor Road could raisemeasured levels compared with the quietest receptor locations.

Inverter source data

The report uses frequency data from a muchlarger 350 kVA unit instead of the proposed 110 kVA inverters, so predictedlevels could potentially be inaccurate (underestimated or overestimated) aswell as frequency bands provided being inaccurate.

Substation assumptions

Transformer and DNO transformer noisespecifications are not provided. The report models the DNO as a conservativelow-frequency point source emitting in the 125 Hz octave band.

While modelling a concentrated low-frequencycomponent is reasonable in principle, the assumed sound power is not supportedby supplier data and could be underestimated or overestimated.

Lack low-frequency data

Transformer / noise specs aren’t provided.The report models a conservative low frequency source without supplierinformation and instead assumes sound power and frequency.

The report says tones are unlikely withoutshowing narrowband or octave data at receptor positions. low frequency hum fromthe proposed plant / units can travel long distances and become intrusive atproperties. because of this narrowband or octave data in required at eachreceptor position

BS 4142 tonal penalty

Noise form plant equipment such as the inverter,transformer and fans commonly produce tonal components.

Night-time background levels are low (approx.35 dB LA90), increasing the likelihood that any tonal content will beperceptible and could attract complaints.

The consultant’s conclusion that a tonalpenalty is unlikely is unsupported by narrowband/octave data. As a precaution atonal penalty should be applied in the assessment unless objective analysisdemonstrates otherwise.

A conservative provisional penalty of +2(Just perceptible) - +4 dB (clearly perceptible) is recommended. Preferably thehighest

An Intermittency penalty of +3 dB may also beapplied if the sound has a readily distinctive on/off pattern.

Discussion — night-time risk

It is accepted that the plant noise willgenerally be lower at night because electrical load and cooling demand arereduced. However, some items (control fans, standby systems, transformers) mayrun continuously and can produce tonal or low-frequency sound that could beintrusive indoors even at modest A-weighted levels.

Information to make a recommendation

- Furtherbaseline monitoring at locations closer to the nearest receptors(façades/gardens) to confirm representative background levels.

- Actualmanufacturer or measured octave band noise data for the proposed plant such asinverters (110 kVA), cooling fans and the DNO transformer.

- Frequencyanalysis (narrowband or 1/3 octave) at receptor positions or modelledequivalents. if tones are likely re-run the BS4142 comparisons with that penalty applied and set out mitigation measures.

- Thelocations of both the DNO and onsite substations should be reconsidered so asto ensure the existing background noise levels are not exceeded at the nearestsensitive receptors namely the residents and care home to the north of theproposal.

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Head of Service Public Protection