

Gate Burton Energy Park

EN010131

Written Summary of the Applicant's Oral Submissions at the Issue Specific Hearing 3 (ISH3) on Wednesday 23 August 2023 and Thursday 24 August 2023
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1. Introduction

1.1 The Issue Specific Hearing 3 (“**ISH3**”) on environmental matters in relation to the Applicant's application for a development consent order (“**DCO**”) for the Gate Burton Energy Park was held across 23 August and 24 August 2023 as a blended event, with some parties in attendance at the Riseholme College, Showground Campus, Horncastle Lane, North Carlton, LN1 2ZR and others using the virtual platform of Microsoft Teams.

1.2 The ISH3 was split into three sessions:

- (a) **Session 1** was held on Wednesday 23 August 2023 at 2pm. This focused on landscape and land use including character of the area, visual amenity, BMV and agricultural use. **Appendix 1** sets out the written summary of the applicant's oral submissions from this first session;
- (b) **Session 2** was held on Thursday 24 August 2023 at 10am. This focused on carbon savings including generating capacity/ electricity and BESS. **Appendix 2** sets out the written summary of the applicant's oral submissions from this second session; and
- (c) **Session 3** was held on Thursday 24 August 2023 at 2pm. This covered other environmental matters including construction, flooding, ecology, EMF and noise. **Appendix 3** sets out the written summary of the applicant's oral submissions from this third session.

1.3 This document summarises the oral submissions of the Applicant only, save to the extent that the submissions made by other parties give context to the Applicant's submissions.

1.4 The ISH3 broadly followed the agenda published by the Examining Authority (the “**ExA**”) on 15 August 2023 [**EV-008**].

APPENDIX 1: Written Summary of the Applicant's Oral Submissions at Session 1 of ISH3 on Wednesday 23 August 2023

1. Agenda Item 1 – Welcome, introductions and arrangements for the hearing

1.1 The Examining Authority

1.1.1 Kenneth Stone.

1.2 The Applicant

1.2.1 Amy Stirling (Senior Associate Solicitor at Pinsent Masons LLP, legal advisers to the Applicant).

1.2.2 Alison Leeder (Associate Director at Arup, Major Infrastructure Projects).

1.2.3 Joerg Schulze (Associate Director at AECOM, Landscape Architecture & LVIA).

1.2.4 Tony Kernon (Director, Kernon Consulting).

1.2.5 William Barrett (Technical Director at AECOM, Environmental Assessment).

1.3 Local Authorities

1.3.1 **West Lindsay District Council (WLDC):** Shemuel Sheikh (Counsel), Russell Clarkson (Development Management Team Manager) and Alex Blake (Associate Director at Atkins).

1.3.2 **Lincolnshire County Council (LCC):** Stephanie Hall (Counsel), Neil McBride (Head of Planning) and Oliver Brown (Chartered Landscape Architecture at AAH Planning Consultants).

1.3.3 **Nottinghamshire County Council:** Stephen Pointer (Team Manager Planning Policy).

1.3.4 **Bassetlaw District Council:** None.

1.4 Other Interested Parties

- 1.4.1 **Sturton by Stow Parish council:** Carol Gilbert (Chair).
- 1.4.2 **Fillingam Parish meeting:** Margot O’Grady.
- 1.4.3 **7000 Acres Action Group (7000 Acres):** Elizabeth Garbutt, Mark Prior and Tony Court.

2. Agenda Item 2 – Purpose of the Issue Specific Hearing

- 2.1 The ExA briefly explained the purpose of Session 1 of the ISH3 to discuss matters in relation to landscape effects and land use. The Applicant did not provide comments against this agenda item.

3. Agenda Item 3 – Character and Visual Amenity of Area

- 3.1 The ExA set out that landscape and land use are significant matters in the Examination. Specific considerations in relation to these matters were discussed as set out in more detail below.

3.2 Design components of scheme main buildings and the location of BESS, BOSS substation and buildings

- 3.2.1 The ExA asked the Applicant why the locations of the infrastructure mentioned at Agenda item 3a ‘scheme main buildings’ and Agenda item 3b ‘BESS, BOSS, substation and buildings’ are not identified in the environmental parameters plan.
- 3.2.2 Ms Stirling, on behalf of the Applicant, confirmed that the Applicant will update the environmental parameters plan appended to the Outline Design Principles to reflect the location of the infrastructure. In the meantime, Ms Stirling explained that the location of the infrastructure is secured through the Works Plans [AS-004] and [AS-005]. In particular, Article 3(2) of the DCO [REP2-027] requires that: “*Each numbered work must be situated within the corresponding numbered area shown on the works plans*”.

Post-hearing submission: The environmental parameters plan will be updated to show the location of this infrastructure at Deadline 4.

- 3.2.3 The ExA also referred to the maximum parameters of certain components, as set out in the Outline Design Principles [REP2-008]. For example, the substation to be a maximum of 13 meters in height, there to be a maximum of four transformers with a footprint of 220m by 130m. The ExA asked the Applicant whether there is an opportunity to reduce those heights and sought a justification of those dimensions and heights.
- 3.2.4 Ms Stirling, for the Applicant, explained that these dimensions are included as a reasonable worst-case scenario based on the technical parameters that are currently known by the Applicant. The dimensions and heights also allow for a degree of flexibility at the detailed design stage. Ms Stirling confirmed that the Applicant will provide more detail as to how the parameters have been identified.
- 3.2.5 Dr Barrett, on behalf of the Applicant, also referred the ExA to Appendix 2-A of Chapter 2: the Scheme of the ES [APP-113] which provides a fuller description of the BESS and the substation. Ms Stirling added that the Applicant would explain the technical requirements further and provide more detail around the opportunity to lower the worst-case scenario.

Post-hearing submission: The parameters have been identified based on the maximum dimensions of a standard 400kV transformer. Example elevations showing the key components are provided in Appendix 2B of the Environmental Statement [APP-113]. It should be noted that only the narrow high level busbars (of which there are three per transformer) reach 13m AGL. The lower level busbars are between 7m AGL and 8.6m AGL. Opportunity to explore lowering the maximum height within this overall envelope will be undertaken at the detailed design stage. However, in the case of the transformers, it is considered that there is limited scope to reduce the heights because of requirements associated with high voltage electricity and spacing.

- 3.2.6 The ExA commented that it would be helpful to provide a design code for the buildings to give the Local Authorities some parameters to consider.
- 3.2.7 Ms Stirling, for the Applicant, responded that the Applicant considers that the Scheme is subject to good design and will continue to be via the mechanisms explained in the Applicant's response to Q1.9.3 of the ExA's first written questions [REP2-

041] It is the Applicant's position that a further requirement for a design code is not necessary.

- 3.2.8 Dr Barrett explained that the Environmental Statement is based on a concept design. The intention is focused on setting maximum parameters in terms of dimensions, footprint and height to form an envelope to allow assessments for individual technical studies. There is plenty of opportunity to develop the detail around the design further, for example with the final finishing, rendering and colour. The process for this is already set out in Requirement 5 (detailed design approval) of Schedule 2 of the draft DCO. Following that process, the Applicant would work with the relevant local planning authorities (LPAs) to incorporate that detail into the design.
- 3.2.9 The ExA noted that he was looking for a mechanism for that detail to be drawn out to enable the LPA to more easily engage in design discussions when it comes to detailed design.
- 3.2.10 Dr Barrett acknowledged that there would be benefit for the LPAs if the Applicant were able to elaborate on some of the principles of the design of the buildings associated with the BESS and substation, and confirmed that the Applicant would consider if there is any greater detail that the Applicant could provide that would further inform the detail of the design.
- 3.2.11 Mr Blake (for WLDC) and Ms Hall (for LCC) responded that they do not consider a design code to be appropriate at this stage. Although they welcomed further detail on design once available and suggested further discussions between the parties to establish a helpful and collaborative approach for the purposes of Requirement 5.
- 3.2.12 Ms Leeder, on behalf of the Applicant, explained that the Applicant would welcome this discussion with the LPAs about the design of the buildings. Ms Leeder reiterated however that the majority of the development is not buildings. In residential schemes, there would be a design code for the development given that there would be a large amount of different buildings. Whereas for the proposed Scheme, the largest building is a warehouse, and the visibility of that building is limited.
- 3.2.13 Nevertheless, Ms Leeder confirmed that the Applicant is happy to discuss the appearance of the warehouse. With regards the remaining the infrastructure, its nature as electricity infrastructure means that there is limited flexibility in its appearance and there is therefore a relatively limited amount of design to those components. Ms Leeder concluded that the Applicant would discuss this with the LPAs.

3.3 Cumulative assessment, industrialisation of landscape and sequential / kinetic effects

- 3.3.1 The ExA asked the Applicant to explain its view on the general characterisation of the wider landscape of the area.
- 3.3.2 Mr Schulze, for the Applicant, explained that it is important to look at the overall landscape character and the baseline for the area. At present, whilst it is a largely agricultural landscape, adjacent to the Trent River Valley has large coal fired power stations which contribute to the industrial character. Mr Schulze recognised that the Scheme would add a large-scale solar component into the landscape.
- 3.3.3 The Applicant has assessed the Gate Burton Energy Park alongside adjoining solar farms including West Burton Solar Project, Cottam Solar Project and Tillbridge Solar Project, individually and jointly. The Applicant has found that the overall pattern of landscape in terms of existing screening, lends itself to very limited intervisibility. For example, there is no intervisibility between West Burton and Gate Burton. The Applicant cannot find evidence to support that visually the overall landscape would become a solar farm landscape, as a result of the screening, hedgerows and public walkways. Therefore, whilst the cumulative impact of the scheme in combination with the other schemes is significant, it is moderate. The Applicant could not find significant visual effects because there is no intervisibility.
- 3.3.4 The ExA asked that Applicant explain its views on the sequential effects when travelling through the landscape.
- 3.3.5 Mr Schulze, on behalf of the Applicant, referred to Marton Road by way of an example. Looking north from Marton Road, there may be some visibility of a solar farm towards Kexby Lane. However, turning south, there is agricultural landscape. Whilst West Burton solar farm would be to the South, this would not be visible as there would be screening. Although there will be some gaps in hedgerows and gaps for access gates, the overall Scheme has landscape mitigation which is aimed to screen the solar farms. The next possible solar farm to see is Cottam solar farm which would be a further 3 to 4 minutes' drive, although Mr Schulze noted that Cottam Solar Farm will have mitigation too. It would take a further 10 minutes driving until you then arrived at West Burton solar farm. When walking the sequential effects would provide greater time separate between any sightings of another solar farm development. Ultimately, the time between experiencing the sequential effects of each solar farm can be quite long. In-between those moments you see agricultural

landscape. Mr Schulze acknowledged the concerns when considering a map or an aerial photograph, however the Applicant cannot find evidence that this will be a significant effect from ground level when driving or walking.

- 3.3.6 The ExA queried whether the mitigation will mainly be done through screening and sought confirmation that existing screening will be retained plus additional screening where needed.
- 3.3.7 Mr Schulze, for the Applicant, confirmed that screening is the main component of mitigation. However, mitigation measures started at the outset of the project. For example, the proposed location of the panels are set back from the roads; the Applicant held meetings with local residents to identify agreed excluded zones; and the Applicant has not opted for tracker panels as these would stand taller. Therefore, there are various components forming the overall mitigation and landscape mitigation is one aspect.
- 3.3.8 Mr Schulze continued that there is an existing dense band of hedgerows and trees and consequently the Applicant has no concern of creating unnatural hedgerow. For example, from Fillingham to Willingham there are considerably tall hedgerows along the roadside. There are also tall bands of trees and overgrowth across several locations, including at Clay Lane for example. The landscape mitigation and screening proposals includes certain areas where the existing hedgerows and trees will be maintained to grow taller or to reinforce and reconnect truncated hedgerows that have been removed over time.
- 3.3.9 Dr Barrett, on behalf of the Applicant, responded to concerns raised by 7000 Acres in relation to the removal of existing hedgerows and the resulting impact on character. Firstly, in relation to hedgerows, the appropriate removal plan is Figure 10.21 'Vegetation Removal' [REP2-017]. The file name of [APP-187] is incorrectly stated as 'TPO and Hedgerow Removal Plan'. The correct file name is 'TPO and Hedgerow Plan'. This is a baseline plan that shows the identified locations of hedgerows and TPOs. At the main site, the proposals comprise small, discreet and defined removals in limited locations which are primarily being done to create access tracks. The removals are limited in scale and should be read alongside the Outline Landscape and Ecology Management Plan [REP2-038] which makes commitments around the reinstatement following the removal of hedgerows. This is particularly relevant within the grid connection corridor where hedgerow removal is shown but will be reinstated following installation of the connection cable. Secondly, the Indicative Site Layout Plan [APP-033] provides a

main focus for the landscape and visual perspective, although various other environmental elements have fed into its creation. For example, there are panel exclusion zones with 15-meter offset from any woodland and a 10-meter offset from water and existing hedgerows.

- 3.3.10 In summary, Dr Barrett guided the Interested Parties and LPAs to look at Chapter 17 of the ES: Summary of Significant Environmental Effects [APP-026]. It is the Applicant's position that the Scheme has only two likely significant adverse effects (both moderate) from the perspective of landscape and visual, but no other likely significant adverse effects.
- 3.3.11 The ExA queried whether the recently submitted access alterations [REP2-045] have been aligned with the hedgerow removal plan [REP2-017].
- 3.3.12 Dr Barrett, for the Applicant, confirmed that there will be another iteration submitted.

Post-hearing correction: the relevant plan has been updated and was submitted at Deadline 2. The vegetation removal plan [REP2-017] shows the maximum extent for which powers under the DCO are required. Any removal will take place within those hatched areas. Once detailed design has been complete, and for example, within the grid connection corridor, once the location of the cable is finalised, the overall amount of hedgerow removal will be reduced.

- 3.3.13 A local resident raised a query regarding the landscape and visual impacts on 'Jurassic Hill' specifically.
- 3.3.14 Mr Schulze, on behalf of the Applicant, confirmed that the views from the cliff have been illustrated in photomontage 7 [APP-080], C4 [APP-085] and C5 [APP-086]. Photomontage 7 shows that there is no view as it is screened by vegetation, which is confirmed by C5 which is at the top of the cliff. Mr Schulze added that the existing power stations are visible from the cliff and have been for 60 years. The power stations plumes have been a major component of the visual amenity area and they are visible from everywhere and therefore there has always been an industrial component in the landscape. In comparison, Gate Burton has a very different scale and it is more spread out in comparison to the power station. As a result, Gate Burton would not define the landscapes due to the nature of the landscape and the screening already present.

- 3.3.15 In response to another query from an Interested Party, Mr Schulze confirmed that the landscape and visual assessments includes summer and winter views.

3.4 Area of Great Landscape Value (AGLV)

- 3.4.1 The ExA requested that WLDC show the document that sets out the justification for the AGLV and the characteristics which led WLDC to protect it. Mr Blake, on behalf of WLDC, confirmed that the Landscape Character Assessment 1999, has led to local plan evidence bases which justifies the AGLV.
- 3.4.2 Ms Leeder, for the Applicant, confirmed that the Applicant has reviewed that document in the landscape and visual impact assessment. Whilst the 1999 document describes the character of the area, it does not set out the reasons why the land is designated. The Applicant cannot point to a document which sets out what plots of land are AGLV because such a document has not been provided. Ms Leeder confirmed that the information that is available has been taken into account and the Applicant has made its own assessment as to the areas that would be AGLV. The Applicant has taken steps to try to avoid these areas.
- 3.4.3 Following discussion between the ExA and WLDC trying to ascertain the AGLV, Ms Leeder (for the Applicant) provided clarification. Namely, there are two areas of great landscape value: area 2 (the cliff near Park Farm, which is not affected by visibility) and area 4 (south of Gainsborough, which has a minor effect).
- 3.4.4 Mr Schulze, for the Applicant, added that the conundrum is that the policy identifying the AGLV give general policies about what is important and what should be protected. However, there is nothing in detail to justify to the Applicant what makes the land in question special. The land is located in the southern are of the AGLV which stretches from Martin Road, past Gainsborough and further. Hence it is a large area. The Applicant has established local landscape areas, LLCA 01 (Gate Burton Estate), LLCA 02 (Ancient Woodland Ridge) and LLCA 05 (Somerby and Knaith Woodlands). The landscape and visual assessment provides a baseline for this and the Applicant provides key characteristics for those landscape areas.
- 3.4.5 The Applicant acknowledges that west of the railway there is a change because of the diversity of the arable landscape, which has a greater diversity because of the woodland pockets which are not affected by the proposed development. For the ancient woodland, the Applicant has applied a medium value because

there is already a change in landscape since there is a residential area and that is the same for Clay Farmlands (LLCA 06) which has been assigned a low value. The landscape character assessment has applied a rating and the Applicant has also assessed in the overall assessment based on its own findings.

3.5 Landscape Character Areas (LCAs)

3.5.1 The ExA asked the Applicant for a rough indication of the LCAs in terms of the coverage of those areas and the coverage of the Scheme within those areas.

3.5.2 Mr Schulze, for the Applicant, explained that there are multiple levels of LCAs and set out the following figures:

Local Landscape Character Areas (by AECOM): ES Vol 2, Figure 10.8 [APP-067]

13 LLCA's in total	Approximate % taken by the Scheme
LLCA 01 Gate Burton Estate	30%
LLCA 02 Ancient Woodland Ridge	80%
LLCA 05 Somerby & Knaith Woodlands	15%
LLCA 06 Clay Farmlands	40%

3.5.3 Mr Schulze also identified that these LCAs were only created as the national character areas are so large. For example, Mr Schulze made reference to the below approximate figures:

National Landscape Character Areas: ES Vol 2, Figure 10.4 [APP-063]

NLCA 48 Trent and Belvoir Vales: the Proposed development would take up 1% if at all.

Regional Landscape Character Areas: ES Vol 2, Figure 10.5 [APP-064]

East Midland Regional Landscape Character Areas:

Wooded Vales (includes AGVL): 15%

Unwooded Vales: Less than 3%

Floodplain Valley (Grid connection only): Less than 3%

County/District Landscape Character Areas: ES Vol 2, Figure 10.6 [APP-065]

West Lindsey LCA

The Trent Valley: Less than 5%

Nottinghamshire County LCA

Trent Washlands (Grid connection only): Less than 3%

- 3.5.4 In response to a follow up query from the ExA, Ms Leeder confirmed that the Applicant would consider whether the landscape constitutes a valued landscape for the purposes of paragraph 174 of the National Planning Policy Framework (NPPF).

Post-hearing submission: The Applicant's position on this has been submitted separately at Deadline 3.

3.6 Screening mitigation effects on landscape character and open views

- 3.6.1 The ExA asked the Applicant how it has addressed the tension between the need for screening and the risk of creating a more enclosed landscape character as a result of that screening.
- 3.6.2 Dr Barrett, on behalf of the Applicant, responded that avoidance is the first step on the mitigation hierarchy and such principles have been applied at scoping and when identifying the site boundaries. For example, the Applicant looked to minimise the distance of public rights of way within the site boundary. Then, the Applicant has considered the design of mitigation and using screening to reduce the overall impact on visual receptors whilst balancing that with the overall impact long term views.
- 3.6.3 Mr Schulze, for the Applicant, then explained that landscape mitigation is a multi-fold process. The first glint and glare assessment [APP-173] to [APP-175] identified areas that required screening and the Applicant has subsequently addressed those. The overall pattern of the landscape consists of hedgerows and bands of trees and the landscape mitigation utilises that as a large amount of the mitigation proposed is to enhance existing hedgerows and trees. For example, Willingham Road and Marton Road have existing hedgerows that need to be maintained differently in order to grow higher. At Marton Road, the Applicant has proposed hedgerow along the eastern boundary which are not supposed to grow tall enough to screen

to ensure that there are locations where views will be possible across the land.

- 3.6.4 Further, at the corner where Willingham Road becomes Marton Road, there is an open gap where you can look north which will be maintained. In order to address residents' concerns, the Applicant has also moved panels and mitigation planting. Whilst there will be a slight change in the landscape character for it to be slightly denser and greener, with the exception of one location the development is on one side only, so will not create a tunnelling effect. The Applicant has looked at the pattern of landscape and vegetation and have used that to support the screening. Therefore, it is the Applicant's position that it has achieved an appropriate balance with the landscape mitigation.
- 3.6.5 A local resident then queried where the fencing and CCTV systems will be located alongside the proposed planting.
- 3.6.6 Mr Schulze, for the Applicant, responded that the outline Landscape Masterplan (Annex A of the outline Landscape and Ecology Management Plan [REP2-037]) shows the proposed planting and the location of the fencing around the solar panels. For example, taking a typical cross section on Marton Road on the north side, the existing hedgerow will be maintained to be taller than the proposed security fencing which will sit behind. The security fencing is between 2 to 3 meters high and will be screened where possible, whilst the hedgerow is proposed to be between 3 to 5 meters tall. However, Mr Schulze recognised that the CCTV cameras may be visible as the CCTV is on a pole approximately 5 meters high.
- 3.6.7 By reference to the national policy statements, the ExA then asked if the Applicant has sought to advance any existing public rights of way or proposes any new public rights of way.
- 3.6.8 Dr Barrett, on behalf of the Applicant, reiterated that one of the first principles was to minimise the impact to public rights of way (as indicated in the Public Rights of Way and Management Plan [APP-229]).
- 3.6.9 Ms Leeder confirmed that the Applicant had considered the creation and enhancement of public rights of way as a request was made during statutory consultation for further public rights of way. The Applicant is still open to discuss this with the relevant local authorities and would be grateful for any contribution or suggestion of a particular route that the Applicant could then consider.

Post-hearing submission: The Applicant will provide a Technical Note at Deadline 4 which will set out a broad approach to consideration of PRow enhancement and a process by which enhancement options would be identified.

3.7 Weight to be given to adverse landscape and visual effects

3.7.1 The ExA invited the Applicant to express its views on the weight to be given to adverse landscape and visual effects and any adverse effects that are considered to arise in respect of the character and visual amenities.

3.7.2 Ms Leeder, for the Applicant, emphasised that the Applicant considers that the draft and designated national policy statements are to be important and relevant considerations. The drafts are from March 2023 and have been written to guide decision making in these types of planning applications. In terms of weight to be given to the landscape and visual effects, the Applicant contends that they should be given moderate weight:

- (a) There are significant effects on receptors with high sensitivity but the number is very low, as there are only three residential properties who will experience those effects;
- (b) There is a minor impact on local landscape designation; and
- (c) Overarching National Policy Statement for Energy (NPS EN-1) discusses giving substantial weight to harm caused to national parks and areas of outstanding national beauty, although the text is very different to local landscape areas. Therefore, the same substantial weight cannot be given.

3.7.3 Ms Stirling, for the Applicant, emphasised that it is the Applicant's position that the need for solar energy is clear and established. Ms Stirling quoted the Secretary of State from its decision to grant the recent Longfield Solar Farm Development Consent Order 2023. Paragraph 4.7 of the decision letter states:

"...the need for solar is established in the dNPSs and is a matter he considers to be important and relevant to this decision under section 105 of the 2008 Act. The Secretary of State agrees with the ExA's conclusions and ascribes the Proposed Development's contribution to meeting this need substantial positive weight in the planning balance".

4. Agenda Item 4 - Best and Most Versatile (BMV) Land

- 4.1.1 The ExA commented that he wished to understand the latest position on sampling, the identification of BMV land and an update on how this is secured.
- 4.1.2 Ms Leeder, for the Applicant, explained that the conversations with Natural England regarding survey requirements are ongoing. The Applicant's intention is for the survey to be carried out pre-construction (as set out in the Framework Construction Environmental Management Plan [REP2-033]) rather than pre-consent (as wrongly suggested in the latest SoCG with Natural England [REP-009]) as the surveys are not necessary for the Environmental Assessment and instead will assess the value of the soil. The Applicant is intending to carry out the surveys within the grid connection corridor this Autumn due to the crop rotations. The Applicant will share that survey information once it is available.
- 4.1.3 Mr Kernon, for the Applicant, further explained that the land will be lifted and put back and therefore there is no downgrading. In respect of the cable route, the quality of soil will not be affected so long as the soils are treated well. Mr Kernon clarified that there is a proposed area of 172 hectares, but the construction section is substantially smaller (25 meters construction corridor and the cable trench itself is less than 1.5 meters). Therefore, it is just over a hectare in total that will be lifted. The Applicant has allowed for flexibility within that corridor until the engineering under the roads is known.
- 4.1.4 Mr Kernon also responded to the ExA to confirm that the Soil Management Plan is the appropriate mechanism to secure how the soil will be handled, which is secured by Requirement 17 of Schedule 2 of the draft DCO and must be substantially in accordance with the outline soil management plan [REP-030].
- 4.1.5 Ms Stirling, for the Applicant, summarised that the Applicant is working to complete a statement of common ground with Natural England. Soil sampling will be pre-construction and the Applicant will ensure that it is appropriately reflected in the documentation and that the commitment to carry that out is appropriately secured.
- 4.1.6 A local resident then raised a query regarding the impacts on soil of the electricity travelling through the cables.

- 4.1.7 Mr Kernon, for the Applicant, suggested that there would be no damage to the soil since there is no leakage.
- 4.1.8 Mr Court, on behalf of 7000 acres, questioned the Applicant's approach to soil sampling density and the data set which the Applicant is relying on for its calculations.
- 4.1.9 Mr Kernon, for the Applicant, explained that the relevant guidance do not require a specific sampling density, and such standards have come in as a good practice rather than being required. It is not unprecedented for the methodology to do otherwise and there are a large number of surveys that are carried out at a lesser density. The sampling density is suitable, as confirmed by Natural England (see the Statement of Common Ground with Natural England [REP-009] and LCC (as per Appendix B of [REP-043] which comments on the sampling density and confirms it is in line with what is expected).
- 4.1.10 Land research associates added some extra data points where they found BMV, which again Natural England have confirmed they are happy with. However, where there is fixed infrastructure, Natural England required more data points and that has been followed by the Applicant. Mr Kernon expressed that he fully supports the level of detail that has been done by the Applicant, and doing twice as many would not change the overall percentages in any particular way that would impact the existing assessment conclusions.
- 4.1.11 Mr Kernon then turned to the climate change data and confirmed that the data used is that which must be used for Agricultural Land Classification ("**ALC**"). The data set was brought in by revised guidelines in 1988, with the data from between 1950-1980. Whilst Mr Kernon acknowledged that there may be a time that the ALC system is updated, there is currently no indication that the Government will be changing the existing ACL data set, as used by the Applicant.

5. Agenda Item 5 – Agricultural Production

- 5.1.1 The ExA queried what weight should be afforded to the sheep grazing statements made throughout the Environmental Statement relating to productive agricultural land that could be maintained to some extent by sheep grazing, as the ExA noted that little detail is provided.

- 5.1.2 Ms Stirling, for the Applicant, confirmed that there is no commitment to graze sheep and the Applicant does not have an intention for this to be a commitment. However, the Applicant has provided some high-level information on how the mechanism works on other similar schemes in the response to Q1.12.9 A of the ExA's first written questions [**REP2-041**].

6. Agenda Item 6 – Adjourn Hearing

- 6.1.1 The ExA noted that there were no specific action points or issues arising from the hearing but invited the parties to raise any other business or concerns.
- 6.1.2 Ms Hall, for LCC, reiterated the potential for joined up hearings between this ExA and other ExA's looking at the projects where there will be cumulative effects in the area. Mr Sheikh, for WLDC, expressed the view for two further potential issue specific hearings (one with a focus on cumulative effects and the other on traffic).
- 6.1.3 Ms Stirling, for the Applicant, confirmed that the Applicant remains open to a coordinated hearing if considered to be appropriate by the Examining Authority. Ms Stirling referred LCC to submission **REP2-046** which is a technical note assessing the cumulative impact on BMV and is an example of how the Applicant is dealing with cumulative assessment in the written submissions.

APPENDIX 2: Written Summary of the Applicant's Oral Submissions at Session 2 of ISH3 on Thursday 24 August 2023

1. Attendees (Session 2)

1.1 Examining Authority

1.1.1 Kenneth Stone (the “**ExA**”).

1.2 Applicant

1.2.1 Amy Stirling (Senior Associate Solicitor) and Gareth Phillips (Partner) at Pinsent Masons LLP – legal advisers for the Applicant.

1.2.2 Ben Murray (Associate Director at AECOM – Climate Change).

1.2.3 Si Gillett (Director at Humbeat – Need).

1.2.4 Mike Carter (Operations Excellence Lead at Skyray – Design and Engineer).

1.2.5 Paul Gregory (Project Consultant at BST&T Consultancy Services Ltd – the system and safety of battery energy storage systems (“**BESS**”).

1.3 Local authorities

1.3.1 **WLDC**: Shemuel Sheikh (Counsel), Russell Clarkson (Development Management Team Manager) and Alex Blake (Associate Director at Atkins).

1.3.2 **LCC**: Neil McBride (Head of Planning) and Elouise Shieber (Planning Officer).

1.3.3 **Nottinghamshire County Council (“NCC”)**: Stephen Pointer (Team Manager, Planning Policy).

1.3.4 **Sturton by Stow Parish Council**: Carol Gilbert (Chair).

1.3.5 **Martin and Gate Burton Parish Council**: Steven Spence (Chair) and Christine Denning (Councillor).

1.4 Individual interested parties

1.4.1 **7000 Acres Action Group (“7000 Acres”)**: Mark Prior, Peter O’Grady and Liz Garbett.

1.4.2 **Independent** (also part of 7000 Acres): Roy Clegg.

2. Agenda Item 7 - Generating Capacity/Electricity Exported

2.1 Generating capacity

2.1.1 The ExA invited the Applicant to set out the calculations used to determine the likely generating capacity of the Scheme and how the generating capacity and electricity exported influence each other, including the adopted assumptions.

2.1.2 Ms Stirling, on behalf of the Applicant, stated that the generating capacity of the generating station is in excess of 50MW and therefore falls under the ‘nationally significant infrastructure project’ (“**NSIP**”) scheme.

2.1.3 Mr Carter, on behalf of the Applicant, confirmed that the assumed peak installed capacity is 531MW. The illustrative layout design is based on 650W modules, which is multiplied across the panels on the site (the number of modules x the size of modules). Taking into account land constraints, such as buffers, the assumed peak capacity is 531MW. The benchmark on carbon savings is based on an illustrative layout to give a nominal position, which may alter slightly depending on the number of panels.

2.1.4 The ExA noted that the Applicant has provided some figures about the capacity of the Scheme as direct current (DC). The ExA invited the applicant to explain the capacity as alternating current (AC).

2.1.5 Mr Carter, on behalf of the Applicant, confirmed that the AC capacity is 500MW, which is defined by the grid connection capability of 500MW. Mr Carter explained that a project would usually maximise the AC so long as it is less than the DC but that the capacity can be limited by a power park controller if needed to preserve the grid export capacity constraint.

2.1.6 In response to a query from the ExA in relation to the potential grid connection limitation at Cottam and potential cumulative effect with other grid connections, Mr Carter confirmed that the peak export is 500MW at the connection point, in accordance with the connection offer from National Grid (NG). The amount of energy exported at the solar farm will be slightly higher than 500MW and the export will be controlled at the NG grid connection. The Applicant’s Response to Q1.1.9 of the ExA’s First

Written Question [REP2-041] outlines the circumstances in which NG can curtail the export.

Post hearing submissions:

- i. The grid connection agreement signed by the Applicant provides for no constraint rights of export from the Scheme by National Grid other than general constraints rights to protect safety which are standard across the vast majority of grid connections.
- ii. The final installed capacity of the inverters at Gate Burton will be defined as part of the detailed design process and therefore cannot be confirmed at this stage. However, the maximum export at the Point of Connection at Gate Burton Power Station is limited to 500MW under the connection agreement with National Grid and the inverter output will be controlled to ensure that this is not exceeded.

2.1.7 Mr Gillett, on behalf of the Applicant, clarified that as part of the grid connection process, applicants apply to NG for a contract to allow export from the facility to the national electricity transmission system up to a specific limit. Then, NG carries out studies and considers the other existing energy export sources nearby and national electricity flows. The other grid connection agreements at the same grid connection point are treated independently by NG as NG sets aside the relevant portion of the capacity of the Cottam substation to receive the energy exported under each connection agreement. Any power that is exported to Cottam in excess of 500MW would require an additional agreement with NG. Although this will not be necessary as the inverters will limit instantaneous export to the level of the grid connection agreement.

Post-hearing submission: Further to the ExA's request at the hearing for the Applicant to provide further detail about how the likely generating capacity is calculated, the relationship between generating capacity and electricity supported and adopted assumptions, Mr Si Gillet has provided the below:

Generating capacity relates to the maximum instantaneous level of power which can be generated by a power station. This relates to the quantity or scale of what might be called 'generation equipment' which is installed at the facility. For example, the size of the boilers and turbines connected to a thermal power station. Or the number of wind turbines installed at a wind farm, and the size of each turbine. Or, as for the Scheme, the number of solar panels installed at a solar farm, and the generation capacity of each of those panels.

The generation capacity of a solar panel depends on a number of things including the physical dimensions and the efficiency of the panel itself, in terms of its conversion of incoming sunlight into electrical output. The

capacity of a panel is calculated based on specified conditions, explained in Appendix 1-1-19 to Applicants response to FWQs – Solar PV Technology and Terminology **[REP2-.041]**

The generation capacity of a power station can be limited by the capacity of the available export connection to the grid. For example, a thermal power station may be able to generate 550 MW of power, but it may use some of that power to run its own support systems and may have an export connection of 500 MW.

Electricity exported is a measure of the electrical energy produced from the generation capacity over time, e.g. per year.

For solar farms, clearly the ‘input fuel’, which is sunlight, is variable, so the solar farm will not be generating at full power 24/7. Instead, each day, the solar farm will generate 0 MW overnight, and will reach a peak of generation in the middle of the day. Sometimes that peak might reach full generation capacity, but on other days it might not.

The GBEP Scheme is described in Schedule 1 to the draft DCO where the different components of the Scheme are divided into works packages. The Works include a generating station with a generating capacity of over 50MW which is the “Nationally Significant Infrastructure Project” (NSIP) and maximum total land area occupied by the Solar PV Array Works Areas will be up to 474 ha (1170 acres). An illustrative design has been produced to support the application and this shows a potential installed generating capacity of 531 MW. The Capacity Factor which has been used to assess the electricity export potential of the facility, equates to [10.5%] (922 kWh/kW(p)/Yr). The Applicant has used this as a conservative estimate, as in this location a higher yield may be achieved following detailed design.

Developing solar facilities with higher installed generating capacity than export capacity is commonplace and represents good design. It is called overplanting and is discussed in Section 7.7 of the Statement of Need **[APP-004]**. Overplanting enables more electricity to be exported through the grid connection than the case where the installed capacity is at or below the export generation capacity level. This brings about a greater benefit to decarbonisation, energy security and affordability from the scheme.

To understand why, two solar facilities with the same grid connection capacity which are located next to each other can be considered, as in such cases each experience the same sun conditions at all times. Unless output from either of the sites is constrained by the grid connection capacity, the facility with the higher installed generating capacity will obviously generate more power at all times. This power will always be exported fully to the grid. If at some time the generated power is greater than the export capacity, and this would likely occur only at the brightest times of the sunniest days, control systems within the solar facility would

limit the power export to the grid such that the level of electrical power produced is not greater than the grid connection capacity. So in all, the overplanted facility would generate and export more energy to the grid than would the smaller facility.

- 2.1.8 Mr Carter, on behalf of the Applicant, confirmed there are no capacity restrictions on the substation itself.

2.2 Assumed electricity output

- 2.2.1 The ExA asked the Applicant to explain its assumptions on which the minimum assumed yields of 922KW per year per kilowatt peak are determined.

- 2.2.2 Mr Carter, on behalf of the Applicant, confirmed that the illustrative layout and solar panel types (being 'Trina 650') are put into a simulation software. The software uses the site design and databases of the amount of sunlight in the Scheme area to determine the irradiance of the area. This information calculates the DC output of the solar panels, which is then converted into AC output by combining into strings into an inverter, then the inverter is linked to two transformers by cabling. Each transmission stage has associated energy losses. The reasonable worst-case scenario is assumed at 80%, which results in the minimum yield figure to be 922KW per year per KW peak. The final figure would change with a different layout, but the change would unlikely be material.

- 2.2.3 Mr Carter confirmed that the assumed worst-case scenario is therefore that the overall output across the lifespan of the Scheme would be 26.9 terawatt-hours. This is calculated by multiplying the annual figure by the life of the Scheme (being 60 years). The carbon savings are based on this figure.

- 2.2.4 Mr Murray, on behalf of the Applicant, confirmed that the lifetime generation figure of 26.9 terawatts is a 'best estimate' based on illustrative design but is subject to variables.

- 2.2.5 The ExA raised that the Applicant's response to first written questions did not make it clear whether the weekly, monthly and yearly output charts shown were specific to the Scheme or the UK more widely. The ExA also requested a series of figures to provide a monthly and yearly output on the basis of illustrative layout, so the ExA could see how the accumulation of output occurs over the lifespan of the Scheme.

- 2.2.6 Ms Stirling, on behalf of the Applicant, confirmed that the output figures are Scheme specific and offered to provide the output figures in writing.

Post-hearing submission: Please see the Energy Yield Forecast Methodology for the Illustrative Site Layout, submitted at Deadline 3.

- 2.2.7 The ExA referred to an annual load factor of 10-11% and queried how this would impact the figures provided above.

- 2.2.8 Mr Gillett, on behalf of the Applicant, noted there are a number of ways to describe the relationship between capacity of the solar farm and the energy generated. The reference to 922kWh/kWp/Yr (kilowatt-hours per kilowatt peak per year) is the same as a 10.5% capacity factor: there are 8,760 hours in the year, so if a 1kW power generator was generating all of those hours, then there would be 8,760kWh generated per year. Dividing 922kWh by 8,760kWh arrives at 10.5%. In effect, the capacity factor is an alternative way of describing the expected average annual output at a particular location. However, Mr Gillett suggested that it is important to differentiate between the efficiency of the panel (which is a measure of how much of the energy contained in the sunlight incident on the panel is converted into electrical energy) and the 'capacity factor', as described previously.
- 2.2.9 Mr Gillett confirmed that the 'engineering' efficiency of the solar panels specified in the Application is around 20.9%. The efficiency is intrinsic to design, whereas the capacity factor is dependent on incident sunlight.
- 2.2.10 Mr Gillett confirmed that the 10.5% capacity factor is included in the output and carbon savings calculations submitted at application and related submissions including the Applicant's Written Response [**REP2-041**] (because it is already embedded within the 922kWh/kW(p)/Yr figure).
- 2.2.11 In response to a further question from the ExA, Mr Gillett also confirmed that the calculations provided as in response to the ExA's request described at 2.26 above should be consistent with the lifetime electricity output figure of 26.9 terawatt-hours included within the application documents.

2.3 Carbon Savings

- 2.3.1 The ExA asked the Applicant to explain the carbon saving calculations in the event that the generating station was not able to generate the sufficient amount to avoid the need to generate from another source.
- 2.3.2 Mr Murray, on behalf of the Applicant, confirmed that the overall installed generation capacity of the scheme and the lifetime output of the Scheme (i.e. 26.9 terawatt-hours) are used to estimate the embodied emissions from the proposed Scheme (particularly the photovoltaic modules) and the counterfactual emissions. It was determined that a combined cycle gas turbine would be the most likely alternative energy source and is therefore reasonably assumed here. The industry standard figure of 354 grams per kWh was adopted. Given the alternative emissions, the net impact is a carbon benefit.
- 2.3.3 The ExA asked the Applicant to confirm whether there is any material difference between the calculations of embedded carbon in the production and transportation of solar panels, even though a different

make and model of solar panel was used in the embodied carbon calculations.

- 2.3.4 Mr Murray, on behalf of the Applicant, confirmed that the Scheme proposes to use Trina solar panels. The greenhouse gas assessment used embodied carbon data for a solar panel model manufactured by Jolywood because at the time of the assessment, an Environmental Product Declaration (EPD) for the Trina model was not available. Embodied carbon data for the 'Jolywood' solar panel model was assumed to be representative of the impact of the Trina model to be installed at the Scheme. Since the assessment was carried out, the EPD for a model manufactured by Trina is now available. The Trina model has slightly lower whole life carbon impacts compared to the Jolywood solar panel model, so the existing assessment represents the worst-case scenario. Other aspects, such as transportation and construction activity have been included in the lifetime carbon impact assessment.

Post-hearing submission: Please see the Embodied Carbon Comparison for Trina and Jolywood PV Modules based on EPD Data, submitted at Deadline 3.

- 2.3.5 Various submissions were then made by Interested Parties' suggesting that Government policy only supports rooftop solar instead of ground mounted solar panels.
- 2.3.6 Ms Stirling, on behalf of the Applicant, submitted that there is clear and consistent Government policy in support of ground mounted solar photovoltaics. Mr Gillett, on behalf of the Applicant, noted that government policies including the draft National Policy Statements released in March 2023, the 2020 Energy White Paper and the 2021 Net Zero Strategy state that low cost and low carbon energy is likely to consist of wind and solar. This is because the marginal cost of power is zero, the power can be stored or used, and solar offers the ability to reliably predict power generation while other renewable technologies can be more variable. Out of the five renewable energy technologies (nuclear, wind, solar, carbon capture and storage, and hydrogen), only two are being deployed now: wind and solar. the other three technologies are not currently being deployed on timescales which make them imminently operational.
- 2.3.7 Mr Gillett further stated, in response to a separate comment relating to the generating capacity of the former Cottam coal fired power station, that burning fossil fuels is inconsistent with the Government's legal commitment to be net zero carbon emissions by 2050. In response to a comment made on significant curtailment of renewable generation, Mr Gillett pointed to the fact that the existing electricity system (e.g. today) has very little solar curtailment but also very low demand compared to where demand is expected to reach in the future. Future electricity demand will approximately double as a result of, for example, electric vehicles and electric heating pumps. Additional electricity will therefore

be required and must be provided in a way that is consistent with the 2050 climate goals, highlighting the importance of solar generation within a multi-technology generation mix, and also being clear on the need to differentiate between current and future system states, without confusing the two (e.g. considering the effects of 70GW of solar on today's electricity system, vs. on an electricity system which is expected to have higher demand, more flexibility, less nuclear and less thermal generation (than today's values)).

3. Agenda Item 8 - BESS

3.1 Operation, charging and exportation

- 3.1.1 The ExA identified that the export capacity is 500MW, whereas the import capacity is 250MW, and queried whether this has any impacts on the operation of the BESS.
- 3.1.2 Mr Gillett stated that in the Applicant's response to the ExA's FWQs [REP2-041], the emerging policy position in favour of BESS from Draft EN-1 (March 2023), para 3.3.25, is set out: "Storage has a key role to play in achieving net zero and providing flexibility to the energy system, so that high volumes of low carbon power, heat and transport can be integrated."
- 3.1.3 Integration means the interaction between assets, and full integration of BESS requires import and export connection, and I will come on to this in more detail in a moment. Not all grid connections have available import capacity, so it follows that where import capacity does exist, BESS should be considered and assessed. If those available connections are not used, it is possible that storage will not be able to come forward to the capacity and timings required to support the full integration of low carbon power into the UK electricity system. Para 3.10.2 of Draft NPS EN-3 (March 2023) also describes Government's support for solar which is co-located with storage.
- 3.1.4 The import connection at Gate Burton Energy Park is sized at 250MW and this is an important input into the maximum (power) size of the BESS proposed at the facility.
- 3.1.5 **Post-hearing submission:** In response to the suggestion made by Peter O'Grady (on behalf of 7000 Acres) at the hearing that the import capacity is 140MW instead of 250MW, the Applicant can confirm that the correct figure is 250MW.
- 3.1.6 The ExA also asked the Applicant to explain the BESS cycle, in terms of how long it takes to charge the BESS, how much energy can store and how long it can hold the energy prior to discharge.

3.1.7 Mr Gillett, on behalf of the Applicant, explained that the battery is proposed to be a lithium-ion battery which is a 'short-term' battery with 'hours' of capacity rather than days. The available technology and parameters of the proposed Scheme will determine the exact amount of battery storage hours. In the UK, batteries have been deployed with 1 hour storage capacity, but are moving towards 2 hours and further. Based on technical and commercial data, short-term batteries may extend to 4 hours of storage capacity but there might be further opportunities to extend storage capacity if technology advances accordingly.

3.1.8 Mr Gillett provided an example of a battery that had 2-hour charge rate. Meaning that it would take just over 2 hours to import electricity from 'empty' to 'full'. Exporting electricity would also take approximately 2 hours at full export rate from 'full' to 'empty'. A 250MW battery with a 2-hour storage capacity can hold 500MW of electricity. The power can be held for a reasonable duration of time, e.g. hours or days, with negligible losses.

Post-hearing submission: batteries currently achieve c. 90% efficiency in relation to the quantity of energy they import vs the quantity of that energy that they export, and the simple example above does not quantify the 90% efficiency rate in the numbers presented.

3.1.9 In response to the ExA, Mr Gillett also explained how the batteries provide flexibility to the NG by offering grid balancing services. As existing thermal energy plants close or are forced off the grid, their ability to provide for example, 'electricity system health' types of services, called balancing services, is reduced. Batteries are being looked to provide these services in the place of existing thermal plant.

3.1.10 Mr Gillett explained that batteries will help national grid balance the grid by doing the following things:

1. Store energy when supply outstrips demand;
2. Export energy when local solar generation is low, but national demand is high. It displaces what is most probably carbon emitting energy and therefore has associated carbon benefits.
3. Import energy from the grid when national demand is low, but national generation is high, for example, during windy periods.
4. Operate in accordance with instructions from NG under balancing services contract. Table 11-1 of the Statement of Need [APP-004] describes the potential contributions of a storage asset within the Scheme to the GB electricity market, including ancillary service provision, and the Applicant's response to the ExA's First Written Questions [REP2-041], at Q1.1.14 details which of the ancillary services required by

National Grid on a regular basis, require an import and / or an export connection for batteries to be able to provide those services.

- 3.1.11 Mr Gillett noted that Chapter 6: Climate Change of the ES [APP-015] does not ascribe or quantify any carbon benefits of the battery. Mr Gillett went on to explain, in response to a question on this topic from the ExA, that the BESS would likely provide a carbon benefit by storing energy when it is in excess on the grid nationally (this is likely to be when it is generated by low-carbon assets). By exporting that power during peak periods would likely displace an alternative (thermal, carbon emitting) generation technology. However, Mr Gillett accepted that there may not be a carbon benefit where batteries export carbon emitting power to the grid and also noted that the Applicant was not attempting to quantify the carbon benefit associated with battery operation.

Post-hearing submission: Given the technical nature of the discussions held at ISH3, the Applicant will provide a written summary and explanation of battery operation in particular as part of a co-located scheme, as part of its Deadline 4 submissions. This will form an appendix to a battery safety paper being prepared.

- 3.1.12 Peter O'Grady, on behalf of 7000 Acres, suggested that the proposed BESS is not associated development.
- 3.1.13 Ms Stirling, on behalf of the Applicant, referred to paragraph 3.10.2 of the draft National Policy Statement for Renewable Energy Infrastructure (EN-3), which states:
- “Solar also has an important role in delivering the government’s goals for greater energy independence and the British Energy Security Strategy73 states that government expects a five-fold increase in solar deployment by 2035 (up to 70GW). It sets out that government is supportive of solar that is co-located with other functions (for example, agriculture, onshore wind generation, or storage) to maximise the efficiency of land use.”*
- 3.1.14 The response to Q1.1.14 of the Applicant’s response to the ExA’s first written questions [REP2-041] provides more detailed submissions as to how the BESS is associated development, which notes that the BESS does not require additional infrastructure and the import function has an additional benefit (as outlined in the Statement of Need [APP-004]) without any additional environmental impact.
- 3.1.15 Peter O'Grady, on behalf of 7000 Acres, also queried the financial model of the proposed Scheme with regards to the financial incentives of delivering the BESS.
- 3.1.16 Ms Stirling, on behalf of the Applicant, stated that the financial modelling is commercially sensitive and is not a planning matter. Mr Phillips, on behalf of the Applicant, further submitted that the proposed Scheme is being delivered in accordance with planning policy. It is sufficient to show

the Secretary of State that the proposed Scheme is financially viable, which is evident through the cost the Applicant is going to in progressing the application and is justified by the Funding Statement [APP-221].

3.2 Safety issues

- 3.2.1 The ExA asked for the Applicant's views on the safety of the BESS.
- 3.2.2 Ms Stirling, on behalf of the Applicant, set out that the design of the BESS is controlled by requirements 5 and 6 of Schedule 2 of the DCO [REP2-027]. These requirements prohibit the construction of the BESS until the design details and battery safety management plan have been submitted and approved. LCC and NCC have not raised any concerns with these requirements.
- 3.2.3 Mr Gregory, on behalf of the Applicant, noted that the of 1,900 l/min water usage for an incident response, as stated in the Outline Battery Safety Management Plan [APP-222], is in accordance with the National Fire Chief Council (NFCC) Guidelines (April 2023). From a safety perspective, the final BESS and site design should not require the fire service to take direct action. Subject to the size and design of the BESS, the internal fire suppression system will address fire and explosion risk. An internal BESS monitoring system will monitor internal heat flux and allow for boundary cooling to be applied to adjacent BESS if necessary.
- 3.2.4 Mr Gregory further stated that given the battery system and site design may change and also in light of recent international studies on battery safety issues, particularly in North America, the water requirement could be significantly less than the volume stipulated by NFCC guidelines. Firefighting water supply volume will be finalised via approval of the battery safety management plan in accordance with requirement 6 which also requires consultation with the local fire and rescue services to ensure the water requirement is sufficient for the BESS.
- 3.2.5 Even though the BESS is not proposed to have an energy capacity limit, the ExA asked whether the water storage capacity on site is in itself a capacity limiting factor for the BESS.
- 3.2.6 Ms Stirling, on behalf of the Applicant, responded that the working assumption and base case is that the proposed Scheme includes onsite water storage, however, other options are being explored as part of proposed Scheme.

Post-hearing submission: The Applicant can clarify that the volume of water required for firefighting by Lincolnshire Fire and Rescue Service (LFRS) on site will not and should not limit the BESS site MWh energy capacity. The Applicant is currently engaged in discussions with LFRS on the most suitable locations for water tanks to be located on the indicative BESS site plan.

- 3.2.7 In order to determine the volume storage of firewater runoff, NFCC guidance has been used which states provisional firefighting supplies “*should be capable of delivering no less than 1,900 litres per minute for at least 2 hours.*” LFRS could request an increase in this volume if the site location creates difficulties to bring supplementary water supplies in an acceptable incident response timeframe, but actual site supply requirement should be decided at the detailed design stage and in any case would be determined by the parameters not the capacity of the BESS.
- 3.2.8 LFRS will be able to view the selected BESS system fire test data and an independent Fire Protection Engineer will validate the final water supply requirements. The Applicant will not select a BESS design likely to require direct fire or rescue service firefighting engagement.
- 3.2.9 Significant BESS fire research is being conducted in the US and formulas contained in NFPA 1142 (Standard on Water Supplies for Suburban and Rural Firefighting) establish minimum water supply necessary for fighting a BESS fire. Water volumes required for BESS suppression are established during free burn tests and the formula ultimately considers the number of BESS enclosures on site and water is commonly stored in above ground tanks.

Formula example: $WS_{min} = V_{Stot} OHC (CC) * 1.5$

WS_{min} = Minimum water supply in litres

V_{Stot} = Total volume of structure in metres³

OHC = Occupancy hazard classification number

CC = Classification of construction

- 3.2.10 Mr Gregory, on behalf of the Applicant, stated that the worst-case scenario is loss of a single battery container and this should be demonstrated through large scale testing. Fire and explosion testing is used to determine the internal suppression system requirements and safe spacing between containers. The external firefighting water used in an incident can be captured, tested and reused.

4. Item 9 – Adjourn hearing (Session 2)

4.1 Review of issues and actions arising

- 4.1.1 The ExA requested that the Applicant provide further information about the nature of the batteries and specifications and figures for the generating capacity of the scheme.

Post-hearing submission: The Applicant is working on a separate BESS paper to be submitted at Deadline 4.

- 4.1.2 The ExA also noted it would be helpful if the Applicant provides a statement on the BESS by Deadline 4 in response to the concerns raised by NCC and Mr Clegg.

Post-hearing submission: The Applicant will await further submissions to be made by the relevant interested parties at Deadline 3 and will respond to the concerns raised at Deadline 4.

4.2 Any other matters

- 4.2.1 None.

APPENDIX 3: Written Summary of the Applicant's Oral Submissions at Session 3 of ISH3 on Thursday 24 August 2023

1. Attendees (Session 3)

1.1 Examining Authority

1.1.1 Kenneth Stone (the “**ExA**”).

1.2 The Applicant

1.2.1 Amy Stirling (Senior Associate Solicitor) and Gareth Phillips (Partner) at Pinsent Masons LLP – legal advisers for the Application.

1.2.2 Alison Leeder (Associate Director, Major Infrastructure Projects at Arup).

1.2.3 William Barrett (Technical Director at AECOM – Environmental Statement).

1.2.4 Rob Sweet (Associate at AECOM – Flood Risk).

1.2.5 Chris Carter (Regional Director at AECOM – Transport Planning).

1.2.6 James Hemmingway (Principal engineer at AECOM – Transport Designer and Engineer).

1.2.7 Neal Gates (Technical Director at AECOM – Ecology).

1.2.8 Jon Howells (Associate Director at AECOM – Socio-Economics and Public Health).

1.2.9 Edward Robinson (Principal Acoustic Consultant at AECOM – Noise).

1.3 Local authorities

1.3.1 **WLDC**: Shemuel Sheikh (Counsel), Russell Clarkson (Development Management Team Manager) and Alex Blake (Associate Director at Atkins).

1.3.2 **LCC**: Neil McBride (Head of Planning) and Elouise Shieber (Planning Officer).

1.3.3 **NCC**: Stephen Pointer (Team Manager, Planning Policy).

- 1.3.4 **SPC:** Carol Gilbert (Chair).
- 1.3.5 **MGBC:** Steven Spence (Chair) and Christine Denning (Councillor).

1.4 Individual interested parties

- 1.4.1 **7000 Acres:** Simon Skelton, Peter O’Grady and Elizabeth Garbutt.
- 1.4.2 **Independent** (also part of 7000 Acres): Roy Clegg.
- 1.4.3 **Local residents:** Steven Spence and Michael Dover.

2. Item 10 – Construction issues

2.1 Cumulative impact progress and coordination between projects

- 2.1.1 The ExA enquired if there was any update on the considerations being given to the cumulative impacts of construction arising from the other NSIPs within the area of the proposed Scheme. The ExA also asked for a more general update regarding development co-ordination and if so, how such co-ordination is secured.
- 2.1.2 Mr Phillips, on behalf of the Applicant, provided an overview of the four separate NSIP projects currently being developed in the local vicinity. These are Cottam Solar Project, West Burton Solar Project, Tillbridge Solar Project and Gate Burton Energy Park. These projects do not share the same interests overall. Island Green Power is the promoter for Cottam and West Burton. A combination of Tribus Clean Energy and Canadian Solar are promoting Tillbridge. Low Carbon is promoting Gate Burton Energy Park. These companies are separate in that they have different shareholders and funding.
- 2.1.3 Mr Phillips noted that one common denominator is that Pinsent Masons LLP are the legal representatives for all four projects. The purpose of having the same legal representatives is to facilitate the sharing of best practices experienced largely in the offshore wind industry, such as sharing cable corridors and onshore infrastructure, and co-ordinating and collaborating with a view to reduce environmental impacts and land take where possible. The ongoing discussions and interfaces between the Projects have been kept visible. Information is shared between the projects where relevant. Where discrepancies arise between the projects, information sharing enables peer review.
- 2.1.4 Mr Phillips also noted that the promoters of the four projects have voluntarily signed the Cooperation Agreement (Appendix C of the

Interrelationship Report **REP-033**) which requires the promoters to share information, work together and try and find solutions for the benefit of the local land interests. This agreement is publicly available. The collaboration also benefits the promoters by reducing costs for construction, experts and procurement. The promoters continue to collaborate by attending meetings and sharing information regularly. The aim is to streamline the process, which would also benefit local authorities and statutory undertakers where consistency can be achieved. For example, the promoters are looking at the cumulative issues in conjunction with local authorities, in particular, traffic and transport, as the promoters are aiming to co-ordinate their projects. However, it does not prevent different approaches where required for specified projects.

- 2.1.5 Dr Barrett, on behalf of the Applicant, added that section 5 of the Interrelationship Report [**REP-033**] outlines the shared mitigation measures of the cumulative impacts. Section 6 then includes a cumulative impact assessment update. This sets out how the management and mitigation could be achieved by the promoters working together if the construction duration of these projects overlap.

Following publication of the Environmental Statements for West Burton and Cottam, the Preliminary Environmental Information Report (PEIR) for Tillbridge and the submission of the planning application for the Glentworth Oil Project, the Applicant is considering how those assessments have been carried out. Ms Stirling, on behalf of the Applicant, confirmed that the Applicant intends to update the Interrelationship Report for Deadline 4.

Post-hearing submission: The updated report will be submitted at Deadline 4 on 3 October 2023.

- 2.1.6 Mr Carter, on behalf of the Applicant, further noted that the cumulative impact assessment update found no cumulative effects with regards to traffic and transport. It outlines that the main areas of overlap between the projects are the A1500, A145, A-15 and A631. However, the cumulative increases are well below the 30% threshold per the IEMA guidance. Accordingly, this supports the initial conclusion that there are no significant cumulative impacts for traffic and transport from all of these schemes.
- 2.1.7 The ExA asked how the delivery management system as proposed in the Framework Construction Traffic Management Plan [**REP2-020**] and [**REP2-021**] ("**FCTMP**") is going to be co-ordinated with the other NSIP projects to ensure that access is managed and controlled, such as using a similar document or a joint document with multiple signatories.
- 2.1.8 Dr Barrett, on behalf of the Applicant, confirmed that the Framework Construction Environmental Management Plan ("**FCEMP**") [**REP2-033**] is the primary location for securing the commitment. The FCTMP will also

include a commitment in the event that the construction duration of these projects overlaps.

- 2.1.9 Ms Stirling, on behalf of the Applicant, reiterated that the promoters have made a legally binding commitment by entering into the Cooperation Agreement. However, given the promoters of the projects are separate entities and the projects have separate timescales, it is not appropriate to impose a requirement on the promoter of one of the DCOs to a firm commitment for a joint management plan. As part of the updates being carried out to the Interrelationship Report, the Applicant will re-consider the wording around joint traffic mitigation. However, Ms Stirling confirmed that nothing in the documentation intends to bind the other developers.
- 2.1.10 The ExA asked what mechanisms (if any) will be in place to manage construction impacts in the event that all of the schemes are constructed at the same time, such as an assessment or control of construction vehicles, or a cap on vehicle movements.
- 2.1.11 Ms Stirling, on behalf of the Applicant, resisted a vehicle movement cap on the basis the Applicant considers this unnecessary. An assessment has been carried out which has included the other projects and adopted the worst-case parameters (i.e. where the construction periods of the projects entirely overlap). The environmental impacts are substantially lower than the relevant established thresholds and therefore a vehicle movement cap is not required. However, Ms Stirling noted that section 7.6 of the FCTMP already includes the requirement to explore combined mitigation. Ms Stirling later added that an updated cumulative assessment for traffic was submitted at Appendix D of the Interrelationship Report.
- 2.1.12 The ExA asked if a planning obligation with National Highways, or some other method, is required for the restoration of the impact of highways, roads and verges.
- 2.1.13 Mr Carter, on behalf of the Applicant, stated that the DCO requires compliance with the FCTMP, which includes a requirement to carry out a road condition surveys before and after construction. Ms Stirling later confirmed that the FCTMP also addresses road restoration at paragraphs 7.4.2 and 7.4.3 by providing that the surveys are to identify defects 'for re-instatement'.
- 2.1.14 In response to a question from Ms Gilbert, Mr Carter confirmed that the baseline traffic surveys were carried out in March and April 2022 (between 22nd to 28th March, with the exception of A156 (south of A1500) which was resurveyed between 30th March to 10th April due to a technical issue), as set out in the Transport Assessment [**APP-166**].

2.2 Compound and general accesses changes

- 2.2.1 The ExA asked whether the latest version of the vegetation removal plan [REP2-017] provided for the amended wording for access designs in [REP2-021] and [REP2-022]. Ms Leeder, on behalf of the Applicant, confirmed yes.
- 2.2.2 The ExA also flagged that the latest guide to the application [REP2-002] provides that the FCEMP is not a certified document. Ms Stirling, on behalf of the Applicant, confirmed that this is a typographical error and will be fixed.

Post-hearing submission: The Applicant has submitted an updated Guide to the Application at Deadline 3 to correct the errata.

2.3 Site accesses on grid connection corridor during operation

- 2.3.1 The ExA asked for the Applicant's response to NCC's concerns of retaining the construction width of the grid connection corridor access points during operation of the scheme, for maintenance access.
- 2.3.2 Mr Hemmingway, on behalf of the Applicant, confirmed that the grid connection corridor access locations' footprint will be reduced during operation. Dr Barrett, on behalf of the Applicant added that the FCEMP will be updated to reflect future use as part of the review of operational phase access commitments. The Applicant has had discussions with NCC and agrees for the accesses to be reduced to suit continued use of the landowner. The FCEMP and the FCTMP will be updated to reflect this commitment.

3. Item 11 – Flooding

3.1 Response to detailed flood issue around specific location raised by Michael Hare

- 3.1.1 The ExA referred to [REP-081] and [REP-082], which raise concerns about flooding at particular areas. The ExA asked how the Applicant proposes to address these specific flood risk threats, including any mitigation measures.
- 3.1.2 Dr Sweet, on behalf of the Applicant, stated that a site-wide flood risk assessment [APP-142] was undertaken. An additional technical note has been prepared, which considers the property location in question and identifies that the property has an existing risk of flooding (provided within [REP-082]). Sheet 13 of 15 of the Outline Drainage Strategy (ODS)

[APP-141] indicates the locations of the proposed swales within the vicinity of the subject property to manage surface water flood risk.

- 3.1.3 Dr Sweet noted that the Applicant's representatives met with Mr Hare in May 2022 to understand his concerns. The notes from this meeting were circulated for comment and are included in [REP-082]. The meeting was taken into consideration in the technical note dated May 2023 included in [REP-082] and the Applicant will continue discussions with Mr Hare as the Scheme develops.
- 3.1.4 The ExA then queried whether there is any specific mitigation.
- 3.1.5 Dr Sweet responded that specific mitigation is above and beyond the planning requirements for the specific location referred to. Whilst there are options available which are still part of the discussions with Mr Hare, further location specific mitigation is not required as a result of the Scheme.
- 3.1.6 In response a query from an Interested Party about the Applicant's maintenance schedules to keep watercourses running, including the River Trent, Ms Stirling (on behalf of the Applicant) confirmed the Applicant has various management plans for the duration of the Scheme, including the ODS [APP-139- APP-141]. The ODS has been prepared and surface water runoff will be managed in accordance with the required planning policy. Climate change was also considered when preparing the ODS.
- 3.1.7 Interested Parties also raised concerns about the water run off effect from the 'drip line' and suggested a potential increase in flood risk for residential properties along Kexby Lane.
- 3.1.8 Dr Sweet, on behalf of the Applicant, directed the Examiner to paragraph 3.3.4 within the ODS [APP-139] and also noted that the area at the drip line would not be compacted by vehicles due to the panel height in this location (0.8 m above ground level, therefore maintenance vehicles or access roads would not encroach on this area).

Post-hearing submission: The ODS [APP-139] to [APP-141] assesses the pre and post development runoff for contributing areas. This identifies the required attenuation volume (including an allowance for infiltration) for surface water management features (swales and attenuation/infiltration basins) across the site. This has been undertaken in line with Design Guidance and Policy requirements described in Section 3.1 of the ODS. This includes a rainfall uplift allowance of 40% to account for the effects of climate change.

Details of proposed adoption and maintenance are provided in Section 3.13 and Annex C of the ODS. Furthermore, the Framework Operational Environmental Management Plan [REP2-035] provides mitigation measures for the Water Environment (Table 3-4) that are relevant to drainage and flood risk.

- 3.1.9 Dr Barrett, on behalf of the Applicant, then responded that the Applicant is aware of the existing flooding that has historically taken place for the properties along Kexby Lane. The Framework Operational Environmental Management Plan (FOEMP) [REP2-035] secures a number of relevant commitments for operational phase surface water management. Section 9.9 & 9.10 of Chapter 9 of the ES: Water Environment [APP-018] also confirms that with the adoption of the proposed management measures, the proposed scheme does not change the run off rates at the boundaries of the properties of the site.

4. Item 12 – Ecology

4.1 Update on progress with Natural England

- 4.1.1 The ExA asked for an update on Natural England's position on ecological impacts for protected species licensing.
- 4.1.2 Mr Gates, on behalf of the Applicant, confirmed that the Applicant has not received any further comments from Natural England in relation to biodiversity and protected species licensing and considers this matter to be agreed.

5. Item 13 – Electromagnetic fields (EMF)

5.1 Human Health

- 5.1.1 The ExA referred to the recent submission from the UK Health Security Agency (“UK HSA”) [REP2-066], which queries the methodology and calculations used in accordance with the relevant guidelines when assessing EMF impacts.
- 5.1.2 Mr Howells, on behalf of the Applicant, noted that the methodology is outlined in Chapter 14 of the ES: Human Health and Wellbeing [APP-023] and is consistent with the methodology used in reports prepared for National Grid.
- 5.1.3 Mr Howells also confirmed that the Applicant has drafted a response to the submission made by UK HSA. He raised two points covered by the response:
1. The minimum distance of residential receptors to 400kv cables is 10 metres, which allows access for construction vehicles. This is included in the FCEMP and Outline Design Principles [REP2-008]. Burying the cables is a mitigation measure as the EMF levels are

notably higher if the cables are overhead. The cable is anticipated to be buried to depth of at least 0.9 metres. The reference level of exposure of a 400kv cable buried at this depth is 96% if under a property, 4% at 5 metres and 1% at 10 metres. On this basis, the maximum EMF complies with International Commission on Non-ionizing Radiation Protection (ICNIRP) guidelines for residential dwellings, even without taking into account the minimum 10-metre distance between residential receptors and cables.

2. In respect of the public rights of way, Mr Howells noted the exposure is only temporary and is similar to the exposure levels associated with general household appliances.

Post-hearing submission: The technical report that addresses UK HSA's queries raised in [REP2-066] is anticipated to be submitted to UK HSA on 7th September. Once agreed with UK HSA, the Applicant will submit the technical report into Examination.

5.2 Impact on ecology

- 5.2.1 The ExA referred to the submission of Roy Clegg [REP-089], which raises concerns of EMF impacts on marine life, flora and fauna. The ExA asked the Applicant if this has been considered with Natural England.
- 5.2.2 Mr Gates, on behalf of the Applicant, stated that Natural England has not raised this issue. Mr Gates also reiterated that this is not a relevant issue as the high number of underground cabling (some of which traverse designated sites) gives no evidence to suggest that there are any EMF impacts on ecological biodiversity in the UK. Conversely, the monitoring information of solar farms shows that solar farms can have positive impacts on biodiversity.
- 5.2.3 The ExA asked if there were any additional mitigation measures, other than burying the cables, to displace the EMF.
- 5.2.4 Ms Stirling, on behalf of the Applicant, confirmed that no additional mitigation measures are required as burying the cables at such a depth creates an adequate EMF barrier. However, Ms Stirling confirmed that the Applicant will respond to Mr Clegg's submission in writing. The Applicant will also liaise with Natural England to seek to include a note in the Statement of Common Ground of Natural England's position on the EMF impacts on ecology.

6. Item 14 – Noise

- 6.1.1 The ExA asked whether the exceedances of Significant Observed Adverse Effect Level (SOAEL) can be further addressed. The ExA also

sought clarification as to whether the acoustic fencing for horizontal directional drilling (HDD) is a commitment.

- 6.1.2 Mr Robinson, on behalf of the Applicant, confirmed that the Applicant has committed to a hierarchy of mitigation measures for the HDD. Flexibility is required as the locations are not fixed. The Applicant commits to acoustic barriers if the nighttime SOAEL is exceeded at sensitive receptors. The commitment is made within Table 3-6 of the FCEMP [REP2-035].
- 6.1.3 Mr Robinson also stated that the SOAEL at 66 High Street is a precautionary identification of an exceedance, which will be assessed during construction. In practice, a SOAEL exceedance is unlikely as the cable route is not fixed and the noise generating plant is mobile. Community engagement will keep residents informed of time of work, based on British Standard 5228.
- 6.1.4 The ExA asked if an exclusion zone could be used for the grid connection corridor.
- 6.1.5 In response, Dr Barrett, on behalf of the Applicant, confirmed that the Applicant's intention is aiming for the SOAEL not to be exceeded. The mitigation wording in the Framework CEMP would be reviewed to strengthen this commitment.

Post-hearing submission: The Applicant intends on submitting the updated FCEMP at Deadline 4.

7. Item 15 – Review of issues and actions arising

- 7.1.1 The ExA requested that the necessary documents be updated and the Applicant's written summaries of oral submissions to be submitted at Deadline 3 on 1 September 2023.

8. Item 16 – Any other matters

- 8.1.1 None.