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By email:
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Our ref: AN/2024/135611/03-L01
Your ref: EN010142

Date: 09 December 2024

Order Granting Development Consent for the Tillbridge Solar Project (EN010142) - Examining Authority's first written questions.

Dear Mr Ely

I refer to the Examining Authority's first written questions issued by the Planning Inspectorate on 19 November 2024.

Our answers to the questions where the Environment Agency is referred to in the 'question to' column are as follows:

1. Protective Provisions

Q1. 6.5 Question for all Statutory Undertakers

Can all Statutory Undertakers with Protective Provisions included within Schedule 15 of the Draft Development Consent Order advise if they are content with the provisions or challenge any parts included or missing, in particular providing detail where those items have been drawn out as outstanding and not yet subject to agreement within the relevant Statements of Common Ground?

Environment Agency Answer:

Regrettably, the review of our standard protective provisions has taken longer than anticipated due to unforeseen circumstances. We now anticipate our review will be complete by the end of December, by which time we should be able to update the applicant and the examining authority on our position regarding the acceptability of

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the form of protective provisions put forward by the applicant. As we have said previously, we do not anticipate any fundamental disagreement and so do not have parts of the protective provisions to draw your attention to as an area of disagreement. We remain confident that we should be able to agree the protective provision wording with the application well within the examination period.

2. Biodiversity and Ecology

Topic: Species Impact: Water Vole (Arvicola amphibius)

Q1. 2.2 Question for the Applicant and the Environment Agency.

The Environment Agency has requested a riparian survey of the watercourses of the cable corridor impacted by the scheme. Whilst one has been provided for the principal site, has this been undertaken on the cable route corridor and could the details of this be supplied? Ref: 6.2 Appendix 9-10 Baseline Report for Riparian Mammals [APP-091].

Environment Agency Answer:

We are unclear about where we requested a riparian survey as this is not referred to in either our Relevant Representations or our Written Representations. However, we can confirm that we support a riparian survey of the watercourses of the cable corridor impacted by the scheme.

Topic: Species Impact: Aquatic Invertebrates

Q1. 2.4 Question for the Applicant, the Environment Agency and Natural England.

There is evidence of disruption to the aquatic invertebrate population by the presence of solar panels and also consequently the native bat population who rely on those invertebrates for food source and also mistake solar panels for large bodies of water. What is the likely impact on both of these populations from this scheme? Ref: BSG Ecology Report on Solar Farms impacts on wildlife.

Environment Agency Answer:

We note from the BSG Ecology Report that there is a potential for solar panels to negatively affect Macroinvertebrate species, with the summary being solar farms should be kept away from important/ sensitive aquatic invertebrate populations.

Unfortunately, we do not repeat sample in the same places enough and so cannot comment on where there might be significant populations. We would expect the

applicants to look into this including getting what information there is from the local records centre and analysing it in respect of the land affected by this development.

We appreciate the Report suggests limited impact but how specifically does the proposal stack up in relation to the comment that solar farms should be kept away from important/ sensitive aquatic invertebrate populations?

We also see that the document suggests that gridding (and to some extent, anti-glare) are effective in deterring invertebrates.

The applicant should confirm what action has been taken in response to this.

Topic: Species Impact: Migratory fish including Lamprey on the River Trent

Q1. 2.7 Question for the Applicant, the Environment Agency and Natural England.

The burial depth of the cable below the river bed assesses there is only risk to migratory aquatic species in the lower water column near the bottom of the river. The Applicant advises that the migratory species can use the full depth of the water column but will they be able to sense this risk and adjust accordingly or should they have to? Ref: 6.1 Chapter 17 Other Environmental Topics [APP-048].

Environment Agency Answer:

Some fish will use different depths to migrate, and some fish might detect an electro-magnetic field (EMF) before adjusting their position in the water column. It is, however, also possible that some fish will detect an EMF in the water resulting in them being startled, delaying migration, or turning around (preventing migration), thus creating an invisible barrier.

In addition, in Section.17.9.4 of the Chapter 17 document, it states '…where the cable route is in a trenchless crossing under the River Trent and the River Till, a minimum depth of 5m from the bed of the watercourse will be maintained. This will avoid impact on fish as a result of electro-magnetic fields.' We consider this is hard to categorically put into writing until the monitoring is undertaken. Essentially, there could be a risk so we do not believe it can currently be said that it will avoid impact.

5. Cumulative and in-combination effects. (Please note that each topic includes separate questions on cumulative effects. Those included here are overarching questions).

Topic: Pluvial Risk

Q1. 5.2 Question for the Applicant, the Environment Agency, the LLFA and IDB.

What are the cumulative impacts resulting from the change of the ground cover from agricultural fields to solar arrays for the totality of the solar farm developments in the region. What impact will this have on the local water table, time to peak response for watercourses and the general hydrological cycle of the area?

Environment Agency Answer:

We assess these applications as having the same run off rate as greenfield sites, as the area underneath the panels is still greenfield. Therefore, we do not believe there is any increased impact on main rivers.

14. Water environment including flood risk

Q1. 14.1 Question for the Applicant and the Environment Agency.

How will the waste water arising from the cleaning of the solar panels be collected, treated and disposed of? What potential risks are associated with the wastewater and its contamination? Ref: 6.1 Chapter 10 Water Environment [APP-041].

Environment Agency Answer:

Solar farms can create increased concentration of surface water and intensify erosion in between the rows of solar panels. Flow channels could potentially occur and lead to an increased surface water peak runoff rate and runoff volume.

Any unpermitted discharges from the site (to either surface water or groundwater) must be of clean, uncontaminated water. Discharges of any other nature may require a permit (or existing permits may require a variation).

Water run-off and potential impact on the environment, along with mitigation measures, should be considered. Environmental impact should include the prevention of ground contamination and water course pollution should an incident occur.

All solar farm applications should provide a drainage strategy as well as a land management strategy. Developers need to consider the vegetation on the ground below solar panels. When the ground is sufficiently vegetated and maintained, solar panels are less likely to have a significant impact on runoff rates and runoff volume.

It is noted that the applicant proposes to discharge to surface water via swales. Any proposed swales should be designed in accordance with the CIRIA SuDS manual

using the long-term storage equation specifically addressing the additional runoff caused by a development.

We should be grateful if the applicant's response on how waste water arising from the panels will be collected, treated and disposed of could be considered in the context of the points we have raised.

Q1. 14.2 Question for the Applicant, the Environment Agency, the LLFA and IDB.

The Applicant proposes that pluvial water falling on the developed site will behave the same as that falling upon green field with similar infiltration rates and run off. Is there any evidence to demonstrate the impermeability of solar panels and the concentration of the rainfall run off at their lower edges behaves the same way as per natural distribution of rainfall? What is the impact on time to peak curves for rainfall concentrated into this way as opposed to more open infiltration? Ref: 6.2 Appendix 10-3 Flood Risk Assessment [APP-097].

Environment Agency Answer:

It would be for the applicant to provide the answer to this question. We have no pre-existing data specifically for this question.

Q1. 14.4 Question for the Applicant, the Environment Agency, the LLFA and IDB

A section of watercourse is proposed to be fenced across. What measures are proposed to prevent debris build up, damming and associated risk during a flood event and what are the EA/IDB/LLFA views on the crossing and obstruction of this watercourse? Ref: 6.2 Appendix 10-3 Flood Risk Assessment [APP-097].

Environment Agency Answer:

We note part of Page 2 of the Flood Risk Assessment (FRA) says 'Other than solar PV Panels, no other above ground permanent built development (such as on-substations or BESS) will be located within Flood Zones 2 or 3, except for a section of the 2.4m high open mesh Principal Site security fence along Field 56 in the north of the Principal Site, which will allow flood flows to pass through'. We think this must be the fence you are referring to. We see it is also referred to again on page 42 where it says 'Other than solar PV Panels, no other above ground permanent built development (such as on-substations or BESS) will be located within Flood Zones 2 or 3, except for a section of the 2.4m high open mesh Principal Site security fence along Field 56 in the north of the Principal Site, which will allow flood flows to pass

through'. Finally, we note Plate 4-5: Design Flood Depth Extent on page 45 of the FRA shows where field 56 is.

We have reviewed this and there is no main river located within or around the location this refers to. It would therefore be for the Lead Local Flood Authority/Internal Drainage Board to comment.

Q1. 14.5 Question for the Environment Agency, the LLFA and IDB.

What are the EA/IDB/LLFA views on the freeboard for the solar panels in the interaction area reducing to 220mm at the end of the life of the development, and are they happy that adequate assessment of the risks of climate change have been accommodated into the FRA? Ref: 6.2 Appendix 10-3 Flood Risk Assessment [APP-097].

Environment Agency Answer:

The Higher Central results in a freeboard of 300mm, and reviewing the Upper End is a sensitivity check to understand climate change resilience. We are happy with the 220mm freeboard in this Upper End scenario.

Q1. 14.6 Question for the Applicant and the Environment Agency.

What is the purpose of the reservoirs within and adjacent to the order limits? Are they to be retained, maintained by who and what is the residual risk from these reservoirs in relation to the development? Ref: 6.3 Fig 10-1 Surface Water Features and their Attributes [APP-167].

Environment Agency Answer:

The applicant's consultants have shared the following draft reply (in italics) to this question with us: *Figure 10-1 of the ES [APP-167] shows one square water reservoir within the Principal Site. This is a cesspit for digestate of an adjacent farm business and has been assumed to remain in use by that farm business throughout the lifecycle of the Scheme. The reservoirs adjacent to the Order limits are assumed to be for irrigation purposes. The flood risk assessment in Appendix 10-3: Flood Risk Assessment of the ES [EN010142/APP/6.2(Rev01)] assesses flood risk from all sources, including reservoir flood risk. The Environment Agency online mapping for reservoir flood risk includes flood risk from these reservoirs. The Scheme is not impacted by flooding from the reservoirs and does not increase flood risk from reservoirs elsewhere.*

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Assuming this answer is submitted in response to this first set of questions, we are happy with the applicant consultant's response – the reservoir flood map extents do not impact this site.

Q1. 14.7 Question for the Applicant and the Environment Agency.

What is the vulnerability of the HDD connections and working pit locations to fluvial alignment changes in Ref: 6.2 Appendix 10-3 Flood Risk Assessment the River Trent in the future should the river meander?

Environment Agency Answer:

We assume the 'working pit locations' you refer to are the chambers that are shown either side of the river on Figure 3-12 Typical Trenchless Crossings Cross Sections (EN010142-000323-6.3) which are to be covered by manholes for future access and that HDD stands for Horizontal Directional Drilling.

On this basis, we are not aware of channel erosion being a major issue in this area of the River Trent. There are flood defences either side of the Trent in this location which have been in place for over 50 years. We do not therefore expect erosion to affect the proposed manholes. However, the applicant's plans will involve the cable route passing through the Environment Agency (EA) flood defences which are not shown on their indicative plans. The applicant has said that they will re-consult us with their detailed plans which we will need to assess and comment on to ensure that the proposals do not adversely affect the EA defences.

I hope these replies are of assistance.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the details below.

Yours sincerely

Wayne Cattell
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