Summary of Submission from Dr Geoffrey Radley MCIEEM (Retired) OBE

I am a retired nature conservation professional. I spent nearly thirty years working on agri-environment schemes. I was awarded an OBE for services to Agri-environment in 2005.

Principal Issue 8: Land use and soils

I am concerned at the loss of productive arable land that would result from the construction of this very large solar array, especially as roughly half the area proposed for the solar panel arrays is 'best and most versatile' agricultural land. I am also concerned about the cumulative effect on agricultural production, given that other large solar arrays are proposed on agricultural land in the East Midlands. I suggest that permission should not be given for this and other large-scale solar arrays on good quality agricultural land unless and until it has been shown that the required energy cannot be generated by installing solar arrays in the built environment.

Principal Issue 4: Ecology and Biodiversity

If the Secretary of State concludes that it is in the national interest for this development to go ahead, despite the impact it will have on agricultural production, then the developers' stated aim of achieving biodiversity net gain will not be achieved unless some significant shortcomings in the proposed mitigation measures are rectified. These shortcomings relate to several of the issues identified by the Examining Authority under this Principal Issue:

Implications for statutorily and locally protected sites and effects on roadside verges during construction,

Question 3.05 in ExQ1, issued 23rd May 2023, raises concerns about the environmental impact of the construction of passing places. I do not think this is the main issue. Many of the minor roads in and around the area within the Order Limits are narrow, so that two vehicles coming in opposite directions will often need to mount the verge to pass each other. This is particularly true of HGVs, but can also be the case with lighter vehicles, and even private cars. Despite some mitigation measures proposed by the developers, there is still a risk of damage to the species-rich grasslands of some road verges within and around the Order Limits, especially those included in the Ryhall Pastures and Little Warren Verges SSSI.

I would strongly urge that use of the road through this site, and any other minor roads with species rich roadside verges, should be prohibited for all construction-related vehicle movements, not just for HGVs.

Effects on specific species and their habitats (including European protected species)

Skylarks

The developers identify that the development will lead to the loss of approximately 30 territories for Skylark nesting. Question 3.08 in ExQ1 asks what measures are in place to determine the optimal option for the creation of Skylark plots and to ensure that the chosen measures will be adhered to and will be effective.

It is important that the developers provide adequate answers to these questions as Skylark plots in the wrong place are likely to be ineffective and can even, by increasing the risk of predation, be counterproductive.

Morever, the provision of skylark plots in fields that are otherwise subject to normal agricultural management is not, by itself, likely to be effective in mitigating the loss of habitat for skylarks. Populations of many specialist farmland birds, including skylarks have been declining in recent decades and there is a strong body of scientific evidence that this is principally because modern agriculture does not automatically provide for their three requirements, which are:

- A safe place to nest
- Food in spring and summer for their growing chicks
- Food and shelter over the winter

To be effective, the mitigation measures should also include measures to provide spring and summer food for skylarks and their chicks and measures to provide the adult birds with sufficient food for the winter months. There are well proven techniques for meeting both of these needs. The overall area of measures needed to mitigate for the Skylark territories that would be lost also needs to be reviewed in light of recent scientific evidence.

Wintering birds
I think the developers have under-estimated the importance of the Order Area for wintering birds. The survey on which the Ecology and Biodiversity chapter of the Environmental Statement is based took place over a single winter. This is unlikely to give a true picture of the importance of the area over time for wintering birds, as the use that birds make of arable fields in winter varies considerably from year to year depending on the cropping regime and other factors. In some years, when conditions are right, the area could support much larger numbers of birds, as shown by the surveyors recording a flock of 3000 starling on one occasion, feeding on a freshly ploughed field.

The Ecology and Biodiversity chapter of the Environmental Statement argues that the numbers of wintering birds using the area of the proposed development are only of local significance, I would dispute this. Not only are peak bird numbers likely to be higher than the survey recorded in some years, but the Order Area is close to a large winter roost site associate with the former gravel pits to the south and east of the Order Area.

I would strongly argue that the developers should be obliged to include management for ground-feeding wintering birds in the Landscape and Ecology Management Plan as a condition of the consent, both to mitigate the direct impact of this development and to help ensure that there is no cumulative effect should a series of similar solar arrays be given consent on arable farmland in the East Midlands.

Habitat creation/enhancement and biodiversity net gain
Scientific evidence suggests that the proposal in the oLEMP to cut areas of grassland established using calcareous species every two years on rotation in late summer will not prevent the grasslands becoming dominated by a small number of vigorous grasses, with

the other sown plant species being eliminated as a result. These areas should be cut more frequently (whilst still allowing species to flower and set seed) and/or they should be included in the areas to be grazed by sheep in late summer and winter, using a grazing regime similar to that used on the nearby Barnack Hills and Holes National Nature Reserve.

The oLEMP states that, if no grazing is possible, the grasslands under the solar panels will be cut twice per year in April/May and September. Cutting in April/May would be disastrous for any ground-nesting birds, as was found during the early days of agricultural set-aside, so this should be avoided at all costs.

Grazing by sheep is a much better and more sustainable option for managing these areas and this should be a condition of the consent.

Principal Issue 12: Water and flood risk

Surface water run-off implications

As stated above, grazing the areas covered by solar panels would be the best way of managing the grassland in these areas. The stocking density would however need to be relatively low to avoid the risk of soil compaction and consequent increased run-off. Because of this, the grazing period may need to be longer than envisaged in the oLEMP to avoid the vegetation becoming too tall and dense.

Downstream of the Order Limits, Parts of Greatford have long suffered periods of flooding from the West Glen River during times of peak flow, so I would suggest that there is a case for adopting a precautionary approach in relation to the risk of increased surface run-off. There are well established techniques for slowing the flow of previously canalized rivers such as the West Glen whilst also benefitting biodiversity. These include channel diversification and the creation of washlands. Using these techniques to increase flood storage upstream of Greatford should be a requirement of the consent for this development.