

Environmental Health Consultee Comments for Planning

Application Number: UTT/22/2624/PINS. Land near Pelham Substation, Maggots End Road, Manuden.

Lead Consultee

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Comments

Having reviewed the Environmental Statement and Noise Assessment submitted for the above application for Planning Application UTT/22/2624/PINS Consultation on PINS Reference: S62A/2022/0011 (the "Application") Construction and operation of a solar farm comprising ground mounted solar photovoltaic(PV) arrays and battery storage together with associated development including inverter cabins, DNO substation, customer switchgear, access, fencing, CCTV cameras and Landscaping (the "Proposed Development") Land Near Pelham Substation Maggots End Road Manuden. I have the following comments to make.

Noise impacts

The applicants have submitted an Ion Acoustics Noise Assessment dated 28th September 2021 reference Acoustics Report A1784 R01b.

1. I am aware that East Herts DC have investigated noise complaints from local residents regarding the impact of the existing electric transformer and battery storage facility. I understand that noise monitoring in a resident's property identified a distinct 100 Hz and 200 Hz tone. Noise complaints about the battery storage facility have also been made to Uttlesford DC from residents living in Crabbs Lane and Berden Road in Stocking Pelham. The residents allege that they are affected by a low frequency hum which is intermittent depending on weather conditions and wind direction. I am concerned that the proposed development may increase the low frequency tonal noise impact at residential properties.
2. Baseline noise conditions at the nearest noise sensitive receptors (NSRs) were established by the baseline monitoring undertaken on site from 3rd to the 5th August 2021. The report does not state if the baseline noise monitoring was undertaken with the existing battery storage facility and electricity substation switched off or give any indication on what levels each of the existing noise sources were operating at during the survey.

3. The noise assessment has not considered cumulative noise impacts from the proposed development and existing and proposed developments including the BESS site, Stocking Pelham BESS facility and substation, Solar farm application Land at Berden Hall Farm (UTT/22/2046/PINS) and other developments in the local area as shown on a plan in the Uttlesford Committee report.

4. A background sound level analysis is provided in section 5.3 , table 6 of the noise assessment where it can be seen that typical background noise levels at night at MO1 (AL03 The Crump) and MO2 (AL01 Battle Hall) were typically LA90 25 dB at night and 31 dB daytime. (The solar panels and associated plant is said to operate between the hours of 0500 and 2200 hrs.) The existing background sound level at night are considered very low by the report author.

However section 5.4 of the assessment proposes an absolute noise target of 32 dB (A) at night which is 7 dBA above the measured typical background noise level. The rationale for this approach is given in section 3.5 of the report and refers to a target level of 10dBA below the WHO/BS8233 guideline noise levels. However BS8233 is not the most applicable standard to industrial plant noise (It is typically used for transportation noise sources) and the reasons that this should be preferred over a BS4142 noise standard are not clearly explained or justified. If plant noise is significantly above the background noise levels at night it is likely to be noticeable and intrusive at noise sensitive receptors (NSR) and may cause a significant adverse impact. I do not consider that the absolute noise target level proposed is acceptable in this context, particularly given the existing low frequency noise impacts in the area and the concerns that this development may increase low frequency tonal noise at NSR.

5. IMMI noise modelling software has been used to predict noise levels at the nearest NSR locations (section 6) It is understood that the development comprises
 - 26 No. Power inverter units;
 - 40 No Battery storage units
 - A single Distribution Network Operator (DNO) transformer station.

Manufacturers noise data has been used for the SMA Solar Inverters but Ion library data has been used to model the battery energy storage units and the sub station transformer. The assessment states that there is potential tonal content of 3150Hz for the inverters but anticipates no tonal components for the battery storage or transformer. In my experience sub station transformers often have a 100Hz low frequency tonal component. Therefore, the actual sound power levels and the low frequency sound level of the plant to be installed is currently unknown. Low frequency noise complaints are extremely difficult to identify and resolve. To mitigate low frequency noise often requires a very high-density material barrier or enclosure because low frequency noise has long wavelengths and will penetrate easily through structures such as walls and windows of dwellings whilst the higher frequency noise is reduced leaving residents with a low frequency tonal “hum” in their dwellings. The assessment should be based on noise data for the plant to be installed including frequency noise data. The accuracy and reliability of the predicted noise based upon the source noise data used in the assessment is unknown.

The use of BS4142 should be applied but its overall robustness in determining noise impacts in this case is limited due to the Low Frequency (LF) sound generated by the plant.

The noise contour plots in section 7.1 predict noise levels just below 30 dBA at the nearest noise sensitive receptors (without any noise or other character corrections) which is at least 4 dBA above the measured typical background noise level at night and just below the background noise level during the day. Notwithstanding the lack of certainty with the source data used in the noise model as detailed above, the predicted noise levels exceed the Uttlesford Noise Assessment Technical Guidance (NATG) criteria of a BS4142 rating level of 5dBA (LAeq) below the typical background (LA90) level at the nearest noise sensitive location by 9 dBA at night and 4 dBA during the day. It should be noted that the noise impact assessment table 11 in section 7.2 has compared the predicted noise rating level to the absolute noise target level rather than the existing background noise level and is therefore not compliant with BS4142. The resultant figures underestimate the noise impact of the proposed development at night by 7 dBA. If compared to the typical background noise level, the noise levels at Brick House at night would be +7 dBA which will be at least an adverse impact and may be a significant adverse impact.

6. The NPPF section 185 states;

“185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

(a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life ⁶⁵;

(b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason;

It should be noted that if noise levels from the development are not significantly below the existing background noise level, they will increase the background noise level and potentially the ambient noise level in the area. This has already happened with developments in the area such as the BESS facility as can be seen from the commissioning report for that facility. (RPS Noise Assessment for Energy Reserve Facility, Stocking Pelham dated 15 September 2016 ref JAE9081). The NPPF states that planning policies should protect tranquil areas. I am concerned that the proposed development will increase the background and ambient noise levels in the area changing the character of the area further from a tranquil area to an area more industrial in nature.

In summary, based on the information provided, I would like to **object** to the proposed development. Based on the submitted information I am not able to apply a robust post construction condition that will ensure that noise from the site will not be

detrimental to residential amenity or increase background and ambient noise levels in the area. I am also concerned that low frequency noise levels at noise sensitive receptors will increase because of the proposed development and may result in a significant adverse impact when considered individually and cumulatively with the existing facilities. I would be willing to reconsider the objection if further information is submitted in support of the application to address the points raised.

External Lighting

In view of the rural location of the site, it is essential to ensure that any external lighting is properly designed and installed to avoid any adverse impacts on residential neighbours from obtrusive/spill-over light, or glare. The following condition is therefore recommended to secure this:

1. Details of any external lighting to be installed on the site, including the design of the lighting unit, any supporting structure and the extent of the area to be illuminated, shall be submitted to and approved in writing by the Local Planning Authority prior to the development commencing. Only the details thereby approved shall be implemented.

The lighting scheme shall conform to The Institution of Lighting Engineers Guidance for the Reduction of Obtrusive Light – Table 1 criteria and any other suitable lighting standards.

REASON: To protect the amenities of the occupiers of adjoining properties in accordance with ULP Policies ENV11, GEN2 and GEN4 of the Uttlesford Local Plan (adopted 2005).

Land contamination

Agricultural land frequently has contamination from the use of agrichemicals, burning and burial of waste, fuel storage and other contaminants.

It is the developer's responsibility to ensure that final ground conditions are fit for the end use of the site. The following watching brief condition is, therefore, recommended.

1. If during any site investigation, excavation, engineering, or construction works evidence of land contamination is identified, it must be reported in writing immediately to the Local Planning Authority. The contamination shall be investigated by a competent person in accordance with the Essex Contaminated Land Consortium's 'Land Affected by Contamination: Technical Guidance for Applicants and Developers' and The Environment Agency Land Contamination Risk Management (LCRM) and other current guidance deemed authoritative for the purposes, to the satisfaction of the Local Planning Authority, to ensure that the site is made suitable for its end use.

Where remediation is necessary, a remediation scheme must be prepared and submitted for the approval in writing of the Local Planning Authority.

Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority

Reason

To ensure that the proposed development does not cause harm to human health, the water environment and other receptors in accordance with Policy GEN2 ENV12 and ENV14 of the Uttlesford Local Plan (adopted 2005).

Construction Noise & Dust

In view of the scale of the development as proposed, it is recommended that the following Construction Environmental Management Plan condition is attached to any consent granted to ensure that construction impacts on nearby residential occupiers are suitably controlled and mitigated:

1. Prior to the commencement of the development, a detailed Construction Environmental Management Plan (CEMP) shall be submitted to and approved in writing by the Local Planning Authority, and the plan shall include the following:
 - a) The construction programme and phasing
 - b) Hours of operation, delivery and storage of materials
 - c) Details of any highway works necessary to enable construction to take place
 - d) Parking and loading arrangements
 - e) Details of hoarding
 - f) Management of traffic to reduce congestion
 - g) Control of dust and dirt on the public highway
 - h) Details of consultation and complaint management with local businesses and neighbours
 - i) Waste management proposals
 - j) Mechanisms to deal with environmental impacts such as noise and vibration, air quality and dust, light and odour.
 - k) Details of any proposed piling operations, including justification for the proposed piling strategy, a vibration impact assessment and proposed control and mitigation measures.

The CEMP shall be consistent with the best practicable means as set out in the Uttlesford Code of Development Practice.

All works shall be carried out in accordance with the approved CEMP thereafter.

REASON: In the interests of the amenity of surrounding locality residential/business premises in accordance with Policies GEN1, GEN2, and GEN4 of the Uttlesford Local Plan (adopted 2005).