To:	Planning Inspectorate
From:	*James Allen*
Tel:	[redacted]
Date:	*01/02/2023*
Planning Ref:	S62A/22/0006
Subject:	Land At Berden Hall Farm, Dewes Green Road, Berden

Notice is hereby given that the East Herts District Council Environmental Health Department:

a) [ ] does not wish to restrict the grant of permission

b) [Y] recommends that permission be refused for reasons set out below.

c) [ ] advises that any permission which the Planning Authority may give shall include the conditions below.

I have considered the above application S62A/22/0006 for the development of a ground mounted solar farm with a generation capacity of up to 49.99MW, together with associated infrastructure and landscaping at Land At Berden Hall Farm, Dewes Green Road, Berden and on behalf of Environmental Health can confirm that I would recommend that permission be refused for the reasons set out below.

The following planning applications are referred to in this document under different names to prevent repetition of reference numbers:

- UTT/16/2316/FUL – referred to as “Solar Farm”
- UTT/22/2046/PINS – referred to as “Existing BESS site”
- 3/21/0806/FUL – referred to as “Crabbs Green”

The application lacks sufficient information to satisfy the local authority that the proposal adequately assesses or mitigates against the noise impact of the development. Environmental Health are concerned that the prevalence of planning applications for Battery Energy Storage Systems (BESS) sites and the use of DNO transformers in the area will allow equipment rating levels to continuously to creep as the background noise level is increased by other nearby BESS sites.

Having reviewed Appendix 1.7 of the Environmental Statement (RPS report ref: JAJ02800-REPT01-R0) submitted in support of this application, I have concerns that need to be addressed.

As noted/shown in the RPS report, the proposed infrastructure is directly adjacent to an existing BESS site. EHDC Environmental Health has received complaints, which have later been evidenced, regarding the current noise environment of the area primarily due to low frequency noise (100Hz and 200Hz) emissions from the existing site but especially due to the unenclosed DNO transformer. This has the most impact at night where the noise emitted from equipment is clearly audible over greater distances and presents itself as a continuous ‘mains hum’. The RPS report uses BS 4142 however the standard states that it is inappropriate for use when considering low frequency noise, therefore the report does not sufficiently assess the impact of the dominant frequencies emitted by existing and proposed equipment.

It is evident that from the acoustic modelling source measurements that the existing main (DNO) transformer has considerably more energy at 100Hz and 200Hz than in other 1/3 octave bands, generating a strong, low frequency tonal element to its output. This is further verified by measurements made by Environmental Health at both the existing BESS site and at a complainant property shown in Figure 2 further on in this document. In such a rural area with a low background noise level, it is expected that these frequencies would be mitigated against but there is no mention of this in the RPS report.

The existing BESS site is instigating an artificially increased background noise level which should not be the case, owing to a condition of its construction that a noise mitigation bund would be installed which has not happened. I would suggest that it is incumbent on the provider to in fact complete the proposed mitigation works that were submitted and approved as part of this existing application in line with the existing planning approval.

Figure 1 below shows the measurement positions for each application in the area – LAeq,min(dB) is shown as it is the only consistent noise metric across the three reports:

Figure 1 – LAeq,min measurement positions

The 2016 noise report for the existing BESS predicted a rise of 4dB in night-time noise levels due to the development. This is evident in the measurements taken for both the Solar Farm and Crabbs Green applications which show that the background noise has been increased by 6dB and 2dB respectively. For context, EHDC would expect new developments to achieve 10dB below the background noise level in order to prevent them from further inflating the background noise measurements. These results suggest that equipment at the existing BESS site was switched on during background noise measurements used for the RPS report, which would mean that the assessment is invalid.

It would therefore be inappropriate that this application is judged against a background noise level which includes the existing BESS site. Both the existing BESS and the solar farm (either together and separately) should be assessed against a background noise level which does not include the current noise emitted by either site – all existing equipment must be turned off during measurements. This would assist in appropriately assessing the cumulative impact of these developments. This is in line with the NPPF guidance which seeks to protect the tranquillity of areas that have remained relative undisturbed by noise and prevent adverse impacts on the quality of life of the nearby residents and impacts on the natural environment.

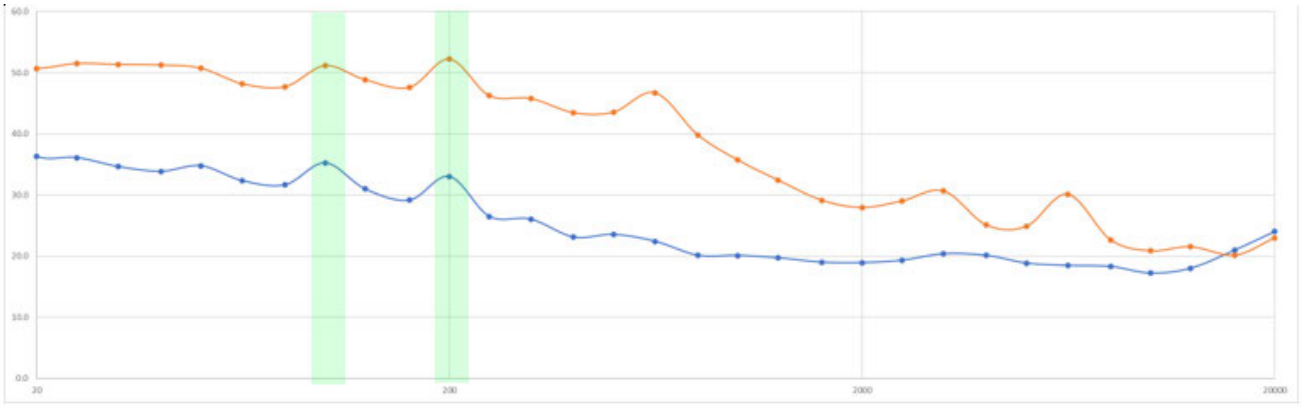
The report does not take NSRs in Stocking Pelham into consideration. The report notes that *"the effect of screening from solid structures (buildings) has been incorporated into the modelling process by importing OS Open Data 'Settlement Area' shape file data into the model…".* The impact on noise levels experienced in Stocking Pelham is therefore very likely to be higher than that of Crabbs Lane due to screening from solid structures and as per ISO9613-2:1996, this has the potential to be up to 20dB for a single barrier; there are buildings between the site and the Crabbs Lane receptor, and not between the site and Stocking Pelham.

I have attempted to present the data taken from both inside our complainant's property and near to the existing BESS site in the most helpful way possible. Below is a graph showing the average of the measurements taken – the blue line shows the average reading taken at the complainant's property and the orange shows that taken close to the existing BESS.

The horizontal axis shows the frequency (measured in Hz) and the vertical axis shows the sound energy that exists in each frequency band, (measured in dB/decibels) represented by each dot on the graph. An example of reading this graph is that the recordings taken inside the complainant's property had an average amount of sound energy of approximately 32dB within the 200Hz frequency band.

I have highlighted the 100Hz and 200Hz frequency bands in GREEN which are those that are clearly identifiable and audible both at the BESS site and the complainant's property.

Figure 2 – Complainant Measurements



It is for the reasons given above that at this time I am unable to support this application and must recommend refusal.

In order to reconsider this application, we would expect the following to be carried out, all to be provided to and approved in writing by the Local Authority(ies) prior to commencement of development:

1. A full frequency analysis is to be carried out which predicts internal and external noise levels during day and night compared to the existing background noise (excluding the current BESS site) for the nearest residential receptors, in order to assess the impact of low frequency emissions.

2. Further assessment to be made at NSRs located to the North in Stocking Pelham which have no sufficient physical barriers between them and both sites so are therefore expected to experience higher levels of disturbance.

3. These additional assessments are to inform a scheme of proposed noise mitigation measures for both sites. It must be noted that low frequency noise in the frequency range from about 10Hz to 200Hz has been recognised as a special environmental noise problem particularly to sensitive people in their homes - due to its large wavelengths it requires specific mitigation techniques in order to provide effective reduction.

Further to the above being approved, a post development noise assessment must be undertaken, to be provided to and approved in writing by the Local Authority(ies) This is to ensure that any mitigation has been implemented, agreed noise limits are adhered to and residents in both East Herts and Uttlesford are sufficiently protected.

ENDS

Kind regards,

James Allen
Senior Technical Officer (Environment)
Environmental Health