

# **Westhide Solar Power Proposal: Responses to additional noise queries from Herefordshire Council**

**October 2022**

## **1. Introduction**

In their consultation response dated 26<sup>th</sup> August 2022 and then on 27<sup>th</sup> September 2022, the EHO officer requested clarifications on a few points in relation to the noise assessment carried out for the Westhide proposal.

Below are the applicant's responses, prepared in conjunction with Inacoustic, the noise consultant that carried out the noise assessment for the planning application.

## **2. Responses**

### **2.1 Query 1**

**Please confirm that all noise sources associated with the application have been included in the Noise Impact Assessment carried out by Inacoustic, dated 8<sup>th</sup> December 2021.**

All noise source information provided by the applicant has been incorporated into the noise model and assessment as provided by Inacoustic in their report (December 2021). Noise source locations are outlined below along with spectral data as requested.

### **2.2 Query 2**

**Please provide a list of all noise sources and locations, including a breakdown of all noise source equipment associated with the substation, DNO switch housing and customer substation.**

*Noise Source Coordinates (December 2021 report)*

Inverters

52.094258896556234, -2.620002212423004  
52.095110337832686, -2.622504708183458  
52.09541588563154, -2.621856045593951  
52.096513167546526, -2.623090226530309  
52.097356125446105, -2.6214037681116307  
52.09745972810944, -2.619977944158323  
52.09607519991259, -2.6194183465852507  
52.09744560049093, -2.6195639952705245  
52.09625415495806, -2.618245491399724  
52.09883063710767, -2.6190965074413914  
52.0987544047537, -2.6180706477628983  
52.098032732015035, -2.617309526065952  
52.099425639142396, -2.613048924504488  
52.09887006192159, -2.612774521522568

Substation

52.09466572133397, -2.622570260699466

*Noise Source Coordinates (October 2022 report)*

Inverters

52.095110337832686, -2.622504708183458  
52.096513167546526, -2.623090226530309  
52.097356125446105, -2.6214037681116307  
52.09883063710767, -2.6190965074413914

52.0987544047537, -2.6180706477628983

52.098032732015035, -2.617309526065952

52.09887006192159, -2.612774521522568

### Substation

52.09471318643771, -2.6226193542994256

The only noise source equipment associated with the substation compound is the transformer.

### 2.3 Query 3

**What noise will be coming from the substation and has it been included in the specific sound level maps on pages 16 and 17 of the Noise Impact Assessment carried out by Inacoustic, dated 8th December 2021?**

The substation has been modelled and included as part of the overall assessment, as can be seen in Figure 4 and 5 within the noise impact report ref: 21-168, noise maps show noise emanating from all inverters and the substation to the west side of the site. Single figure sound power levels emanating from the substation are also presented in Table 5 within the report. See below for spectral data used within the noise model.

### 2.4 Query 4

**Please provide the core noise profile data used for the modelling, including octave band frequency analysis.**

Equipment	dB(A)	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
Inverter	86	79	85	80	87	80	76	68	67
Substation	71	79	82	74	68	62	52	49	47

As stipulated in the report, these noise levels are the maximum sound power levels required to achieve compliance at the nearest receptor.

## 2.5 Query 5

**An initial indicator assessment carried out by Environmental Health shows lower background noise levels than outlined in the Noise Impact Assessment carried out by Inacoustic, dated 8th December 2021. As these measurements form the basis of the noise assessment, please can the applicant advise as to the level of confidence they have in these figures and carry out additional work if required.**

inacoustic conducted an environmental noise survey over a six-day period between Thursday 3rd of June and Tuesday 8th of June 2021, further detail of which can be found in report ref: 21-168. Measurements were undertaken by a consultant certified as competent in environmental noise monitoring using equipment that was calibrated within a laboratory less than 12 months prior to undertaking the measurements, and at the start and end of the measurement period.

Six discrete positions were carefully selected in the planning of the survey to ensure all neighbouring properties were properly represented. Sound level meters were fitted with protective windshields and bird spikes. Additionally, a meteorological monitoring station was installed on site to ensure where weather conditions were not conducive of an environmental noise survey, data could be omitted.

Given the size of the dataset collected and the thorough, standardised approach inacoustic takes when carrying out any noise survey, there is no doubt as to the robustness of these measurements. Additional measurements would be unnecessary.

inacoustic's energy sector experience extends back to 2010, with the lead consultants Antony Best BSc Hons MIOA (Director), Neil Morgan MSc MIOA (Director) and Victor Valeron BEng MSc MIOA (Technical Director) all having extensive prior experience within this specialist sector. All energy projects are overseen by one of these highly experienced consultants.

## **2.6 Addressing the differences between the data collected by inacoustic in June 2021 and Herefordshire Council's Environmental Health team in August and September 2022.**

Attached, as requested, is a summary of all data measured at all measurement positions in June 2021.

inacoustic have reviewed the data provided by Herefordshire Council on the 19<sup>th</sup> October 2022 which provides some information on the Council's measurements as taken on the 26<sup>th</sup> August 2022.

It would be helpful for the Council to also provide the data to quantify the noise levels in the area on 31st August, 14th and 15th September.

At periods during the inacoustic noise survey, the noise levels measured (both LAeq and LA90) reach the levels measured by Herefordshire Council; however, a single 15-minute measurement does not represent the continuous changing noise level within the area. The method used by

inacoustic to measure the background noise on site is robust and in line with BS4142, in which paragraph 8.1.4 states:

*"The monitoring duration should reflect the range of background sound levels for the period being assessed. In practice, there is no "single" background sound level as this is a fluctuating parameter. However, the background sound level used for the assessment should be representative of the period being assessed."*

Note 1 goes on to state:

*"To obtain a representative background sound level a series of either sequential or disaggregated measurements should be carried out for the period(s) of interest, possibly on more than one occasion. A representative level should account for the range of background sound levels and should not automatically be assumed to be either the minimum or modal value."*

inacoustic has derived the background sound level used in the assessment using statistical analysis of values that occur during the period which proposed plant is to operate from a large sample of measurements. The data measured is consistent across all measurement positions, as can be seen in the summary.