

7000 Acres

7000 Acres Response to the Gate Burton Energy Park Ltd Application on the subject of:

Noise

Deadline 2 Submission – 8 August 2023

Written representation: Noise**Environmental Statement Volume 1, Chapter 11: Noise and Vibration: Document Reference: EN010131/APP/3.1**

Noise is relevant to the planning of this development, and again should be seen within the context of the cumulative impact of the other schemes planned. For the purpose of this report, we are focusing on the potential impact throughout the operator's life cycle. We are convinced that given that this project is close to human inhabitants, there needs to be further evaluation carried out, to ensure that people in this area will not be impacted with resultant effects on health and wellbeing. It is a recognised fact that noise can have a huge effect on human health and wellbeing. Rurality is normally peaceful and quiet, particularly so at night, especially if distant from major roads, so this must be taken into consideration when evaluating this applicant's scheme. We know that many people gain inspiration from the natural quiet environments, and this is particularly true for mental health and wellbeing. This draws parallels with meditation.

During construction and decommissioning there is more tolerance to the noise as this is probably seen more as a nuisance over a short period of time. However, the sixty-year gap poses a problem to humans, as the system would not lend itself to being switched off, so the noise would be constant, even though there might be variance in the noise output. This potentiates a problem on quality of life, and may result in the effected having to move home as a consequence.

The Government Guidelines advise identification of the overall effect of the noise exposure. This is easy to quantify for the construction and decommissioning phase, but more difficult for the operation phase. One cannot convincingly work out the projected noise from transformers, inverters and cooling fans, given that it is only a guess, as in quiet environments we know that sound travels and is subjective. This scheme and the others are located on flatland with no hills or adequate greenery such as woodland which may absorb the sound. In the document point 11.4.10, clearly states that sound level data for transformers in reduced modes of operation is not yet available. Clarification is required around sound power differences of the transformers proposed. What would be the worst-case sound scenario that would be generated? Is there a difference in sound produced for external as opposed to internal sited transformers, and if so, how will they impact on the overall noise produced? Sound produced for equipment cooling is important (internal sited transformers) and will any generators be used in this process, or will the cooling fans be driven electrically? The more you load the transformer, the more sound is generated. So, this information is required when considering the overall noise generated from this scheme. Interestingly, there is no mention within the document of the low frequency hum that will be generated from the solar panels, and this needs to be factored in. How satisfied that the operational noise impacts will not be affected by different weather conditions, including changing wind direction which enables sound to carry further?

The Government guidance on noise states that the sound level effects cannot be seen as a single value, and that it needs to be referenced in a combination of more than one factor as noise exposure, as well as the number of occurrences of the various noises produced in each given period, the duration of the noise and the time of day that noise occurs. We do not see any quantifiable data to reference this within the document. As noise is subjective, this makes quantifying the impact even more difficult. In fact, no reference is made within the document to significant observed adverse effect level, lowest observed adverse effect level, or the "no" observed effect level during the

operator's cycle, which is worrying as this identifies the adverse effects on health and potential quality of life. We do not see a noise exposure hierarchy table within this document. This should be completed around the operator's cycle. The greatest adverse effect is at night, because during the day there is always increased background noise which will dampen the extraneous sound. This makes humans more sensitive to sounds that can potentiate sleep disorders, with adverse effects on mental and physical health. How this noise relates to existing noise, whether continuous, the frequency and the pattern occurrence is particularly important and is not fully referenced. There is mention around this in the Cadna as a prediction, a statement of requirement around tonality, impulsivity and intermittency. However, much of this sets out the requirements, but does not quantify the actual impact this will have when operational on those who live near the scheme. In mitigating against this, it will be difficult to satisfy everyone affected. A point documented as an example, is the local Gainsborough Crematorium, which will be affected when the doors and windows are open. Mitigate against this, and someone else will be affected as the land is mainly flat around the scheme. We would argue that rural landscape should be protected for its tranquillity and much of this is characterised by birdsong, the very reason most of us have chosen to live in such a peaceful environment and to be one with nature. There again, how does this noise affect biodiversity, especially repeated or chronic noise? This is incredibly relevant when it comes to overall assessing schemes like this, and the cost to biodiversity. What impact will inverters have on horses?

In the overall context, this DCO application should demonstrate that they have taken into consideration the impact it would have on the vulnerable and elderly, and how the noise might affect physical and mental health conditions in the general population. This area has a higher proportion of elderly, some of these are more vulnerable than others (e. g. those living in nursing, residential homes or have care at home, as well as those who are already vulnerable because of loneliness and isolation). In the study area, there are potential people with learning disabilities. We note that there is no reference to this group of people who might be affected by noise.

Are there noise impact protections in place for the entire lifetime of the scheme?

From a medical point of view, some people suffer from a condition called hyperacusis. These people have acute hearing, the sound is heard in a loud way, sometimes uncomfortable or even painful, which becomes intrusive to their lives. In some people, this creates anxiety and depression, and in severe cases these people become withdrawn from daily activities, because of the sound. It is estimated that this affects about 2% of the adult population. Given the cumulative affect of all the schemes covering a population of approximately 30000 people, that would equate to 600 possible patients with this condition. Obviously, most people can deal with this, however we do not know how many within this study area are affected, and to what degree. There is also a concern around the causes of tinnitus and whether a prolonged exposure to this type of continuous noise, e.g., the low hum or higher frequency noises could potentiate this condition. We do know that stress, anxiety and depression can cause tinnitus.

References:

- 1. UK Government Guidance on Noise Published 6th March 2014 Updated 22nd July 2019**
- 2. Document in joint response to Sunnica Section 42 Consultation - The Councils (West Suffolk Council, Suffolk County Council, East Cambridge District Council and Cambridgeshire County Council)**
- 3. Tinnitus UK**