Comments on any further information and submissions received at Deadline 3

by Anne Heard Interested Party reference 20054475

Comments on Springwell's response to Deadline 2 submissions REP3-074

Section 3.2 Response to Anne Heard's Deadline 2 Submissions Table 3-2 **Use of large scale solar farms by bats**

Summary of the Applicant's response:-

- The available literature, while indicating the potential for negative impacts on bats, represents only an initial foray into an area of research that has been poorly explored to date. There remains uncertainties in the nature and extent of any negative impact. Whilst the exact mechanism by which bats might be displaced by solar PV arrays is not known, the survey work carried out has enabled a robust assessment of the potential impacts and what measures will be effective to mitigate any impacts.

- The Proposed Development has embedded mitigation designed to support bats and specific mitigation measures have been outlined.

-It is the Applicant's ecologist's professional view that with the mitigation in place there will not be an ecological disaster. Ongoing monitoring will add to the developing evidence base and inform future development.

Comments: -

12 solar farm DCOs have been granted by the Secretary of State, each covering large swathes of rural landscape, Cottam (1451 ha), Sunnica (981 ha), West Burton (886ha), Byers Gill (490 ha), Cleve Hill (491ha), East Yorkshire (1276 ha), Heckington Fen (524ha), Little Crow (225ha), Longfield (453ha), Mallard Pass (852ha), Oaklands Farm (191 ha) and Gate Burton (824ha).

These sites cover an area of 8644 ha and only one, Cleve Hill, has recently become operational. There are about 35 further DCO applications for solar farms in various stages of examination. On all 12 sites where a DCO has been granted, bat surveys were carried out and on average 8 species of bat were identified at each site and at each site the same potential impacts to bats were identified ie loss and disturbance to habitat and in each case, with mitigation measures in place, the impact of the development on the bat population was considered not to be significant in terms of the EIA. If, as the Applicant has conceded, the extent and nature of the negative impact of large scale solar on bats is not known, (because there is no available evidence) I question how it can be asserted by the Applicant that the proposed mitigation will negate any impact on bats?

The consulting company employed by the Applicant to provide the ecological reports in support of the application for the DCO, published a webinar on 5 July 2024 entitled "Bats: how to make the most of so many new guidelines without drowning" where reference was made to "papers which have recently said that solar projects have more impact than we thought" and in relation to bat mitigation guidelines " we don't have all the answers"; that "habitat creations take several years". It is not the view of all ecologists that there will be no negative impacts on bats from solar farms. As Professor Jones of the University of Bristol in a press release dated 8 August 2023 noted "The situation is potentially of concern as solar farms are occupying increasing areas of suitable foraging areas for bats…. Very little is known of the impacts of solar farms on bats, especially in the UK".

The negative ecological impacts of the Proposed Development on bats may have been understated by the Applicant. An example of this is the consideration by the Applicant of the impact of development noise on bats. This is discussed in paragraphs 7.7.22 to 7.7.26 of Chapter 7 Biodiversity (APP-047). Two academic papers are referred to, Hanson C *et al* 2017 "Evidence review of the effect of solar farms on birds, bats and general ecology" 1st edition - 9 March 2017 Natural England Peterborough. This review acknowledges that at the time there was no scientific literature on the effect solar panels may have on bats and posed areas for further research. The second paper referred to is Reason P. F. and Wray S. 2023 "UK Bat Mitigation Guidelines; A guide to impact assessment, mitigation and compensation for developments affecting bats" CIEEM (accessed online 31 August 2025). This considers the impact of noise on roosts, advising that baseline levels of noise need to be taken into account (paragraph 4.3.8 refers). It is concluded that previous research lacks key data and is not sufficiently robust to be able to draw detailed conclusions (paragraph 4.4.6 refers).

In addition to the papers referred to, there are a number of studies that consider the effect of anthropogenic noise on bats which are not mentioned by the Applicant. In a study of the Antrozous pallidus bat, it was noted that the bats did not demonstrate an ability to acclimate to the noisy environment. Whilst they showed an increased willingness to hunt in the noise over time, they did not show an increase in efficiency at hunting in noise; that many bats probably avoid noisy areas but with ever expanding cities, roadways and energy extraction fields, "it is possible that at some point, acoustically orientated predators simply would not be able to fly far enough" (Allen L.C *et al* 2021 "Noise distracts foraging bats" In Proc. R. Soc.B 288 20202689). In a study of Daubenton's bats, noise did not mask prey echoes but acted as an aversive stimulus that caused avoidance responses, reducing foraging efficiency (Luo J *et al* 2015 "How anthropogenic noise affects foraging" In Glob. Change Biol. 21(9) 3278-89). In a study of the reaction by Myotis myotis to anthropogenic noise and natural ambient noise, it was considered likely that bats foraging 50m from a highway or other sources of intense broadband noise would be impacted and these foraging areas would be degraded. (Schaub A. *et al* 2008 "Foraging bats avoid noise" In J Exp. Biol. 2008 211(12) 3174-80). Compressor stations associated with natural gas extraction which operated continuously caused a 70% reduction in activity for an assemblage of bats which emitted low frequency echolocation calls (Bunkley J P *et al* 2015 "Anthropogenic noise alters bat activity levels" In Glob. Ecol.Conserv. 2015 3 62-71). Non-natural, unfamiliar or unpredictable noise exceeding 50dBL_{max} at 8+ kHz within a roost could begin to have deleterious effects (eg increased stress) (Reason P. and Bentley C. 2020 "Noise impacts on Bats: A sound assessment" In Practice CIEMM Issue 108 June 2020). West E W 2016 "Technical Guidance for assessment and mitigation of the effects of traffic noise and road construction noise on bats" California Dept of Transportation Sacramento suggests that all areas that would be subject to noise levels above the baseline should be assessed for the likelihood of impact.

The Applicant appears to have only considered the effect of high frequency noise from the Proposed Development. Paragraph 7.7.22 APP-047 says that bats "could be disturbed from high frequency electrical noise emitted from the BESS and inverters" (no specific frequency level is given). The research referred to above does not suggest that disturbance to bats is solely from high frequency noise, and there therefore appears to be no basis for considering only high frequency noise from the proposed development as a potential impact.

Chapter 12 Biodiversity (APP-047) Figures 12.3 (Daytime operational Noise contours) and Fig 12.4 (Night-time operational noise contours) shows large areas of land where the noise levels will exceed 50bBA (see Reason and Bentley above) and tracts of land where the noise levels will exceed baseline levels, particularly within Gorse Hill woodland and the western boundary of the proposed BESS, areas which the Applicant has identified are likely to be used by foraging and commuting bats and

elsewhere within the order limits where “several hedgerow trees support potential roost features”. As advocated by West (see above) these areas which will be subject to noise above baseline levels should be assessed for impact on roosting and foraging/commuting bats.

The suggestion by the Applicant that the bats will simply move to alternative commuting routes if they are affected by noise from the proposed development (paragraph 7.7.26 of APP-047 refers) begs the question of where they would go, given that anthropogenic noise will be audible throughout most of the 1280 ha of the Proposed Development.

In considering only one aspect of the report on the impact of the proposed development on bats, namely the impact from noise, the Applicant may not have considered all the previous academic papers on the subject, has considered only the impact of an unspecified level of high frequency noise, and has failed to consider the impact of the scale of the continuous anthropogenic noise being emitted over the 1280ha of the proposed development area.

In addition, the bat surveys carried out in August and October 2022 and April 2023 (Appendix 7.5 APP-086) using 10-12 static detectors on Springwell West did not include walked transect surveys despite the survey guidance (Collins 2016 “Bat Surveys for Professional Ecologist” Bat Conservation trust) which advises in paragraph 8.2.4.1 that all habitats should be sampled by this method and in Table 8.3 of the guidance that even in low habitat foraging areas, that there should be 3 transect surveys across the year. The reason given in APP 086 for not carrying out walked transect surveys was low suitability of the habitat, scale of the survey area and lack of suitable roosting locations. The scale of the survey area did not prevent walked transect surveys being carried out by the consulting company for the Sunnica solar farm (981 ha) and Fosse Green (1070 ha) where three surveys were carried out during the year over the whole site covering 10 transect locations and using 20 static detectors.

The further bat survey carried out by the Applicant in July and September 2023 (APP-087) still did not include walked transect surveys and, as with the first set of surveys, did not cover any part of Springwell Central or Springwell East. The final bat surveys carried out in June, July and August 2024 (APP-094) included some limited woodland walkover surveys and for the first time static detectors were stationed in Springwell East and Springwell Central. However, in accordance with the bat survey guidelines referred to above, further surveys should have been carried out in these areas in Spring and Autumn.

There appears to be some unjustified and unexplained departures from the bat survey guidelines and this must throw doubt on whether we have a complete picture of bat activities across the whole site and, in turn, whether the impacts of the Proposed Development on the bat assemblage within the site are understood.

Finally, there is some evidence that the mitigation strategies to limit the impact of solar developments on flora and fauna are not working. The Gwent Levels Post construction monitoring report dated 8 July 2024 published by Arup on behalf of the Welsh Government was a study of five large development sites within and adjacent to the Gwent SSSIs. The purpose of the study was to assess whether the biodiversity impacts of the developments had been successfully identified and mitigated. The conclusion was that across the five sites, the poor performance in delivering net benefits for biodiversity was due to a lack of successful implementation and delivery of mitigation, monitoring and management plans by the developer/land owner. One of the sites studied was Llanwern Solar farm, a development of 145 ha which had been granted planning permission on 8 November 2018 by Newport City Council and constructed in 2020.

At the same time as the study, an Ecological Monitoring and Review Year 3 and Terrestrial Invertebrate Monitoring (2023) Report had been submitted to Newport City Council under planning application reference 24/0293 in support of the application to discharge planning condition 14 ecological monitoring of the original planning application for the Llanwern solar farm ref 18/1201. These reports concluded that there was a need to implement an “adaptive management approach” to ensure that objectives were achieved. For example, the monitoring of the off-site Lapwing Conservation Area showed no breeding lapwing present and a decrease in lapwing compared to the baseline. Contingency requirements were also applicable to other ecological features such as bats as only one bat box was found to be occupied.

On 17 July 2025 Natalie Buttriss the CEO of Gwent Wildlife Trust said of the Welsh Government Monitoring Report:-

“These findings show, unequivocally, that mitigation measures to protect wildlife within the fragile and complex wetland ecosystem of the Gwent Levels SSSI, have failed catastrophically” (Gwent Wildlife Trust website accessed 12.9.25)