EAST YORKSHIRE SOLAR FARM

East Yorkshire Solar Farm

EN010143

Applicant's Responses to Submissions Received at Deadline 4

Document Reference: EN010143/APP/8.47

Planning Act 2008
The Infrastructure Planning (Examination Procedure) Rules 2010

September 2024
Revision Number: 00

2009

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1. Introduction

1.1 Purpose of this document

1.1.1 The purpose of this document is to provide East Yorkshire Solar Farm Limited's (the Applicant) responses to submissions received at Deadline 4 of the Examination for East Yorkshire Solar Farm (EYSF) (the Scheme).

1.1.2 The Development Consent Order (DCO) application (the Application) for East Yorkshire Solar Farm was submitted on 21 November 2023 and accepted for Examination on 19 December 2023. Deadline 4 of the Examination was on 14 August 2024.

1.1.3 A total of 36 submissions were submitted to the Examination at Deadline 4. 30 of these were from the Applicant, with 6 being from Interested Parties. To avoid repetition the Applicant has focused on comments that make points that have not been addressed previously, within the Applicant's Responses to Relevant Representations **[REP1-066]** , the Applicant's Responses to the Examining Authority's Written Questions for Deadline 1 **[REP1-081]** and the Applicant's Responses to Examining Authority's Second Written Questions **[REP4-030]** or where the Applicant considers that further clarification may be useful.

1.2 Structure of this document

1.2.1 This document provides responses from the Applicant to submissions received at Deadline 4, and is structured as follows:

a. **Table 2-1**: Applicant's Responses to East Riding of Yorkshire's comments on the Applicant's Responses to Local Impact Reports **[REP3-032]**

b. **Table 2-2**: Applicant's Responses to East Riding of Yorkshire Council's Comments on Issue Specific Hearing 2 ExA Environmental Matters Raised

c. **Table 2-3**: Applicant's Responses to Statutory Consultee Responses on the ExA Second Written Questions

d. **Table 2-4**: Applicant's Responses to Submissions Received at Deadline 4 – Public Comments

1.2.2 Submissions received by Interested Parties are presented as verbatim text (unless indicated otherwise) and are then responded to by setting out the Applicant's position on the matter at the time of writing. The reference number column in the tables below refers to the reference given to the submissions made by Interested Parties.

1.2.3 The documents submitted with the Application are also referenced in this document, using the reference number [APP/x.y], where the last two/three numbers are the application document number, as set out in the Examination Library. All documents are also presented in numerical order in the Guide to the Application **[REP4-002]**.

1.2.4 The submission received from the Ouse and Derwent Internal Drainage Board **[REP4-035]** confirms that they have no outstanding representations/objections, therefore a response to this is not considered necessary.

Table 1-1. List of Interested Parties that submitted Responses at Deadline 4

RR/Examination Reference Number	Interested Party
REP4-031	East Riding of Yorkshire Council
REP4-032	East Riding of Yorkshire Council
REP4-033	North Yorkshire Council
REP4-034	Environment Agency
REP4-035	Ouse and Derwent Internal Drainage Board
REP4-036	Michael Field

1.2.5 For ease of reference, a table of acronyms used in this document is provided in **Table 1-2** of this document.

Table 1-2. Abbreviations

Abbreviation	Definition
ALC	Agricultural Land Classification
BMV	Best and Most Versatile Land
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DEMP	Decommissioning Environmental Management Plan
ERYC	East Riding of Yorkshire Council
ES	Environmental Statement
EPR	Environmental Permitting Regulations
EYSF	East Yorkshire Solar Farm
ExA	Examining Authority
GP	General Practice
HDD	Horizontal Directional Drill
LEMP	Landscape and Ecological management Plan
LIR	Local Impact Report

Abbreviation	Definition
LOAEL	Lowest Observed Adverse Effect Level
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MW	Megawatt
NYC	North Yorkshire Council
OEMP	Operational Environmental Management Plan
PROW	Public Right of Way
PV	Photovoltaic
SMP	Soil Management Plan
SOAEL	Significant Observed Adverse Effect Level
WMS	Written Ministerial Statement

2. Applicant's Responses to Submissions Received at Deadline 4

2.1 Statutory Consultees

Table 2-1. Applicant's Responses to East Riding of Yorkshire's comments on the Applicant's Responses to Local Impact Reports [REP3-032]

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
REP4-031	East Riding of Yorkshire Council	**Impact on BMVL- Paragraph 7.38 of LIR** The Applicant has committed to targeted surveys of agricultural land within the Grid Connection and Interconnecting Cable Corridors (including compound locations) which will be subject to disturbance by the Scheme. These surveys are to be undertaken post consent / pre-construction (when detailed design is available and areas of disturbance are known), as stated within Table 11 of the CEMP [REP1-053] which is secured through Requirement 11 of Schedule 2 of the draft DCO [REP1-006].	Agreed	The Applicant notes this response.
REP4-031	East Riding of Yorkshire Council	**Impact on BMVL- Paragraph 7.38 of LIR** The pre-construction soil surveys will accurately define ALC grading in the working widths of the Grid Connection and Interconnecting Cable Corridors and provide detailed soils information to inform the detailed Soil Management Plan (SMP) (which is secured through Requirement 15 of Schedule 2 of the draft DCO [REP1- 006])	Agreed	The Applicant notes this response.
REP4-031	East Riding of Yorkshire Council	**Impact on BMVL- Paragraph 7.38 of LIR** The survey methodology (density of sampling) for these targeted pre-construction surveys has been agreed with Natural England as described Appendix 15-4: Communications with Natural England, ES Volume 2 [APP118].	NE standard requirements are 1988 Guidelines and TIN049, so agreed.	The Applicant notes this response.
REP4-031	East Riding of Yorkshire Council	**Impact on BMVL- Paragraph 7.38 of LIR** Furthermore, post-restoration surveys will be undertaken to determine whether target soil profile specifications have been met. Comparison of the pre- and post-construction surveys will verify that the land has been restored to the required standard.	Agreed if suitable schedule of condition is made.	The Applicant notes this response.

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
REP4-031	East Riding of Yorkshire Council	**Impact on BMVL- Paragraph 7.38 of LIR** The Applicant considers it premature to identify a grazier, as this will be influenced by market conditions. The independent grazing study [APP-071] concluded that the Solar PV Site was suitable for grazing.	The weight that can be given to the grazing argument is reduced if no grazier is identified and if this is considered an important feature to maintain agricultural productivity, it should be made a requirement. The ALC report acknowledges that the majority of the land is arable in nature and in consequence there may not be many sheep farmers or graziers interested in taking the land.	The assessment set out in Chapter 15: Soils and Agricultural land, ES Volume 1 **[APP-067]** assumes as a worst case scenario that grazing will not be used and that all land within the Solar PV Site will be removed from agricultural use at the start of the construction period. The assessment concludes that no significant adverse effects to soils or agricultural land are predicted to occur as a result of the Scheme. Given the assessment conclusions there is no requirement to maintain agricultural use through sheep grazing. The Applicant has however commissioned an independent consultant to review the feasibility of sheep grazing on the grassland beneath solar panels, which has shown it is feasible for sheep to graze on the land. More detail is contained within the Grazing Feasibility Study, Appendix 2-1, ES Volume 2 **[APP-071]**. As grazing achieves an essential maintenance function (maintaining the grass at a low level) without the need for/cost of machinery, it is possible for solar farms to use less agriculturally productive breeds (such as heritage breeds) and to graze at low densities. The agricultural business model for grazing would be around the provision of vegetation management services in combination with the sale of fleece, meat or other products. The current landowners may not have sheep husbandry skills, but these can be developed, or other shepherds may wish to rent the land to keep and expand their own sheep enterprises. Grazing by sheep is the Applicant's preferred option for the management of the grassland created within the solar farm.
REP4-031	East Riding of Yorkshire Council	**Design, Landscape and Visual Impact- Paragraph 7.46 of LIR** The Applicant notes the comments with regard to the details (including offsets from existing vegetation and retention of existing vegetation and replacement planting) to be brought forward as part of a detailed LEMP under Requirement 6 of the draft DCO [REP1-006] and as part of detailed design under Requirement 5 of the draft DCO [REP1-006]. As stated in section 1.4 of the Arboricultural Impact Assessment (AIA) [APP-102], the offsets from trees have been applied where practicable as a design principle, the Site has been subject to a walkover and ancient and veteran trees have been identified and recorded in detail. A small number of trees at risk of impact from the final design for the Scheme have not been fully surveyed but have been assessed via desk study (and reviewed by the original veteran/ancient tree walkover) and these features are clearly marked	Acknowledged most of comments refer to details (including offsets from existing vegetation and retention of existing vegetation and replacement planting) to be brought forward as part of a detailed LEMP under Requirement 6 of the draft DCO [REP1- 006] and as part of detailed design under Requirement 5 of the draft DCO [REP1-006]. Accepted that wider opportunities to provide landscape enhancements within the Lower Derwent Valley would have required additional agreements with respective landowners and would not be required in respect to mitigating identified impacts but could have provided additional benefit.	The Applicant notes this response.

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
		on the Tree Protection Plan (Annex E). These trees will be surveyed in detail to inform the development of the Arboricultural Method Statement as part of the CEMP secured as Requirement 11 of the Draft DCO [REP1-006]. Shading impacts from trees are considered in section 4.6 of the AIA [APP-102] and the design has been developed so that solar panels are generally set well back from areas of shade associated with trees. Shading from trees and panel positions will be further considered as part of the detailed design process. In response to the frequency of CCTV system poles the proposed spacing of 50m relates to the capabilities of the CCTV camera assumed to be provided, it would be highly likely that the distance would be much further and is dependent upon the final CCTV design. The Applicant is proposing to use wooden poles rather than metal as they do not require a concrete foundation unlike metal. Green corridors are shown on the Landscape Masterplan within the Framework Landscape and Ecological Management Plan (LEMP) [REP1-063]. Proposed flower rich grassland, proposed species rich grassland and proposed woodland edge mix planting are proposed along the PRoW corridors that will be impacted by the Scheme. In response to the point regarding the Grid Connection Corridor and opportunities for enhancement with the Lower Derwent Valley, the Applicant has considered this however notes that none of its landscape and visual assessment work undertaken would require any mitigation in this area and thus provide opportunities for enhancement also. The Applicant is proposing to lay the Grid Connection Cable and then return the land to its original condition with replacement planting provided if existing vegetation is required to be replaced. The Applicant notes the comment regarding the creation of grassland east of the Solar PV Area 1e and can confirm the extent of the area proposed is substantial at 18.26 hectares.		
REP4-031	East Riding of Yorkshire Council	**Design, Landscape and Visual Impact- Paragraph 7.57 of LIR**	No further comment, Accepted that wider opportunities for permissive paths beyond the solar PV areas would have required	The Applicant notes this response. The Applicant's response to Q7.0.5 of the ExA's Second Written Questions **[REP4-030]** sets out further discussion in relation to the principles which have been

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
		The use of PRoW by visual receptors is taken into account in the assessment of susceptibility. This includes the status of routes. Strategic routes have been assigned as high susceptibility, whereas local routes have been assigned as medium susceptibility in Appendix 10-2 – LVIA Methodology, ES Volume 2 [APP-099]. Duration is considered within magnitude of impacts and taken into consideration in the assessment of impacts for visual amenity within Chapter 10: Landscape and Visual Amenity, ES Volume 1 [REP1-014]. The Detailed LEMP, which will be substantially in accordance with the Framework LEMP [REP1-063], will need to be approved post consent with the relevant local authorities and this is secured by Requirement 6 of the Draft DCO [REP1-006]. Where additional hedgerow planting is required then this can be included within the Detailed LEMP. The Framework LEMP [REP1-063] sets out where existing hedgerows will be improved and managed and the specific details will be included in the Detailed LEMP. Mitigation for where the Solar PV Areas lie alongside PRoW is as set out in the Framework LEMP [REP1-063]. This includes buffers of either 15m where Solar PV Areas lie to one side of the PRoW and 20m where Solar PV Areas lie both sides, of intermittent planting of woodland edge planting and flower rich and species rich grassland. The mitigation has aimed to not screen views of the solar PV panels but allows a softening of the view into the Solar PV Areas and allows for longer views. It is professional practice to use assessment years 1 and 15 for operational assessment of impacts. Year 15 is a reasonable length of time that allows for establishment of mitigation tree, shrub and hedgerow planting. Beneficial effects of grassland, shrub and hedgerow planting will be evident prior to Year 15. In a meeting with ERYC Countryside Access Team in February 2023 it was confirmed that the routeing of the two proposed Permissive Paths (as shown on Figure 2-2, ES Volume 3 [APP-137] and Figure 2-3, ES Volume 3 [APP138]) aligned with the Council's views regarding Permissive Path provision for the Scheme and would reinforce the existing network by	additional agreements with respective landowners and would not be required in respect to mitigating identified impacts but could have provided additional benefit.	embedded into the design in order to mitigate potential adverse landscape and visual effects to PRoW throughout the Scheme.

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
		linking to Bridleway East Yorkshire Solar Farm Document Reference: EN010143/APP/8.29 Applicants Response to Local Impact Reports Prepared for: East Yorkshire Solar Farm Limited July 2024 18 LA Para. Ref. LIR Comment Applicant's Response SPALB08 and footpath SPALF14 creating circular routeing. As approximately 1,740 m of the c. 1,990 m of Permissive Paths created would allow travel on horses this would also reinforce the Council's aspirations for the provision of recreational routes for equestrian users. Permissive Paths can only be delivered on land over which the Applicant has control during the operational life of the Scheme. As discussed in paragraph 2.7.42 (page 62) of Chapter 2: The Scheme, ES Volume 1 [APP-054] the creation of Permissive Paths is consequently restricted to the Solar PV Site as this land will remain in control of the Applicant, whereas land within the Grid and Interconnecting Cable Corridors will be returned to the landowners following construction. It is noted that the land within the Ecology Mitigation Area also remains in the control of the Applicant, however, to provide the maximum ecological benefits in this area (and the habitats and species within it) it should be disturbed as little as possible and so Permissive Paths are not proposed within this area. The creation of permissive footpaths outside the Solar PV Site has therefore not been proposed.		
REP4-031	East Riding of Yorkshire Council	**Design, Landscape and Visual Impact- Paragraph 7.62 of LIR** The Applicant notes this comment.	As noted previously the submitted LVIA is considered to provide an accurate assessment of the visual and landscape impacts of the development and the proposed design generally provides good levels of mitigation in terms of the use of both existing and proposed landscape features. The extent to which the significant impacts identified at the local level are mitigated will depend on the detailed design and successful implementation of the proposed mitigation and enhancement measures. The Framework Landscape and Ecological Management Plan (EN010143/APP/7.14) provides the basis for this and it is acknowledged that the Detailed LEMP will be substantially in	The Applicant notes this response. A detailed LEMP will be prepared post consent which will be in substantial accordance with the Framework LEMP and approved by the East Riding of Yorkshire Council and North Yorkshire Council. This is secured by Requirement 6 in Schedule 2 of the draft DCO **[REP3-004].**

Examination Library Ref.	Name	Applicants Response to LIR [REP3-032]	ERYCs Response at deadline 4	Applicant's Response at deadline 5
			accordance with this document and will need to be approved post consent with the relevant local authorities, secured by Requirement 6 of the Draft DCO [REP1-006]. Our request that additional landscaping and mitigation are considered to off-set the significant impacts identified at the local level has been noted by the applicant which we would hope to see evidence of at the detailed design stage. Noted on the accompanied site visit, the detail of the proposed ecological enhancement areas will be particularly important where the location of these areas is within the vicinity of residential properties/village settings providing a dual purpose of ecological benefit and visual amenity. Whilst the co-benefits of green infrastructure is appreciated, careful design of these elements will be required to ensure that the proposed habitat types achieve both these objectives. It is accepted that wider opportunities to provide landscape enhancements within the Lower Derwent Valley and permissive paths beyond the solar PV areas would have required additional agreements with respective landowners and would not be required in respect to mitigating identified impacts. However, these provisions could have provided additional benefit for the scheme beyond that required for mitigation.	

Table 2-2. Applicant's Responses to East Riding of Yorkshire Council's Comments on ISH2 EXA Environmental Matters Raised

Examination Library Ref.	Name	ISH2 Item 2b- EXA environmental matter raised	ERYCs Comment	Applicant's Response
REP4-031	East Riding of Yorkshire Council	Use of agricultural lands and scale of change	The impact is considered to be only significant locally, due to the size and scale of the solar farm. There will be some impact on the local farming scene, with possible job losses, but small scale. There is expected to be an employment loss of three jobs as a result of the Scheme. The 'switch' from mainly arable farming to	The net change in employment is positive during construction and neutral during operation, as the Applicant has estimated that: - during construction, on average 401 total net jobs per annum during the construction period, and of these, 181 jobs per annum will be expected to be taken up by residents within the Study Area (Paragraph 12.67.13, Chapter 12 Socioeconomics and Land Use, ES Volume 1 **[APP-064]**).

Examination Library Ref.	Name	ISH2 Item 2b- EXA environmental matter raised	ERYCs Comment	Applicant's Response
			possible sheep grazing will be significant, particularly as the farms concerned are currently arable and it will rely upon an outside grazier to manage.	- to operate and manage the solar farm there will be a gross number of three permanent jobs generated by the Scheme (Chapter 12 Socioeconomics and Land Use, ES Volume 1 **[APP-064]**). The net change is therefore zero. The assessment set out in Chapter 15: Soils and Agricultural land, ES Volume 1 **[APP-067]** conservatively assumes – because a grazier has not yet been identified – that grazing will not occur onsite, and therefore should grazing occur, it would generate additional employment onsite during operation. The Scheme will also support several additional offsite jobs, through the remote management of the operational solar farm and maintenance workers. Chapter 15: Soils and Agricultural land, ES Volume 1 **[APP-067]** therefore concludes that no significant adverse effects to soils or agricultural land are predicted to occur as a result of the Scheme. With regards to the scale, Chapter 15: Soils and Agricultural land, ES Volume 1 **[APP-067]** notes that the Solar PV Site uses 61.4 ha of BMV land, and there is almost 215,000 ha of BMV land in the administrative areas of East Riding of Yorkshire Council and the former Selby District Council. This is 0.03% of the regional BMV land. There is permanent loss of only 0.67 ha of BMV (e.g. woodland planting), which constitutes 0.0003% of the regional BMV land.
REP4-031	East Riding of Yorkshire Council	Loss of BMVL and amount of agricultural land being used	The ALC report confirms that the majority of the land is not BMV. The actual stated permanent loss is quite small, where roads, substations and other infrastructure require soil stripping and disruption. Where the panels are to be erected and areas planted to environmental measures are proposed, these are considered as 'temporary' losses of land only; however 40 years is a relatively long time. Whether this land will ever return to productive arable farming in the future remains an open question, as no substantial solar farms have yet been decommissioned. The evidence available does not confirm or deny the possibility of full restoration of land to its former capability.	The Applicant notes this response. The Applicant has prepared a Framework Decommissioning Environmental Management Plan (DEMP) **[REP3-014]** setting out the decommissioning strategy for the Scheme. A detailed DEMP (which must substantially accord with the Framework DEMP **[REP3-014]**) will need to be approved prior to decommissioning with the relevant local authorities and this is secured by Requirement 18 of Schedule 2 to the Draft DCO **[REP3-014]**. Table 11 of the Framework DEMP **[REP3-014]** sets out the mitigation and enhancement measures relating to soils and agricultural land during decommissioning. This includes the preparation of a Soil Management Plan (SMP), prior to the start of decommissioning, following the guidance at the time. This will be based upon the Framework SMP **[REP1-058]** and the SMP prepared for the construction phase.
REP4-031	East Riding of Yorkshire Council	Loss of traditional agricultural land, produce grown for human consumption, animal feed or biomass	Most of the crops currently grown are arable, some for human consumption, some for animal feed and the remainder as biofuel crops (eg maize). The loss of food crops would only be cumulatively significant, but Food Security has been	The Applicant notes this response.

Examination Library Ref.	Name	ISH2 Item 2b- EXA environmental matter raised	ERYCs Comment	Applicant's Response
			raised by WMS May 2024. Animal feeds and biofuel crops may well be normal in a farming rotation and again their loss will only be cumulatively significant unless the biofuel is to 'feed' a small, local anaerobic digester, which if the case could be affected, though this seems unlikely.	
REP4-031	East Riding of Yorkshire Council	Other comments – soil management	The Soil Management Plan appears comprehensive and should be a conditioned and to include during decommissioning and site restoration. The other documents OEMP and CEMP, contain similar statements with regard to soil handling, ALC and drainage issues and we broadly accord with the details, subject to any further amendments during the process.	The Applicant notes this response. A detailed Soil Management Plan, which must be in substantial accordance with the Framework Soil Management Plan **[REP1-058],** will be prepared and will need to be approved prior to construction with the relevant local authorities and this is secured by Requirement 15, Schedule 2 of the Draft DCO **[REP3-014]**. A Framework DEMP **[REP3-014]** setting out the decommissioning strategy is included with the Application. A detailed DEMP (which must substantially accord with the Framework DEMP **[REP3-014]**) will need to be approved prior to decommissioning with the relevant local authorities and this is secured by a requirement in Schedule 2 to the Draft DCO **[REP3-014]**. Table 11 of the DEMP sets out the mitigation and enhancement measures relating to soils and agricultural land during decommissioning. This includes the preparation of a Soil Management Plan, prior to the start of decommissioning, following the guidance at the time. This will be based upon the Framework Soil Management Plan **[REP1-058]** and the Soil Management Plan prepared for the Construction phase. A detailed Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP) which must substantially accord with the Framework CEMP **[REP3-010]**) and OEMP **[REP3-012]** will need to be approved prior to construction and operation with the relevant local authorities and this is secured by Requirements 11 and 12 in Schedule 2 to the Draft DCO **[REP3-014]**.

Table 2-3. Applicant's Responses to Statutory Consultee Responses to the ExA Second Written Questions

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
REP4-032	East Riding of Yorkshire Council	Q2.0.1- The Applicant's response to ExQ1 Q2.0.4 refers to ongoing correspondence with ERYC regarding finalising the management of the visibility splays, and any passing place strategies required for the Wressle Verge and Tottering Lane, Gribthorpe Local Wildlife	The Nature Conservation Officer has not had any further dialogue on this matter. Accesses 2,3,7 off Tottering Lane and access 17 off Wood Lane appear to cut through the LWS or involve some	The Applicant notes this comment and wishes to confirm that the ongoing correspondence referred to in the Applicant's response to ExAQ2 Q2.0.1 was specifically with ERYC's Highways team. A meeting was held between the Applicant and ERYC's Nature Conservation Officer and Landscape Officer on 9 May 2024 at which

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
		Sites. (a) Is it expected that these discussions will result in an agreed scheme and mitigation measures before the end of the examination? (b) If so, how will the agreed scheme be secured in the draft Development Consent Order (dDCO). If not, how would the dDCO ensure that the scheme and mitigation is secured post consent?	management in order to achieve adequate visibility splays. ERYC welcome further discussions on how this will be achieved and the proposed mitigation measures.	impacts of the Scheme on Wressle Verge LWS and Tottering Lane LWS were presented and discussed. The Nature Conservation Officer raised no concerns as it was confirmed that the limited LWS habitat lost or managed to facilitate access for the Scheme will be mitigated through provision of significant areas of similar habitat within the Solar PV Site. Mitigation measures for the LWSs affected are included in the Framework Landscape and Ecological Management Plan (LEMP) **[REP3-016]**.
REP4-032	East Riding of Yorkshire Council	Q7.0.1- Further consultation on the effect of the proposal on specific Public Rights of Way (PRoWs) and the potential for additional mitigation was discussed at item 2a of the ISH2 on environmental matters [REP3-035]. Please provide an update on whether such discussion has taken place and whether any consequential amendments will be made to the LEMP.	The Countryside Access Team have discussed the Framework PROW Management Plan with the applicant and are satisfied that the additional detail requested, will follow when they are in a better position to provide it (i.e., when contractors are engaged) and that they are committed to early communication with officers to ensure the impact on the PROW network and its users is minimal, and that officers are suitably informed to deal with the management of any closures and any feedback these may prompt. Further consultation between the applicant and ERYC Countryside Access Team has been undertaken with respect to the Framework PROW Management Plan. Consultation did not include a member of the ERYC Trees and Landscape Team in respect to screening with detailed design of the mitigation to be subject to approval based upon the Framework LEMP post permission being considered appropriate. However, we would request confirmation that the detail designs in respect to landscape proposals and ecological mitigation/enhancement areas based upon the Framework LEMP will be subject to approval from the East Riding of Yorkshire Council. We would request confirmation that this is the case as although the Landscape and Ecological Management Plan is included as Requirement 6 of Schedule 2 of the draft	The Applicant notes that ERYC is satisfied that the landscape proposals will be developed through detailed design. It is not considered necessary for details of landscaping to be secured through Requirement 5 (Detailed Design Approval) of Schedule 2 of the draft DCO **[REP3-004]**, as the landscaping details are secured through Requirement 6 (Landscape and Ecological Management Plan) of Schedule 2 of the draft DCO **[REP3-004].** This provides appropriate approval for the detailed landscaping and ecological design. This will come forward as a detailed LEMP (which must substantially accord with the Framework LEMP **[REP3-016]**) and will need to be approved prior to construction with the relevant local authorities.

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
			DCO [REP1-006], the provision of landscape details does not appear to be included within the detailed design approval listed under Requirement 5 of Schedule 2 of the draft DCO [REP1-006].	
REP4-032	East Riding of Yorkshire Council	Q7.0.5- ExQ1 Q9.0.19 sought further information on the cumulative foreshortening / enclosing effect of planting and fencing on extensive views. The response [REP1-081] refers to "a degree of foreshortening of the view for a small number of locations". However, reference to the LEMP Masterplan [REP3-017] and ES Figure 2-2 PRoWs [APP-137] suggest that parts of FOGGF13, FOGGF05, SPALF14, SPALF15, SPALB08, EASTB17, BUBWF10, WRSF06, WRESF08, WRESF09, WRESF07 would have solar arrays on both sides. Please comment further on the cumulative impact of this change and whether there is potential to amend the layout and / or planting proposals in these locations and reduce any foreshortening / enclosing effects.	The Countryside Access Team have further discussed the Framework PROW Management Plan with the applicant and are satisfied that the additional detail requested, will follow when they are in a better position to provide it (i.e., when contractors are engaged) and that they are committed to early communication with officers to ensure the impact on the PROW network and its users is minimal, and that officers are suitably informed to deal with the management of any closures and any feedback these may prompt.	The Applicant notes that ERYC is satisfied with the approach to securing detailed design with regard to PRoW. The Applicant held a meeting on 7 August 2024 with the ERYC Countryside Access officer to discuss matters raised relating to Public Rights of Way. The Applicant explained the Framework Public Rights of Way Management Plan and the Framework Landscape and Ecological Management Plan and the fact that a detailed Landscape and Ecological Management plan and a detailed Public Rights of Way Management Plan would come forward post consent for approval by ERYC and NYC (as relevant) which are required by Requirements 6 and 17 respectively draft DCO **[REP3-004]**. The Applicant's response to Q7.0.5 of the ExA's Second Written Questions **[REP4-030]** sets out further discussion in relation to the principles which have been embedded into the design in order to mitigate potential adverse landscape and visual effects to PRoW throughout the Scheme.
REP4-032	East Riding of Yorkshire Council	Q8.0.2- The Applicant's response to ERYC LIR [REP3-032] includes replies to noise related concerns. Do these replies address your concerns? If not, please set out your remaining concerns	The Environmental Health Officer has provided further comments on the Applicant's response to our LIR with respect to noise. ERYC 7.176 and 7.177 in relation to CEMP It is noted that HDD activities will only be undertaken outside of core working hours if there is a clear and obvious benefit, such as safety reasons or to avoid daytime disruption to many people or if required by the asset owner. It is therefore unlikely that it will be undertaken during the night, but this will be confirmed in the detailed CEMP secured by Requirement 11 of Schedule 2 of the draft DCO. NOTE: The Environmental Health Officer (EHO) would still recommend that in view of the low background noise levels across the development site	ERYC 7.176 and 7.177 in relation to CEMP The LA90 background noise metric relates to the assessment of industrial noise and is not used when assessing construction noise. The LOAEL for construction noise is defined at 45 dB LAeq,8h and the SOAEL for night-time noise is defined at 55 dB LAeq,8h. These definitions are referenced from the Association of Noise Consultants Construction Noise Guide[1], which represents the most modern interpretation of example assessment methods in Annex E of BS5228-1 and the latest industry standard. Although a significant effect on health and quality of life is identified by an exceedance of the SOAEL, a continual exceedance of the LOAEL may warrant identification of a significant effect. With reference to section E.3.3 of BS 5228-1, a duration of one month exposure is identified, which can be applied when determining whether an exceedance of the LOAEL. As HDD night-time works is only likely to last for a matter of days (depending on the length of the drill), a significant effect is not identified by an exceedance of the LOAEL. ERYC 7.178 and 7.185 in relation to CEMP This response is noted. ERYC 7.179-7.181 in relation to OEMP

[1] https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2021/05/ANC-Construction-Noise-Guide-March-2021.pdf

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
			consideration is given to lowering the nighttime construction noise criteria to 45 rather than 55 dB LAeq, T. ERYC 7.178 and 7.185 in relation to CEMP It is noted that the CEMP refers to the Institute of Lighting Professionals Guidance Note GN01 and that the control of light will be secured by Requirement 11 of Schedule 2 of the draft DCO. ERYC 7.179-7.181 in relation to OEMP It is noted that the OEMP has been amended to reflect that works at the weekend will be undertaken between the hours of 08.00-14.00 on a Saturday and not on a Sunday or Bank Holiday. ERYC 7.182 in relation to OEMP It is noted that the OEMP has been amended to refer to the fact that plant will be inspected regularly and any faults that result in increased levels of noise emissions are to be logged and repaired as soon as practicable. It does not address the EHOs concerns regarding the operational noise assessment criteria. ERYC 7.183 and 7.184 in relation to OEMP The applicant's comments that operational noise levels are likely to be substantially lower at night than predictions indicate have been noted, however they have not agreed to lower the SOAEL night-time noise assessment criteria. Whilst the higher noise assessment criteria are likely to be met the distinctive noise from the operation of the development will be clearly audible and more than 10 dB above the night-time background noise level at several residential properties within the East Riding of Yorkshire, namely Gibthorpe Properties, The Long Barn, The Fold Yard, Four Beeches Farm, Gribthorpe,	This response is noted. ERYC 7.182 in relation to OEMP and ERYC 7.183 and 7.184 in relation to OEMP The Applicant's position is that it is not appropriate to set noise criteria on the background noise level when it is 'very low'. An external level of 30 dB LAr,Tr is unlikely to be perceptible external to a property at night, let alone when a property owner is inside their property and benefiting from building façade attenuation of noise. Defining the SOAEL at 30 dB LAr,Tr is not in accordance with the definition of noise effects in the National Noise Policy Statement for England and in Planning Practice Guidance (PPG) Noise, which defines an exceedance of the SOAEL as: "*The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area".* A minimum external level of 40 dB LAr,Tr is adopted as the Significant Observed Adverse Effect Level (SOAEL) for night-time operational noise at a sensitive receptor. This takes into account the context of absolute levels of night-time noise in low noise environments following guidance in section 11 of BS 4142:2014+A1:2019, which states: "*Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night".* The minimum SOAEL for operational noise was defined assuming that a partially open window would attenuate noise by 10 dB so the internal level would be 30 dB LAr,Tr. This level of noise is commonly described as a whisper and aligns with guideline levels of 30 dB LAeq,8h for good sleeping conditions in residential properties (paragraph 11.4.72 of Chapter 11: Noise and Vibration, ES Volume 1 **[REP1-016]**). As such, the approach assumes that an exceedance of the SOAEL may require in windows being closed most of the time to achieve good sleeping conditions in a bedroom. Based on the evidence provided, the operational noise assessment criteria for night time follows policy guidance and is appropriate and proportionate for describing noise effects in a rural area.

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			Crossroad Cottages, Willitoft, Lake View House Willitoft and Cottage Farm Spaldington, unless the transformers/inverters and switchgear are housed within the field station units. The EHO would again recommend that in view of the low background noise levels across the development site consideration is given to lowering the SOAEL night-time operational noise assessment criteria and to housing the transformers, switchgear, and inverters within the field station units, so that the noise does not exceed current background noise levels at the residential properties.	
REP4-032	East Riding of Yorkshire Council	Q9.0.1- ExQ1 Q11.1.3 sought clarification of the proposals for the maintenance and reinstatement of the surfacing of PRoWs, and the management of any adjoining vegetation. The response [REP1-081] refers to highways conditions surveys and commitments within the Construction Traffic Management Plan (CTMP). Highways condition surveys would not, of themselves, provide an enforceable commitment to maintenance and reinstatement proposals and nor is it obvious where such commitment appears in the CTMP [REP1-054]. Please review the CTMP and consider clarifying the proposals for the maintenance and reinstatement of the surfacing of PRoWs and the management of any adjoining vegetation.	The Countryside Access Team require confirmation that the developer is aware of their responsibility to ensure vegetation does not encroach into the line of any public rights of way (or their diverted routes). This could be via the Public Rights of Way Management Plan or the CTMP, although as this scheme will have a Public Rights of Way Management Plan (where many don't), this would seem the most sensible location for this information.	Details of vegetation management are contained within the Framework LEMP. A detailed LEMP (which must substantially accord with the Framework LEMP **[REP3-016]**) will need to be approved prior to construction with the relevant local authorities prior to the commencement of development. This is secured through Requirement 6 of Schedule 2 of the Draft DCO **[REP3-004]**. The Applicant held a meeting on 7 August 2024 with the ERYC Countryside Access officer to discuss matters raised relating to Public Rights of Way. In follow up correspondence the Applicant explained the detailed Landscape and Ecological Management Plan will bring forward full details of the planting and long term management of the vegetation of the PRoW buffers and the ERYC Countryside Access officer confirmed in an email on 14 August 2024 that they are satisfied with this approach which will be provided by the Applicant post consent for approval by ERYC.
REP4-032	East Riding of Yorkshire Council	Q9.0.2- The Applicant's summary of discussions at ISH2 item f [REP3-035] refers to further engagement on the effect of the proposal on specific PRoWs and the level of detail in the Framework PRoW Management Plan. Please provide an update on any such engagement.	The Countryside Access Team have further discussed the Framework PROW Management Plan with the applicant and are satisfied that the additional detail requested, will follow when they are in a better position to provide it (i.e., when contractors are engaged) and that they are committed to early communication with officers to ensure the impact on the PROW network and its users is minimal, and that officers are suitably informed to deal with the management of any closures and any feedback these may prompt.	The Applicant notes this comment. A detailed Public Rights of Way Management Plan would come forward post consent for approval by ERYC and NYC (as relevant) which are required by Requirements 6 and 17 respectively of Schedule 2 of the Draft DCO **[REP3-004]**.

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
REP4-033	North Yorkshire Council	Q5.0.1- The Applicant's response to the NYC Local Impact Report (LIR) [REP3-032] includes replies to human health related concerns. Do these replies address your concerns? If not, please set out your remaining concerns	The Authority notes the response to the Local Impact Report. Officers of the Authority and the applicant have met to discuss the response to the Local Impact Report. The concerns remain the same in most cases. Since the response to the LIR, the applicant has provide further information on the GP figures and we are happy to mark that issue as resolved. The Authority has continued to ask for data gathering as part of the development process and we continue to explore ways that can happen. The Authority has continued to express concern that the assessment of vulnerable groups is not adequately categorised, particularly around the in combination (from the development) and the Cumulative impacts. The parties continue to discuss there points at at this time the Applicant is considering further avenues. We expect to be able to come back with the complete picture at deadline 5.	As noted, the Applicant met with NYC on Mon 12th August to discuss NYC's outstanding concerns, and followed this meeting up by sending some additional information to NYC via email. The Applicant has further considered NYC's request for data gathering during the development process but remains of the view that this requirement would effectively be met through the Community Liaison Groups which are referred to in the Framework CEMP and within the draft DCO (as per Requirement 4 of **[REP3-004]**) and which would be set up if and when consent is granted. We consider that requiring data collection beyond this would be inappropriate and disproportionate to the potential effects of the scheme. Throughout the DCO application process over the past two years, the Applicant has undertaken extensive engagement to enable stakeholders to feedback their concerns about the potential effects of the Scheme, and the Applicant has undertaken considerable work to take account of the information received through this consultation which is presented in the Consultation Report **[APP-025].** The Applicant remains of the view that vulnerable groups have been adequately and categorised within the assessment (as set out in our response to paragraphs 14.7, 14.8 and 14.9 of the NYC Local Impact Report **[REP3-032]**); that in combination and cumulative impacts have been thoroughly assessed (as set out in our response to paragraphs 14.5 and 14.7 of the NYC Local Impact Report **[REP3-032]**; and that overall the work undertaken by the Applicant to assess the health effects of the scheme over the last two years has been comprehensive and proportionate.
REP4-033	North Yorkshire Council	Q7.0.1- The concerns expressed in NYC's LIR regarding the protection of existing trees and tree loss were discussed at item 2a of the ISH2 on environmental matters [REP3-035]. The LEMP has been updated at Deadline 3 (in particular section 8) [REP3-016]. Does this address your concerns? If not, please set out your outstanding concerns. Q7.0.2 The Applicant responded in its Deadline 2 submission [REP2-020] to the Council's concerns regarding: • the absence of an assessed viewpoint on New Road/Wren Hall Lane, the potential loss of vegetation and that the worst-case scenario had not been assessed (in response to ExQ1 Q9.0.1). • the methodology for the assessment of tranquillity (in response to ExQ1 Q9.0.2). • the provision of Green Infrastructure (in response to ExQ1 Q9.0.3). Do these responses, together with the	Thank you for the questions relating to Landscape and Visual. The Authority is aware that updates have been made to the application documents and looks forward to discussing the changes and their adequacy. Unfortunately to this point we have not been able to assess the changes and meet with the applicant to discuss. We have discussed the need to do so with the Applicant and we will endeavour to update the ExA at the next deadline	The Applicant notes this response and has requested a meeting with NYC's landscape officer to discuss the updates to the Framework LEMP and discuss outstanding landscape and visual matters. Notwithstanding, the Applicant's position is that the Framework LEMP sufficiently secures mitigation which addresses NYC's concerns.

Examination Library Ref.	Name	Question	Response to ExA Second Written Questions	Applicant's Response
		updated LEMP [REP3-035] address your concerns? If not, please set out your outstanding concerns.		
REP4-034	Environment Agency	Q4.0.1- Article 6 Application and modification of statutory provisions. a) The Applicant ExQ1 Q5.0.3(a) sought further information on the effects of the disapplications sought. The Applicant's response [REP1-081] states "that they address matters whose merits and acceptability can, and will, already have been sufficiently considered and resolved if the Order is made…" However, in order to recommend that the Order is made the ExQ needs sufficient information to be able to consider whether the disapplications are acceptable, having regard to any relevant Requirements and Protective Provisions (PPs). Please provide a substantive response to Q5.0.3(a). b) The Applicant and the Environment Agency (EA) The SoCG with the EA [REP3-021] advises that the disapplication of the Environmental Permitting Regulations with regard to flood risk is under discussion. The ExA understands that resolution of the matter depends on agreeing appropriate PPs. Is that correct? Please provide an update on the discussions and whether agreement is likely to be reached before the end of the examination. c) The Applicant Please provide an update on progress with the other relevant bodies in relation to legislative requirements proposed to be disapplied and included in the dDCO.	Q4.0.1 (b): We are currently considering whether or not it would be appropriate to agree to the disapplication of EPR and if we are in principle prepared to agree the form of protective provisions we would require to give agreement under s150 PA 2008. As such we are engaged in discussions with the applicant. We hope to be in a position of agreement before the end of the examination	The Applicant notes this response and will continue to engage with the Environment Agency with regards to the disapplication of EPR and protective provisions. A meeting has been scheduled on 3 September for the parties to discuss these matters.

2.2 Public Comments

Table 2-4. Applicant's Responses to Submissions Received at Deadline 4 – Public Comments

Examination Library Ref	Name	Comment	Applicant's Response
REP4-036	Michael Field	The Applicant's response to the ExA request at ISH2 for a Technical Note was submitted at Deadline 3. The narrative and figures are mostly from previous submissions, although there are new details and insights. The information provided does not dispel concerns around the technical merits of the proposal. Rather, it reinforces the concern that fundamental technical issues are being misunderstood, and it introduces inappropriate application of simulation methods in PVsyst.	The Applicant has an experienced team of designers familiar with the PVsyst modelling software who are required to produce robust designs that stand up to the scrutiny of the board, investors, banks, and 3rd Party Technical Advisors as well as public scrutiny through the DCO examination process.
REP4-036	Michael Field	1. New Information. 1.1 [4.1.1] The Applicant used PVsyst to design the layout and simulate the scheme using precise field geometry and forecast radiance levels specific for the site. 1.2 [4.1.4–5] The plan is now for 828,900 panels of 580 Wp each (total 480.8 MWp). PVsyst simulation predicts 663.5 kWh/yr per panel, thus 549.8 GWh/yr for the whole farm. This corresponds to a Load Factor of 13%, which is normal for solar and other renewables. 1.3 [4.1.6] A graph (Figure 2) is included to show daily energy production spanning one year based on irradiance data from 1990. 1.4 [5.1.5] There are 27 PV panels per motor [implying a total of over 30,000 motors]. 1.5 [5.1.7] Figure 3 (Fig 6-6 in the Statement of Need) demonstrates that SAT yields 15% more energy than FSF at an overplanting ratio of 1.2. 1.6 [5.1.8] PVsyst simulation shows that SAT yields 12.3% more energy that FSF: SAT: 663.5 kWh/yr (one panel), 549.8 GWh/yr (whole farm) FSF: 591.0 kWh/yr (one panel), 489.8 GWh/yr (whole farm) 1.7 [6.1.1–14] The Applicant recalculates the land take, relying to a great extent on the methodology used by Mallard Pass Solar Farm (DCO recently awarded).	Indicative Site Layout **[REP1-028]** remains valid as an indicative design which, if the DCO is granted, will be subject to detailed design prior to construction. The detailed design will adhere with the Outline Design Principles Statement **[REP1-051]**. Any new information provided in the technical note **[REP3-038]** has been provided to help answer questions raised during examination but critically it does not change the conclusions of the ES and does not change the characteristics of the design brought forward for examination and consent.
REP4-036	Michael Field	2. Flaws in the Technical Note 2.1 Evaluation of SAT annual energy yield [4.1.4–5] 2.1.1 The Applicant evaluates the total energy yield by simulating the energy from an isolated panel (in PVsyst) and multiplying this by the number of panels. This is not a valid simulation methodology. Just as in the real world, a simulated isolated panel outperforms a panel in an array because it is not curtailed by all the in situ losses: self-shading (adjacent panel tables), environmental shading (hedgerows etc), panel mismatch in the strings, DC cable resistance, inverter losses, overplanting loss	The Applicant has not simulated the energy from an isolated panel. References to a single panel was purely a simplification of PVsyst to assist the ExA and members of the public to more easily understand what has been modelled and the modelled outputs. The Applicant's experienced design team has used PVsyst to generate a professional indicative layout for the solar PV modules/panels across all the proposed fields and creates detailed reports including the output for the annual energy generation. To clarify, the Applicant considers that the 13% load factor is normal for SAT solar in the UK based on current technology. Mr Field refers to it being 10.8% (DUKES) as also referred to in the Statement of Need **[REP2-010]**. Para 5.1.1 of the technical note **[REP3-038]** explains that SAT technology is relatively uncommon in operational UK solar sites, which explains the lower national load factor which is associated with existent FSF

Examination Library Ref	Name	Comment	Applicant's Response
		(clipping), downstream AC losses (in our case, the transformers and the long corridor run), etc. This results in a significantly inflated estimate of solar farm yield. The Applicant's attention is drawn to the PVsyst website and its excellent YouTube channel, where a wealth of information on loss simulation and the correct use of their software can be found. 2.1.2 Furthermore, if the Applicant had indeed made/simulated the claimed model in PVsyst including the "precise field geometry and forecast [sic] irradiance levels" [4.1.1], they would already have the farm's annual energy value. It's the first number in the PVsyst Results window. 2.1.3 The Applicant correctly calculates 13% as the Load Factor1 , based on 480 MW and 549.8 GWh/yr [4.1.5]. The Applicant considers this value 'normal' for solar and other renewables. If you have a passing interest in renewables technology you will be aware that Load Factors vary considerably across the various technologies: solar 10.8%, onshore wind 24.5%, offshore wind 40.3% (2023 data; DUKES 6.3). 2.1.4 The new graph [Figure 2, 4.1.6] based on 1990 meteorological data is a surprising addition. As PVsyst explains, you cannot select a particular year for meteorological data: meteo files are compiled by amalgamating data from ten or more years. (And, why would you choose 1990?) A handy feature of PVsyst though is the ability to download data files into Excel, where you can re-annotate graph axes to suit your documentation requirements. If, like me, you lack experience with PVsyst, you might not be aware that	technology. The applicant also refers to Statement of Need **[REP2-010]** Section 6.7 which explains that although the Applicant accepts that onshore wind has a higher load factor than solar, the energy generated per year per acre for the two technologies is similar. It is noted that Mr Field refers to wind technology outperforming solar load factors, and the Applicant does not dispute this, although a 400MW wind farm on the Site would require about 60 turbines up to 220 m height which introduce other significant effects that are not associated with the Scheme. Paragraph 4.1.6 explains that "*Figure 1 provides a sample illustration of the MWh per day that may be produced by a 480MW dc scheme (based on 1990 irradiance levels - the generation will vary year on year depending on weather conditions). going on to explain that "It is this variability across seasons that makes overplanting an important aspect of the design, to maximise the grid connection offer and deliver as much renewable energy as possible throughout the year*" PVsyst uses climatic and meteorological data in an intelligent and appropriate manner to model the potential annual generation from an indicative scheme layout.
REP4-036	Michael Field	2.2 SAT yields 12.3% higher energy compared to FSF [5.1.7–8] 2.2.1 The PVsyst-derived value for the SAT/FSF advantage, 12.3%, is similarly the victim of an unacceptable simulation methodology. In this instance, the Applicant neglects the fact that SAT is particularly susceptible to shading losses. (Shading computation is, by its very nature, absent from single-panel simulation.) FSF collects most energy around the middle of the day, because it is orientated to face the sun at this time. In the early morning and late evening FSF energy collection is minimal, thus shading (most prominent in the morning and evening) is relatively benign. In contrast, SAT sacrifices some midday energy in exchange for enhanced collection throughout daylight hours. However, this renders it significantly more susceptible to shading losses. The Applicant's use of single-panel simulation goes some way to explain the difference from the relatively modest SAT advantage (2-3%) predicted by PVwatts.2 2.2.2 The high SAT/FSF ratio is potentially supported by the scientific analysis provided in the Statement of Need [and here, 5.1.7], which demonstrates a figure of 15%. The Applicant's analysis is reviewed in the Appendix (below). From a practical standpoint, the analysis lacks credible scientific merit.	The Applicant has used PVsyst to include all the expected panels, with shading effects included within this. A single panel has not been modelled in PVsyst but was used to simplify an explanation of the model within the Note on Scheme Efficiency **[REP3-038]**. Mr Field is correct that, as stated in Statement of Need **[REP2-010]** 6.5.12 that "SAT requires more land per MW(p) but has the potential to generate more MWh/MW(p) than FSF" and therefore overall energy generation to utilise the available grid connection capacity. For the avoidance of doubt, this conclusion holds true when the effects of shading and generation losses are included in the analysis It is noted that Mr Field's comments on Figure 3 in the Note on Scheme Efficiency **[REP3-038]** which has been reproduced from Figure 6-6 in the Statement of Need **[REP2-010]** are reproduced below, and therefore the Applicant has responded to these queries in later rows in this document.

Examination Library Ref	Name	Comment	Applicant's Response
		2.2.3 Further support for SAT is that it is supposedly specified in at least eight NSIP proposals [5.1.1–2]. Five are mentioned by name. Cottam is indeed SAT. Byers Gill is FSF. The remaining three are currently undecided (SAT or FSF), including Mallard Pass, which has been awarded a DCO.	
REP4-036	Michael Field	3. Land Use Efficiency [6.1.1–16] 3.1 "During the ISH the ExA suggested that the ratio should be based on MW ac export and including the ecology mitigation land and grid connection corridor" [6.1.3]. 3.2 No. The ExA pointed out that EN-3 requires that export power (AC) be used in the calculation of land take, not installed capacity (DC). He suggested that fencing and PRoW be included in the land calculation, not ecology mitigation land or the grid connection corridor [timestamp 21:27 to 21:58, Session 2]. 3.3 The high land-take value (6.2 acres/MW) is based on the land classification provided in the Statement of Reason [1.3.2, APP/4.1; areas in hectares]. Areas excluded from the calculation are shown here in green: Solar PV plus substations 966.4 Ecology Mitigation 107.9 Interconnecting Cables 23.5 Grid Corridor (to NG Drax) 168.9 Access routes to site 9.77 TOTAL (solar farm complex) 1000 TOTAL (excluded) 277 TOTAL (ORDER LIMIT) 1277 1000 ha (2471 acres) for 400 MW (AC) equates to 6.2 acres/MW 3.4 In the Technical Note, the Applicant has classified land by Works number and assigned each an area (hectares). #1 Solar PV 748.7 (including fencing and PRoW) #2 Substations 2.0 #3 Grid Corridor (to NG Drax) 261.1 #4 General Works 95.8 (see 3.5.2) #5 Compounds 27.6 #6 Maintenance building 0.3 #7 Access routes 14.0	Mr Field's point is noted. NPS EN-3 unfortunately does not provide a methodology for calculating the acres/MW or explain how the 2-4 acres/MW guideline was derived. The Applicant has therefore sought to apply a methodology used by the promotor and therefore relied upon by the Planning Inspectorate and Secretary of State in the Mallard Pass Solar Farm application (EN010127) which has been consented. Using this methodology, the Applicant refers to the Note on Scheme Efficiency **[REP3-038]** where it calculates the acres/MW of the indicative design to be 3.85 (as per Paragraph 6.1.8 of REP3-038, or 3.94 acres/MW as per Paragraph 6.1.10 following the inclusion of additional land within the Scheme by the Applicant). The Applicant therefore respectfully disagrees with Mr Field's calculations. The land use efficiency is influenced by factors such as field size, field shape, and latitude. As noted in Applicant's Responses to the ExAs Second Written Questions **[REP4-030]**, other solar farms at the same latitude in EYRC (at 49.9MW) have a comparable ratio to the East Yorkshire Solar Farm scheme.

Examination Library Ref	Name	Comment	Applicant's Response
		#8 Ecology Mitigation 126.5 TOTAL (solar farm complex) 765 TOTAL (excluded + General Works) 511 TOTAL (ORDER LIMIT) 1276 765 ha (1891 acres) for 480 MW (DC) equates to 3.9 acres/MW (DC) There are evident discrepancies between the calculations. 3.5.1 The statement that the eight Works areas are "distinct" [6.1.6] is incorrect – their sum exceeds the total of the Order Limit. For example, General Works (Works #4) includes the Grid Connection Corridor [6.1.6] and/or the Construction and Decommissioning Compounds (according to the dDCO). 3.5.2 Hence, the General Works value is adjusted in the table (above) from the reported 1016.4 ha to 95.8 ha, in order that the sum of areas equals the Order Limit. 3.5.3 Solar PV + Substations area has decreased by 22% since the Statement of Reason. 3.5.4 Ecology Mitigation has increased by 17%; the Grid Corridor has increased by 55%. 3.5.5 There is no obvious reason why the Compounds should be excluded, particularly as they are now declared potential sites for PV [6.1.6e]. General Works should probably be included also. 3.5.6 The Applicant contends that it should be allowed to use Installed Capacity (480 MW) in the calculation because Mallard Pass got away with it [6.1.7]. This is not a compelling argument. Also, Mallard came in at a respectably efficient 2.9 acres/MW according to paragraph 3.2.843 in its ExA report. Moreover, Mallard is using overplanting at a commendable ratio of 1.45 [3.2.99]. 3.6 If the proposal had included a battery facility – as is almost universal for NSIP proposals these days – the land-take figure would be even higher. 3.7 It is unlikely that the hectare values in the Statement of Reason were the victims of wholesale unexplained auditing errors.	
REP4-036	Michael Field	Installed Capacity 4.1 The ExA invited the Applicant to address the question of SAT Installed Capacity with a 1.2 overplanting ratio and system losses [47:30 in Session 2; see also REP3-069, last page]. 4.1.1 The Applicant reasserts that 400 × 1.2 = 480 [2.1.2]. In a related response [REP3-033, page 33] to concern over power calculations, the Applicant suggests contacting PVsyst to find out what algorithm they	The illustrative design as brought forward by the Applicant seeks to optimise the quantity of energy generated by the Scheme through the available grid connection. The Scheme is described as overplanting to a factor of approximately 1.2 because the illustrative design includes approximately 480MW of installed panels exporting to the grid through a 400MW connection (480 / 400 = 1.2).

Examination Library Ref	Name	Comment	Applicant's Response
		use. This sheds some light on the Applicant's confusion concerning the distinction between electrical ENERGY and electrical POWER. . 4.1.2 PVsyst is a computationally intensive simulator of ENERGY production and loss (one calculation per hour over a span of one year). It does not compute POWER loss because it does not need to. In contrast, simulation is not required to determine peak POWER values. This is a number you work out with the assistance of a calculator and knowledge of the electrical characteristics of the particular solar installation. 4.1.3 The Applicant's calculus (480 MWp gives you 400 MW export) suggests a failure to comprehend fundamental concepts in solar electrical design. In a final attempt to illustrate what I had naively assumed would be obvious to a solar engineer, consider the following imaginary school Physics question. [SEE FULL RESPONSE FOR IMAGES]	Overplanting ratio, together with electrical losses and other factors do impact on the energy exported from the scheme to the National Electricity Transmission and have been included in the Applicant's assessment of the site and its available grid connection, as a suitable location for large scale solar generation in the UK. MW of installed panel capacity is not a parameter that is fixed by the DCO Application because, unlike parameters such as overall footprint and height, it does not directly affect the environmental impacts of the development.
		Appendix. Figure 3 (Figure 6-6 in the Statement of Need) [SEE FULL RESPONSE FOR IMAGES] The PVsyst simulated performance advantage (12.3%) of SAT over FSF [5.1.8] is supported by the graphical analysis presented in Figure 3 (Figure 6-6 in the Statement of Need), with a measured SAT advantage of 15% [5.1.7]. In fact, careful measurement of the graphical data elicits an energy advantage 13.3% at 1.2 overplanting, which is an even better match to the declared PVsyst value. However, there are features of these curves that call into question the integrity of the presented graphical data. A.1 Most glaringly, the curves have the wrong shape. We cannot test the absolute values, but we can be certain that the energy-per-panels value will reach a maximum at 1.0 and remain at that level as the ratio decreases further (i.e. a horizontal line in graphical representation). No explanation has been offered for the droop below 1.0. A.2 If a graph is presented as scientific evidence the source of its data must always be specified, otherwise the curious reader may wonder if data points are being made up. The only information is "derived from inputs which are appropriate for all solar schemes generally" [Statement of Need, 6.6.24], which is patently impossible. Inputs into what? From where? If nothing else, we know that the SAT–FSF graphical offset will vary considerably between different solar schemes, depending on latitude. A.3 There are artifacts in the graph that one commonly associates with hand-drawn curves. For example, the droop (for whatever reason) starts at 1.0 for FSF. But the equivalent point for SAT has shifted to nearer 0.9 (red): visually more appealing, but how is this scientifically possible?	It is understood that Mr Field is referring to Figure 3 in the Note on Scheme Efficiency **[REP3-038]** which has been reproduced from Figure 6-6 in the Statement of Need **[REP2-010]**. [REP3-038] Para 5.1.7(b) states that "SAT delivers approximately 15% more energy per year as a ratio of the MWp relative to FSF" and that "for the Scheme specifically, PVsyst shows SAT generates 12.3% more renewable energy than FSF for a 400MW ac export" In relation to A.1, the Applicant would explain the "droop below 1" by explaining that if for example the installed generation capacity of a scheme was just 80% of the grid export capacity of that scheme, then the total annual energy generation of that scheme averaged over its lifetime, would be lower than the total annual energy generation of a scheme in which the installed generation capacity was the same as the export capacity of the scheme, again, averaged over its lifetime. The scheme seeks to install at an overplanting ratio of c. 1.2. There is an urgent need for decarbonisation to support security of electricity supplies in the UK, but nationally, grid connection capacity is currently constrained and is projected to remain constrained over the coming decade. Therefore, schemes should strive to optimise the energy they can export to the National Electricity Transmission System over their lifetime. Figure 6-5 and 6-6 of Statement of Need **[REP2-010]** demonstrates that overplanting schemes where possible, optimises lifetime annual average exported energy from those schemes. In relation to A.2, the Applicant is happy to explain to the ExA and Interested Parties, that it has included in its analysis,16 years of solar irradiation data from the European Joint Research Centre (https://joint-research-centre.ec.europa.eu/photovoltaic-geographical-information-system-pvgis_en) In relation to A.3, for the avoidance of doubt, the Applicant has produced Figures 6-5 and 6-6 in the Statement of Need **[REP2-010]** from an analytical excel-based model with the following inputs: 16 years of location-specific PVGIS irradiation data for SAT and FSF panel orientations, a range of overplanting ratios for each orientation, and industry standard assumptions on internal losses and degradation. The graphs are derived from analytical formulae contained in the model.

Examination Library Ref	Name	Comment	Applicant's Response
		And, how is it that overplanting has zero detectable effect on SAT 40-year panel yield until planting exceeds 1.3 (green)? A.4 Related figure: The discredited [REP2-026] "straight lines of best fit" in Fig 6-5 have been discretely removed in the latest revision of the Statement of Need. This editing must have been performed in haste. The associated paragraphs [6.6.29, 6.6.30] still draw conclusions from the (now non-existent) straight lines of best fit. These paragraphs too should be removed.	A.3 asks two questions on Statement of Need **[REP2-010]** Figure 6-6. The Applicant responds that: Because SAT technology has a higher load factor than FSF technology, the annual generated energy of FSF technology (the blue data points to the left of MW(p)/MW(ac) = 1) fall away more quickly than the orange data points of SAT technology. Conversely, because FSF technology generates a higher power / MW(p) than SAT, during times of high solar irradiation, clipped energy due to overplanting is higher in FSF than SAT and indeed, clipped energy becomes noticeable for SAT at an overplanting ratio of c. 1.4. With regards to A.4, the Applicant is grateful for the respondent bringing to its attention the omission of the straight lines of best fi" in Fig 6-5 **[REP2-010]**. For clarity, these lines failed, in error, to transfer in the document pdfing process and an updated Statement of Need is submitted along with Deadline 5 submission. For the avoidance of doubt, the deadline 5 Statement of Need retains paras 6.6.29-6.6.30 and the Applicant stands by the conclusions drawn from them.