

West Burton Solar Project

Environmental Statement Chapter 21: Other Environmental Matters

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Issue Sheet

**Report Prepared for: West Burton Solar Project Ltd.
DCO Submission**

Environmental Statement Chapter 21: Other Environmental Matters

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21 Other Environmental Matters

21.1 Introduction

21.1.1 This chapter considers other environmental topics that do not require individual ES chapters. This chapter addresses:

- Electromagnetic fields;
- Telecommunications, utilities, and television;
- Light pollution;
- Human health – a summary of the relevant assessments in respect of each topic area is provided;
- Major accidents and disasters – this document sets out where these impacts are assessed in the topic chapters and any relevant mitigation measures are secured.

21.1.2 Electromagnetic fields; telecommunications, utilities and television; and light pollution were confirmed to be scoped out of the ES by PINS in the scoping opinion, subject to a number of matters which are addressed in the following sections.

21.2 Electromagnetic Fields

21.2.1 The EIA scoping opinion, appended to this ES at **Appendix 2.2 [EN010132/APP/WB6.3.2.2]** states:

“...Scoping Report paragraph 17.1.4 explains that a 400kV powerline will be underground and used to connect the cable to the grid at the substation location. This will be a short piece of cable and located in an area with existing 400kV powerlines (the proposed solar substation site is located at the existing West Burton A Coal Fired Power Plant). Scoping Report paragraph 17.3.14 states that all residential dwellings will be more than 250m from the Proposed Development’s substations and that levels of the electromagnetic radiation are all predicted to be below ICNIRP reference levels.

On this basis and subject to the provision of technical reporting to demonstrate that relevant design standards have been met for all cabling the Inspectorate is content to scope out consideration of EMF.”

21.2.2 The electrical infrastructure to be developed as part of the Scheme is described in Chapter 4 of the ES, consisting of substations, Battery Energy Storage System (BESS), other equipment and underground cables.

[Technical Reporting](#)

21.2.3 When measured at 1m above ground level, the reference levels for investigating electromagnetic fields for public exposure are 100µT (micro Tesla) for magnetic fields, and 5kVm⁻¹ (kilovolt per metre) for electric fields. This is defined by the stringent 1998 International Commission on Non-Ionizing Radiation Protection (ICNIRP) standards for public exposure (Ref 21.1) and is the basis used for determining public exposure to electromagnetic field in UK policy in National Policy

Statement EN-5 (2011) (Ref 21.2). These reference levels provide guidance for when additional investigation should be undertaken to determine if members of the public are exposed to electromagnetic field effects for a significant amount of time, such as in residential dwellings or business premises.

- 21.2.4 Underground cabling associated with the Scheme consists of 33kV, 132kV, and 400kV cable circuits. It is anticipated to produce a maximum peak magnetic field of 1.0 μ T for 33kV cables, 9.6 μ T for 132kV cables, and 96.2 μ T for 400kV cables where directly above the route of the cable (Ref 21.3). Electric fields from underground cabling is effectively null due to the grounding effect of cable sheathing and material infilled over the cables in the trough they are laid in. This therefore is below the ICNIRP reference limits for magnetic and electric fields for all cable voltages and as such no further investigation is required for electromagnetic fields on cable routes associated with the Scheme, with the exception of within the Shared Cable Route Corridor.
- 21.2.5 The Shared Cable Route Corridor is to be 'shared' with Cottam Solar Project [PINS Reference: EN010133] and Gate Burton Energy Park [PINS Reference: EN010131]. The three projects each require a 400kV grid connection cable circuit, which run in parallel from southeast of Marton, in the northwest corner of West Burton 3, to Coates (Nottinghamshire), whereafter the cables for the Scheme divert northwest towards West Burton Power Station, and the cables for Cottam Solar Project and Gate Burton Energy Park run in parallel towards Cottam Power Station.
- 21.2.6 Where the three 400kV circuits are to run in parallel with average separations of 10m between each of the circuits, the estimated peak magnetic field strength is estimated to be 103.3 μ T. The ICNIRP reference level of 100 μ T is therefore exceeded in this case. The areas of exceedance fall within 0.4m of the central cable circuit, and within 0.2m of each of the two peripheral cable circuits. As the Shared Cable Corridor is to be built no less than 25m from residential or business premises, magnetic field strengths at these receptors are estimated to peak at 2.6 μ T. This therefore falls below the ICNIRP reference level and as such does not require any further level of investigation.
- 21.2.7 Members of the public may be exposed to the estimated peak magnetic field strength of 103.3 μ T where public rights of way cross over the three 400kV circuits running in parallel in the Shared Cable Corridor. However, members of the public are not anticipated to remain in locations where the ICNIRP reference level is reached for significant amounts of time, due to the transient nature of public rights of way. As such this does not require any further level of investigation.
- 21.2.8 The BESS infrastructure is located no less than 400m to the nearest residential properties and business premises. Similarly, the substations are to be located such that the nearest residential properties and business premises are no less than 400m away. Electromagnetic field strength reduces proportionally to the separation distance squared, and as such, the expected electromagnetic field strengths of the substation and BESS at all residential and business receptors are far below the 1998

ICNIRP reference level. Substations are designed and sized such that electromagnetic fields from substation infrastructure are below the 1998 ICNIRP reference levels at the point of the perimeter fencing, and located such that no publicly accessible spaces, such as highways or public rights of way are in near proximity to substation perimeter fencing.

21.3 Telecommunications, Utilities and Television

21.3.1 The EIA scoping opinion states:

“Scoping Report paragraph 24.1 states that the location and safeguarding areas relating to utilities, telecommunications and television assets will be identified and consultation will inform how the proposal will embed mitigation to avoid any direct impacts on these assets. It is noted that Scoping Report paragraph 12.2.6 identifies Ministry of Defence (MoD) pipelines running through the western part of the West Burton 3 site. These should be included as receptors for which direct impacts should be avoided and consultation should be undertaken with the MOD in relation to safeguarding these assets.

No indirect impacts are anticipated due to the nature of the Proposed Development.

Subject to the inclusion of measures to avoid direct impacts on utilities, telecommunications and television assets in the ES, the Inspectorate is content to scope this matter out from further assessment.”

21.3.2 Above-ground infrastructure on the Sites has been located so as to retain required offsets to existing telecommunications and utility infrastructure to provide clear access and to minimise potential conflicts, such as damage from piling, excavation, or compaction. Where these pieces of infrastructure are connected by low to mid-voltage cabling (up to 33kV), this will be routed to minimise the number of crossings of existing services. Trenching for low-mid voltage cabling will be shallow, with a depth of up to 0.4m below surface. Installation of cabling up to 33kV will be undertaken in accordance with the mitigation measures set out in the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]**.

21.3.3 High voltage cabling, consisting of 132kV cable circuits between the substations at West Burton 1, 2, and 3, and the 400kV grid connection cable circuit from the substation at West Burton 3 to the National Grid substation at West Burton Power Station, is required to be laid over a distance of approximately 21.3km. Trenching and horizontal directional drilling activities to lay these cables will therefore have to take account of the significant number of existing telecommunications and utilities services that interact with the cable route corridor. Where set in surface-dug trench with no constraints, the maximum depth of the dug cable trench is 1.5m below ground level. Where crossing existing buried utilities or apparatus, the maximum depth of the dug cable trench is 1.5m below the level of the existing apparatus.

21.3.4 The **Crossing Schedule [EN010132/APP/WB7.15]** identifies a significant number of telecommunication and utilities services that are required to be crossed by the cable route. Each crossing has the intended crossing technique options included. Any interaction with existing apparatus above or below ground should be undertaken in

accordance with the required level of safety measures as directed by the apparatus owner or operator. With these measures in place, the risk of damage to telecommunications and utilities will be managed.

- 21.3.5 In summary, the survey and agreed offset distance information will be fed into the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]** and resultant full Construction Environmental Management Plan, to ensure construction work is carried out such that impacts on services are minimised. Where direct interaction is anticipated, such as is of greater likelihood along the Scheme's Cable Route Corridor, the crossing of utilities will be carried out in direct collaboration with the relevant utilities provider.

21.4 Light Pollution

- 21.4.1 The EIA scoping opinion states:

"Impacts of lighting on ecological receptors and glint and glare impacts are proposed to be included in the Landscape and Visual and Ecology assessment Chapters of the ES respectively rather than being assessed in a separate Chapter.

The Inspectorate is content with this approach. As highlighted above, the ES should include a detailed description of the lighting philosophy and the measures taken to avoid or minimise lighting impacts on human and ecological receptors."

- 21.4.2 Assessment of the environmental impacts of light pollution from the Scheme has been undertaken within **Chapter 8: Landscape and Visual Impact Assessment [EN010132/APP/WB6.2.8]**, in respect of landscape and human receptors, and in **Chapter 9: Ecology and Biodiversity [EN010132/APP/WB6.2.9]**, in respect of ecological receptors. These assessments cover the construction phase of the development, where lighting impacts are most likely to occur. Light pollution impacts during operation were scoped out of the ES assessment in anticipation that no permanent visible lighting structures will be used on the Scheme. Security lighting would be infrared, and the limited lighting associated with the substations and within the Energy Storage Facility / BESS would be used for occasional maintenance/emergency use only.

21.5 Human Health

- 21.5.1 This section of the Chapter defines the study area, the methodology used for developing the impact assessment, and provides a description of the baseline environment and impacts in relation to human health and wellbeing. Where relevant it also identifies and proposed mitigation measures to address potential impacts of the Scheme on human health and wellbeing during construction.
- 21.5.2 The Environmental Impact Assessment (EIA) Regulations (Ref 21.4) require the direct and indirect significant effects of the proposed development on population and human health factors to be identified, described, and assessed.
- 21.5.3 Following receipt of the EIA Scoping Opinion in March 2022, the Planning Inspectorate (PINS) has confirmed the extent of the assessments to be undertaken

in the ES. For human health, the scope of assessment has been informed by assessments in other chapters of the ES and considers issues including construction activity / compounds, construction traffic, light pollution, noise, vibration and dust. Impacts considered for the operational stage are limited to the potential risk of fires associated with technology such as batteries as a form of energy storage, and inverters which, although rare have the potential to cause safety concerns to human health. In respect of decommissioning stage, impacts are limited to those associated with the removal of equipment from the site and restoration of the land.

21.5.4 This chapter therefore presents a summary of the information on human health and wellbeing, in summary of the assessment outcomes provided in the ES chapters identified in **Table 21.5.1** below.

Table 21.5.1: Signposting to Supporting Information on Human Health Effects

Human Health Receptor	Addressed within ES
Risk from flooding	Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]
Risk from groundwater contamination	Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]
Noise and vibration	Chapter 15: Noise and Vibration [EN010132/APP/WB6.2.15]
Risk from glint and glare	Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]
Air quality (emissions and dust)	Chapter 17: Air Quality [EN010132/APP/WB6.2.17]
Population health and wellbeing	Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18]
Waste	Chapter 20: Waste [EN010132/APP/WB6.2.20]
Risk from major accidents and disasters	Chapter 21: Other Environmental Matters [EN010132/APP/WB6.2.21], Section 21.6 Major Accidents and Disasters

[Legislation and Planning Policy](#)

Legislation

- 21.5.5 The Planning Act 2008 sets out the process for the consenting of major infrastructure projects and is the principal legislation governing an application for a Nationally Significant Infrastructure Project (NSIP).
- 21.5.6 The EIA Regulations (Ref 21.4) set out the regulatory framework for Environmental Impact Assessments in connection with development consent order applications, to include screening, scoping and the requirements in respect of their content.

21.5.7 The Countryside and Rights of Way Act 2000 (Ref 21.5) is the principal legislation governing the registration and protection of public footpaths, bridleways and byways and provides measures to improve public access to the open countryside and Common Land.

21.5.8 In terms of human health legislation, the Health and Social Care Act 2012 (Ref 21.6) outlines the Secretary of State's duty to promote and improve the National Health Service (NHS) focussing on regulation at a national and local level. It also promotes changes such as the abolition of NHS Trusts, support for the production of Joint Strategic Needs Assessments (JSNAs) and establishment of health and wellbeing boards at a local authority level.

National Planning Policy

21.5.9 National Policy Statements (NPS) set out the policy basis for NSIPs. At present, there is no NPS which specifically deals with ground mounted solar developments. However, there are aspects of three adopted Energy NPSs which are relevant to decision making and are important material considerations, in addition to other relevant and important national and local planning policies. These have been identified in **Chapter 6 of the ES: Energy Need, Legislative Context and Energy Policy [EN010132/APP/WB6.2.6]**. Of these, only the National Policy Statement for Energy (EN-1) (2011) (Ref 21.7) and its emerging replacement, Draft National Policy Statement for Energy (EN-1) (2021) (Ref 21.8) contain provisions relevant to the human health assessment.

21.5.10 Adopted NPS EN-1 (2011) paragraph 4.13 deals in detail with the health effects of major energy infrastructure and states that the assessment should consider all relevant effects, which may include the following:

- Disrupted access to key public services;
- Alteration open spaces used for recreation and physical activity;
- Direct impacts on health, which may include increased traffic, air or water pollution, dust, odour, hazardous waste and substances, noise, exposure to radiation, and increases in pests; and
- The cumulative health impacts from other developments.

21.5.11 In addition, the Draft NPS EN-1 (2021) paragraph 4.3.5 states that:

"Generally, those aspects of energy infrastructure which are most likely to have a significantly detrimental impact on health are subject to separate regulation (for example for air pollution) which will constitute effective mitigation of them, so that it is unlikely that health concerns will either by themselves constitute a reason to refuse consent or require specific mitigation under the Planning Act 2008. However, not all potential sources of health impacts will be mitigated in this way and the Secretary of State will want to take account of health concerns when setting requirements relating to a range of impacts such as noise."

Local Planning Policy

21.5.12 The Scheme falls within the boundaries of West Lindsey District and Bassetlaw District, respectively within Lincolnshire County and Nottinghamshire County, each with their own local planning policy.

21.5.13 Policy LP9 of the Central Lincolnshire Local Plan 2012-2036 (Ref 21.9) (which West Lindsey falls within) states:

“The potential for achieving positive mental and physical health outcomes will be taken into account when considering all development proposals. Where any potential adverse health impacts are identified, the applicant will be expected to demonstrate how these will be addressed and mitigated.”

Consultation

21.5.14 The comments made within the Scoping Opinion are summarised in **Table 21.5.2** below. Responses to comments and the manner in which key matters have been addressed in the ES are also included.

Table 21.5.2: EIA Scoping Comments and Responses

Consultee	Comments / Matters Raised	Response / Matters Addressed
Planning Inspectorate	<p>Human Health is scoped out of this Chapter as the assessment of impacts to human health are proposed to be incorporated into the following aspect Chapters in the ES:</p> <ul style="list-style-type: none"> • 9: Hydrology, Flood Risk and Drainage • 10: Ground Conditions and Contamination • 14: Transport and Access • 15: Noise and Vibration • 16: Glint and Glare • 17: Electromagnetic Fields • 18: Light Pollution • 19: Major Accidents and Disasters • 20: Air Quality • 22: Agricultural Circumstances • 23: Waste 	<p>Human Health matters are assessed throughout the ES in relevant chapters, and an assessment summary is provided at section 21.5 of this chapter.</p> <p>The purpose of this chapter is to signpost relevant chapters of the ES where topic-specific human health matters have been addressed, rather than provide additional assessment.</p>

	<p>• 24: Telecommunications, Utilities and Television Receptors</p> <p>It is noted that some of the Chapters referenced above are scoped out or proposed to be assessed in other relevant Chapters.</p> <p>The Inspectorate is content with this approach on the basis that the ES clearly signposts in which other Chapters impacts to human health are assessed.</p>	
Bassetlaw District Council	Human health is a material consideration and the District consider that this should be scoped into the ES. (in respect of electromagnetic fields)	Impacts from electromagnetic fields are scoped out of the ES.
	Public Health comments are contained within the response from Nottinghamshire County Council.	Noted. Response contained below in response to Nottinghamshire County Council comments.
NHS Lincolnshire CCG	In response to your email dated 24 January regarding the above, please note that we have reviewed the EIA Scoping documentation provided and can confirm we have no comments at this time.	Noted. No action required.
Nottinghamshire County Council	<p>The Nottinghamshire Health and Wellbeing Strategy sets out the ambitions and priorities for the Health and Wellbeing Board with the overall vision to improve the health and wellbeing of people in Nottinghamshire.</p> <p>The Nottinghamshire Joint Strategic Needs Assessment (JSNA) provides a picture of the current and future health needs of the population of the county. This is a useful source of information when considering the health and wellbeing of residents in planning process.</p>	<p>A baseline study of population health has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18]. This also assesses anticipated impacts on recreation facilities including formal centres and public rights of way.</p> <p>The JSNA has been identified as a key reference document for the Human Health assessment.</p>

	<p>The Nottinghamshire Spatial Planning and Health Framework identifies ... a health checklist ... to be used when developing local plans and assessing planning applications:</p> <p>It is recommended that this checklist is completed to enable the potential positive and negative impacts of the planning application on health and wellbeing to be considered in a consistent, systematic and objective way, identifying opportunities for maximising potential health gains and minimizing harm and addressing inequalities taking account of the wider determinants of health.</p>	<p>The Nottinghamshire Spatial Planning and Health Framework checklist has been consulted to ensure mitigation and enhancement measures for human health receptors contribute towards local objectives.</p>
UK Health Security Agency	<p>We recognise the promoter's proposal to include a health section. We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.</p>	<p>Noted.</p> <p>Human health impacts identified in existing ES chapters are summarised in this section. Full assessments of human health impacts, mitigation, residual effects, and policy compliance related to each of the other ES topics are found in their relevant ES chapters.</p>
	<p>Population and Human health assessment: It is noted that population and human health will be considered within existing chapters and not form a separate chapter within the ES. Given the current knowledge of the scheme and potential impacts this appears to be a proportionate approach. This should be kept under review as more information becomes available and a separate population and human</p>	<p>This chapter provides a summary of human health impacts identified in existing ES chapters.</p> <p>Note also Table 21.5.1 above which signposts to where human health receptors within topic-specific chapters are considered in the ES.</p>

	health chapter may be justified as the assessments develop.	
	The scoping report does not identify any baseline health data to support any population or human health assessment or consider local health priorities which have been identified within local Joint Strategic Needs Assessments (JSNA) or Health and Wellbeing Strategies.	A baseline study of population health has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18] .
	An approach to the identification of vulnerable populations has not been provided. The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics.	A baseline study of population health has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18] . Assessment of vulnerable populations has been included in this section where likely to be specifically affected by the Scheme.
	Table 2.3 identifies the degrees of significance but does not identify which will be considered to be significant for the purpose of the assessment. It is anticipated that moderate and major effects would be significant. Any deviation within individual chapters relating to population or human health should be identified and justified	Environmental effects assessed to be of moderate or greater significance are considered to be significant effects. Where ES chapters provide different scales of significance to those presented in ES Chapter 2: EIA Methodology [EN010132/APP/WB6.2.2] , these are set out in each of the relevant ES chapters to demonstrate the level of effect which is considered significant.
	It is noted that the IEMA GEART guidelines are to be used and as such the operational phase is to be scoped out. The remainder of the traffic and transport assessment should consider impacts on pedestrians,	Noted. Consideration has been given to non-motorised road users in ES Chapter 14: Transport

	cyclists and any horse riding activities.	and Access [EN010132/APP/WB6.2.14]
	<p>The scoping report does not identify the potential number of peak construction workforce, but does acknowledge non-home based workers will require local accommodation. The presence of significant numbers of workers could foreseeably have an impact on the local availability of affordable housing and tourist accommodation, particularly that of short-term tenancies and affordable homes for certain communities.</p> <p>The cumulative impact assessment will need to consider this across the wider study area given the number of other NSIPs, but also identify the potential for any local (ward-level) effects.</p>	<p>A baseline study of, and impact assessment on temporary accommodation availability has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18].</p> <p>Cumulative effects on access to temporary accommodation has also been assessed in the area covered by both West Lindsey and Bassetlaw Districts given the estimates zone of influence for socio-economic and population impacts. Mitigatory impacts to avoid impacts on tourist accommodation and accommodation for vulnerable populations have been considered in the OCEMP [EN010132/APP/WB7.1]</p>

21.5.15 Responses received from consultees (as required by Section 42 of the Planning Act 2008 (Ref 21.10) as part of the statutory consultation held from June to July 2022 are set out in **Table 21.5.3** below.

Table 21.5.3: Statutory Consultation Comments and Responses

Consultee	Comments / Matters Raised	Response / Matters Addressed
Bassetlaw District Council	(Socio-Economics, Tourism and Recreation and Human Health) No further comments are required at this stage.	Noted. No further action.
Lincolnshire County Council	No comments to make at this stage.	Noted. No further action.

<p>Lincolnshire Fire and Rescue (LFR)</p>	<p>The developer should produce a risk reduction strategy (Regulation 38 of the Building Regulations) as the responsible person for the scheme as stated in the Regulatory Reform (Fire Safety) Order 2005. We would also expect that safety measures and risk mitigation is developed in collaboration with LFR.</p>	<p>A risk assessment has been undertaken in the Outline Battery Storage Safety Management Plan [EN010132/APP/WB7.9]. Further information on mitigation measures for human health impacts from fires and explosions are contained in Section 21.6 – Major Accidents and Disasters, and in ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17]. Design requirements as set out by LFR with regard to BESS design and firewater provision have been included in the Scheme design.</p>
	<p>The strategy should cover the construction, operational and decommissioning phases of the project. During the construction phase the number of daily vehicle movements in the local area will significantly increase. The Service will want to view the transport strategy to minimise this impact and prevent an increase in the number of potential road traffic incidents. Any development should not negatively impact on the Service’s ability to respond to an incident in the local area.</p>	<p>Effects from construction vehicle movements on road safety for vehicular and non-vehicular traffic have been assessed in ES Chapter 14: Transport and Access [EN010132/APP/WB6.2.14] and where required, mitigation measures are set out to ensure human health risks are mitigated.</p>
<p>Nottinghamshire Fire and Rescue Service (NFRS)</p>	<p>The developer should produce a risk reduction strategy (Regulation 38 of the Building Regulations) as the responsible person for the scheme as stated in the Regulatory Reform (Fire Safety) Order 2005. We would also expect that safety measures and risk mitigation is</p>	<p>A risk assessment has been undertaken in the Outline Battery Storage Safety Management Plan [EN010132/APP/WB7.9]. Further information on mitigation measures for human health impacts from fires and explosions are contained in Section 21.6 – Major Accidents</p>

	developed in collaboration with NFRS.	and Disasters, and in ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17] . Design requirements as set out by NFRS with regard to BESS design and firewater provision have been included in the Scheme design.
UK Health Security Agency	Population and Human health assessment: It is noted that population and human health will be considered within existing chapters and not form a separate chapter within the ES. Given the current knowledge of the scheme and potential impacts this appears to be a proportionate approach. This should be kept under review as more information becomes available and a separate population and human health chapter may be justified as the assessments develop.	Human health has been retained as a summary of impacts identified in existing ES chapters. Note also Table 21.5.1 above which signposts to where human health receptors within topic-specific chapters are considered in the ES.
	The PEIR provides limited baseline health data, often referencing 2011 census data, to support any population or human health assessment. It does not consider local health priorities which have been identified within local Joint Strategic Needs Assessments (JSNA), Health and Wellbeing Strategies or other local published current data sources.	A baseline study of population health has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18] . Health indicators have been assessed on the basis of 2021 Census data released since the publication of PEIR, supported by information published by the Department for Work and Pensions (DWP) and the Office for Health Improvement and Disparities (OHID).
	An approach to the identification of vulnerable populations has not been provided. The impacts on health and wellbeing and health	A baseline study of population health has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18] .

	inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics.	Assessment of vulnerable populations has been included in this section where likely to be specifically affected by the Scheme.
	The peak numbers of construction workers and non-home based workers should be established and a proportionate assessment undertaken on the impacts for housing availability and affordability and impacts on any local services. Any cumulative impact assessment should consider the impact on demand for housing and local services by construction workers, including the likely numbers of peak non-home based workers, required across all schemes within the travel to work area. The assessment should also include potential impacts on tourist accommodation within the socio-economic assessment.	A baseline study of, and impact assessment on temporary accommodation availability has been undertaken in Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18] . Cumulative effects on access to temporary accommodation has also been assessed in the area covered by both West Lindsey and Bassetlaw Districts given the estimates zone of influence for socio-economic and population impacts. Mitigatory impacts to avoid impacts on tourist accommodation and accommodation for vulnerable populations have been considered in the OCEMP [EN010132/APP/ WB7.1]
	Surveys of the affected PRow network should be undertaken to provide baseline data in relation to the use of the PROWs to define the change in characteristics of tourism and recreational use of PRow in order to define receptor sensitivity and the magnitude of change.	Baseline surveys of PRowS have been included in the Public Right of Way Management Plan [EN010132/APP/ WB6.3.14.1] which has been used to assign sensitivity to PRow receptors elsewhere in the ES.
	The ES should clearly and consistently report on the likely impacts on the affected PRow, proposed mitigation and significance of effects. The CEMP	Impacts on PRowS have been assessed throughout the ES. The Public Rights of Way Management Plan (PRoWMP [EN010132/APP/ WB6.3.14.1]) identifies that the default

	should identify likely diversion routes.	position is to keep PRowS open during construction, with any mitigation measures proposed therein. Where PRowS may need to be closed or temporarily diverted, mitigation measures in the PRowMWP set out how these impacts can be minimised.
National Grid	The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance.	Noted. HSE guidance incorporated into Outline Construction Environment Management Plan [EN010132/APP/WB7.1]

21.5.16 A significant number of comments from the local community have been received on potential impacts to human health during the concurrent public consultation undertaken in accordance with section 47 of the Planning Act 2008 (Ref 21.10). Recurring comments refer to impacts on health and wellbeing as a result of impact to visual amenity, impact on mental wellbeing, impacts on use of recreational spaces and routes, electromagnetic radiation, noise and dust from construction. All of these factors have been addressed in the ES and so there is no change to the scope of assessment as a result of comments made by the public.

[Baseline Conditions](#)

Health and Wellbeing Conditions

21.5.17 Baseline conditions relating to human health and wellbeing have been explored in **ES Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18]**, wherein a desk-based review of key health receptors has been undertaken. This assessment has been undertaken for the area covered by Bassetlaw District and West Lindsey District, and draws on data from the 2021 Census, 2011 Census for detailed population characteristics, and public data from the NHS and the Department for Work and Pensions (DWP).

21.5.18 In consideration of age demographics, reported rates of limited activity, proportion of the population awarded Personal Independence Payment (PIP), and claiming Disability Living Allowance, and reporting of self-assessed health, the overall level of

sensitivity of the population to human health and wellbeing impacts is medium. Naturally there are groups of higher risk to impacts within the population that are specifically identified where appropriate in this assessment.

- 21.5.19 In consideration of both Indices of Multiple Deprivation 2019 and access to primary healthcare, the overall sensitivity of the local area (Bassetlaw and West Lindsey) is medium as a result of lower than average GP availability in West Lindsey, and a greater risk of deprivation in regard to healthcare and disability in Bassetlaw.

Specific Conditions Relating to Other ES Chapters

- 21.5.20 The scope of the human health assessment is based on key likely effects identified at EIA Scoping, and is to be assessed through the other ES chapters outlined in **Table 21.5.1**. As such, baseline conditions relating to key likely effects have been identified in each of the relevant ES chapters. A summary of the baseline conditions relating to human health and wellbeing, and the sensitivity of these receptors is presented in this section.
- 21.5.21 Baseline conditions relating to the risk of flooding onsite, and the risk of impacts from the Scheme causing flooding elsewhere are assessed in **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]**. Within the chapter, the sensitivity of onsite workers to flooding is assessed as medium. It is therefore deemed appropriate to determine the sensitivity of onsite workers to human health impacts from flooding is also medium. People and properties downstream of the Scheme who may be impacted by increased flooding are also assessed as being of medium sensitivity. It is therefore also deemed appropriate that offsite human health receptors are of a medium sensitivity to flooding.
- 21.5.22 Human health receptors for both onsite and offsite receptors are assessed to be of a high sensitivity to impacts of ground contamination and impacts on controlled waters in **ES Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]**. Key determinants are exposure to existing contaminated soils, future contamination from the site, and risk of pollution to controlled waters.
- 21.5.23 Within **ES Chapter 15: Noise and Vibration [EN010132/APP/WB6.2.15]**, the sensitivity of residential receptors to noise and vibration impacts is deemed to be high. Sensitivity for public highways and rights of way have not been identified within ES Chapter 15. It is therefore judged to be appropriate that these spaces are of a medium sensitivity to noise and vibration impacts due to their more transient use than residences and other highly sensitive receptors.
- 21.5.24 Residential dwellings, and thus by association human health, are assessed to be of medium sensitivity from impacts from glint and glare as defined in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]**. The same receptor is attributed a high sensitivity with regard to impacts on air quality from odour, emissions, smoke and dust as set out in **ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17]**. This

chapter also attributes an additional level of sensitivity to hospitals and clinics and retirement homes as a result of higher risk population concentrations.

21.5.25 Although no additional baseline conditions are assessed with regard to human health, in-combination effects from waste handling are identified in **ES Chapter 20: Waste [EN010132/APP/WB6.2.20]** as having a potential human health impact on waste handlers as a result of the production of hazardous material or the need to handle contaminated soils from the Scheme. Due to the potential for impacts to be felt but limited to workers professionally trained to handle hazardous waste, the estimated level of sensitivity of human health is low.

21.5.26 Baseline conditions with regard to human health receptors to impacts from major accidents and disasters are based on an agglomeration of assessment methodologies from the ES, in much the same way human health is. As such, **Section 21.6 Major Accidents and Disasters** defines sensitivities ranging from low to high based on the level of risk and vulnerability of populations to specific human health impacts from identified major accidents and disasters.

Future Baseline

21.5.27 For the purposes of assessment, it has been assumed that the Scheme will commence operation at the end of Q4 2026. The operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066. The decommissioning of the Scheme is expected to take 12-24 months at the end of the life of the Scheme.

21.5.28 The future baseline for operation and for decommissioning is anticipated to be the same as the existing baseline for human health impacts as a result of not being able to forecast for unknown changes between the 2021-2022 baseline and then. Human health indicators, access to facilities, and continued operation of facilities are likely to change over the course of the Scheme lifetime, however, details of this cannot be known in advance. Therefore, for the purpose of this assessment, the Scheme has therefore been assessed against current baseline conditions.

Embedded Mitigation

21.5.29 Primary mitigation measures are embedded within the Scheme, as set out in the respective ES chapters and associated Application documents, to reduce other operational effects (such as noise, air quality and transport) which in turn will mitigate the effects on the local community and existing facilities from a human health perspective.

21.5.30 Mitigation will take the following forms:-

1. Mitigation embedded within the design of the Scheme
2. Other mitigation measures are set out within the following documents:-
 - Outline Construction Environmental Management Plan **[EN010132/APP/WB7.1]**

- Outline Landscape and Ecological Management Plan **[EN010132/APP/WB7.3]**
- Outline Battery Storage Safety Management Plan **[EN010132/APP/WB7.9]**
- ES Appendices 17.1-17.3: Qualitative Dust Assessment and Construction Dust Management Plans **[EN010132/APP/WB6.3.17.1-3]**

3. Additional topic and site specific mitigation measures.

[Identification and Evaluation of Likely Significant Effects](#)

21.5.31 Health and wellbeing impacts associated with the Scheme during construction, operation, and decommissioning have been assessed in the relevant assessment sections of each of the ES chapters outlined in **Table 21.5.1**. The level of significance is based on likely impacts including embedded mitigation as set out in the relevant ES chapter and associated Application documents.

[Additional Mitigation](#)

21.5.32 Where the Scheme is anticipated to induce significant effects on human health and wellbeing, additional mitigation has been provided as required in each of the relevant ES chapters. These measures seek to ensure impacts from the Scheme on human health and wellbeing receptors are reduced. These measures are set out within the following:

- ES Chapter 10: Hydrology, Flood Risk and Drainage **[EN010132/APP/WB6.2.10]** within Section 10.8.
- ES Chapter 16: Glint and Glare **[EN010132/APP/WB6.2.16]** within Section 16.9.
- ES Chapter 18: Socio-Economics **[EN010132/APP/WB6.2.18]** within Section 18.8.
- Within paragraphs 21.6.60-21.6.61 of this document in relation to Risk of Major Accidents and Disasters.

21.5.33 Additional mitigation measures are secured through the following documents which are all secured by Requirement in the DCO:

- Outline Decommissioning Statement **[EN010132/APP/WB7.2];**
- Outline Landscape and Ecological Management Plan **[EN010132/APP/WB7.3];**
- Outline Skills Supply Chain and Employment Plan **[EN010132/APP/WB7.10];**
- Outline Operational Environment Management Plan **[EN010132/APP/WB7.14];**
- Outline Soils Management Plan **[EN010132/APP/WB7.16].**

[Residual Effects](#)

21.5.34 Full details of the likely residual effects are found in each of the ES chapters outlined in **Table 21.5.1**. Those likely residual effects that are significant in EIA terms, are shown in **Table 21.5.4** below.

Table 21.5.4: Summary of Significant Likely Effects

Receptor	Description of Impact	Likely Effect
Flooding		
No significant effects anticipated		
Ground Conditions		
No significant effects anticipated		
Noise and Vibration		
No significant effects anticipated		
Glint and Glare		
No significant effects anticipated		
Air Quality		
No significant effects anticipated		
Socio-Economics, Tourism and Recreation		
Access to employment (index of multiple deprivation)	Changes in overall employment opportunities generated from Scheme construction	Moderate beneficial effect
Access to education (index of multiple deprivation)	Increase in sector-based skills training and qualification opportunities	Moderate beneficial effect
Long distance recreation routes	Impacts from construction noise, traffic, views, and diversions and closures of routes on route desirability and use	Short-term moderate adverse effect
Waste		
No significant effects anticipated		
Major Accidents and Disasters		
No significant effects anticipated		

[In-Combination Effects](#)

21.5.35 By virtue of the numerous interdependent factors assessed within this human health assessment, in-combination effects are intrinsic to the understanding of the relationship between the Scheme’s impacts as assessed across the ES. Those

identified in this section demonstrate in-combination effects of flooding, ground contamination, noise and vibration, air quality, glint and glare, socio-economics, tourism and recreation, waste, and major accidents and disasters on the health and wellbeing of onsite and offsite human receptors.

- 21.5.36 Given the primarily individual nature of residential receptors and public right of way receptors, there are likely in-combination effects from multiple topic areas, and in relation to the construction of the four generating stations that constitute the Scheme. These in-combination effects have been assessed in each of the respective ES chapters outlined in **Table 21.5.1**. In summary, there are no in-combination impacts that are likely to result in any significant effects in addition to those identified in **Table 21.5.4**.

Cumulative Effects

- 21.5.37 Cumulative effects have been assessed in each of the supporting ES chapters in relation to the interaction between the Scheme and identified projects within the zone of influence for each topic. These primarily are Cottam Solar Project, Gate Burton Energy Park, and Tillbridge Solar Park, although professional judgement has been used in each of the supporting ES chapters to determine which cumulative projects are of relevance. Cumulative effects relating to human health have therefore been derived from the assessment of cumulative effects in each of the supporting chapters and are summarised below.
- 21.5.38 There are no anticipated cumulative effects that increase the level of significance of effects to human health as a result of flooding, ground contamination, noise, glint and glare, waste, and major accidents and disasters. None of these topics are therefore anticipated to have residual significant effects on human health.
- 21.5.39 Cumulative effects with regard to air quality have been considered and it is anticipated that the cumulative vehicle numbers from the Scheme, Cottam Solar Project, and Gate Burton Energy Park (Tillbridge Solar Park not assessed due to geographic separation) would not exceed the “Indicative criteria for requiring an air quality assessment” in IAQM Guidance, as directed by **ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17]**. Therefore it is not anticipated that there are any significant residual effects to human health from air quality impacts during the cumulative construction phase.
- 21.5.40 Cumulative effects relating to socio-economic, tourism and recreation have been assessed against a longer list of assessment projects as shown in **ES Chapter 18: Socio-Economics, Tourism and Recreation [EN010132/APP/WB6.2.18]**. This is as a result of a larger Local Impact Area.
- 21.5.41 The uplifts in employment and skills training and education opportunities are anticipated to have **significant beneficial effects** on human health and wellbeing as a result of improved measures of indices of multiple deprivation. Access to employment as an index of multiple deprivation is likely to experience a **cumulative major-moderate beneficial effect**, while access to education is likely to experience

a **cumulative moderate beneficial effect** during the cumulative construction phase.

- 21.5.42 Cumulative effects during construction on long distance recreation routes are anticipated to have a **peak cumulative moderate adverse effect**, specifically on the Trent Valley Way and National Byways cycle route. This has a secondary impact on public health and wellbeing as a result of decreased desirability and use of a recreational walking route.
- 21.5.43 The residual cumulative effects on other human health receptors, such as access to primary healthcare, disability and long-term health, self-assessed health, and on access and use of outdoor recreation centres for adults and for youths are not anticipated to be significant.

Conclusion

- 21.5.44 As is summarised in this section, the Scheme is likely to generate only a small number of significant effects with regards to human health. When the Scheme is considered in isolation, these effects are a moderate beneficial effect with regard to access to employment and access to education as measured indices of multiple deprivation during the Scheme's construction. That notwithstanding, human health is likely to experience a moderate adverse effect as a result of in-combination and cumulative impacts on the use and desirability of long-distance recreation routes during the Scheme's construction phase.

21.6 Major Accidents and Disasters

Introduction

- 21.6.1 This section of the ES provides an overview of the potential significant adverse effects of the Scheme in respect of major accidents and/or disasters.
- 21.6.2 The EIA Regulations (Ref 21.4) require consideration to be given to the risks of major accidents and disasters. The new IEMA guidance document 'Major Accidents and Disasters in EIA' (Ref 21.11) has been taken into account in the assessment of major accidents or disasters.
- 21.6.3 'Accidents' are considered to be an event arising during the course of construction, operation and decommissioning (e.g. major emission, fire or explosion). 'Disasters' are naturally occurring events such as extreme weather ground related hazard events (e.g. subsidence, landslide, earthquake).
- 21.6.4 The EIA Scoping Opinion identifies a range of factors relevant to the assessment of major accidents and disasters. These are addressed in the relevant chapters of the ES as set out in **Table 21.6.1** below:

Table 21.6.1: Signposting to Supporting Information for Major Accidents and Disasters Effects

Effect	Supporting Information within ES
Risk from flooding	Chapter 7: Climate Change [EN010132/APP/WB6.2.7] Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]
Fires and explosion	Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11] Chapter 17: Air Quality [EN010132/APP/WB6.2.17]
Road Accidents	Chapter 14: Transport and Access [EN010132/APP/WB6.2.14] Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]
Hazardous substances	Chapter 14: Transport and Access [EN010132/APP/WB6.2.14]
Rail accidents	Chapter 14: Transport and Access [EN010132/APP/WB6.2.14]
Aviation accidents	Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]

Damaged or severed utilities	Chapter 21: Other Environmental Matters [EN010132/APP/WB6.2.21], Section 21.5 Telecommunications, Utilities, and Television Receptors
Disturbance of Unexploded Ordinance	Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]
Unstable ground conditions	Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]
Vegetation pests and diseases	Chapter 9: Ecology and Biodiversity [EN010132/APP/WB6.2.9]

Consultation

- 21.6.5 PINS' comments on the scope of assessment considerations for major accidents and disasters in the ES was set out in the EIA Scoping Opinion **[EN010132/APP/WB6.3.2.2]**, issued in March 2022 by PINS. The Scoping Opinion is informed by responses from the statutory bodies consulted by PINS in January to February 2022.
- 21.6.6 A 6-week statutory consultation was undertaken starting in June 2022 on matters set out in the PEIR document which provided statutory bodies (as required under section 42 of the Planning Act 2008) and members of the public with a further opportunity to comment on the scope of assessment, and on the baseline information and preliminary assessment undertaken to date. A Statement of Community Consultation was published in accordance with section 47 (6) of the Planning Act 2008.
- 21.6.7 The comments made within the Scoping Opinion are summarised in **Table 21.6.2** below. Responses to comments and the manner in which key matters have been addressed in the ES are also included.

Table 21.6.2: EIA Scoping Comments and Responses

Consultee	Comments / Matters Raised	Response / Matters Addressed
Planning Inspectorate	Scoping Report paragraph 19.2.1 sets out a list of potential impacts from major accidents and disasters to/from the Proposed Development and where these will be assessed in other Chapters in the ES. Impacts include:	Section 21.6 of this chapter provides signposts to where details of major accident and disasters effects, can be found within the ES. Human Health matters are assessed throughout the ES in relevant chapters, and an assessment summary is

	<ul style="list-style-type: none"> • Flooding; • Fires and explosion; • Road Accidents; • Hazardous substances; • Rail Accidents; • Aviation accidents; • Damage or cut-off of utilities; • Disturbance of Unexploded Ordinance; • Unstable ground conditions; and • Vegetation pests and diseases. <p>The above impacts are proposed to be assessed in other chapters such as Human Health (Scoping Report paragraph 19.3.1), however, Human Health is also proposed to be assessed in other chapters, rather than a stand-alone chapter.</p> <p>The ES should not be a 'paperchase' and should clearly signpost where these impacts are assessed in other relevant chapters and where any relevant mitigation measures are secured.</p>	<p>provided at Section 21.5 of this chapter. Human health matters relating to major accidents and disasters have been assessed in Section 21.6 of this chapter.</p>
Bassetlaw District Council	The scope for this topic is agreed.	No specific response required
Health and Safety Executive	According to HSE's records the proposed DCO application boundary for this Nationally Significant Infrastructure Project is within multiple consultation zones of major accident hazard sites and major accident hazard pipelines.	Major accident hazard sites and major accident hazard pipelines have been identified and preliminary offsets as required by easements and operator safety distances have been embedded in the Scheme design.
	HSE's Land Use Planning advice would be dependent on the location of areas where people may be present. When we are consulted by the Applicant with further information under	Assessment of the impact of severance of gas and fuel pipelines, and risks from fire and explosions have been set out in Section 21.6 of the ES.

	Section 42 of the Planning Act 2008, we can provide full advice.	
	Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 Annex on the Planning Inspectorate's website - Annex G - The Health and Safety Executive. This document includes consideration of risk assessments on page 3.	Embedded design measures are to be implemented to ensure the Scheme's resilience to major accidents is maximised. All works on site will be undertaken under the appropriate safety standards as set out in the Outline Construction Environment Management Plan [EN010132/APP/WB7.1] , Outline Operational Environment Management Plan [EN010132/APP/WB7.14] , and Outline Decommissioning Statement [EN010132/APP/WB7.2] to avoid major accidents. These documents are to be secured by requirements in the DCO.
	Explosives sites - HSE has no comment to make as there are no licensed explosives sites in the vicinity.	Noted. No action required.
	Electrical Safety - No comment from a planning perspective.	Noted. No action required.
National Grid	Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor.	Statutory electrical safety clearances will be maintained as set out in the Outline Construction Environment Management Plan [EN010132/APP/WB7.1] to avoid major accidents. Lateral offset to outermost conductors at ground level embedded in Scheme design.
	If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety	Noted. No changes to ground levels proposed under overhead lines. Lateral offset to outermost

	clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.	conductors at ground level embedded in Scheme design.
	The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance.	Safe working practices in areas near to overhead lines will be maintained as set out in the Outline Construction Environment Management Plan [EN010132/APP/WB7.1] to avoid major accidents.
	Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum "sag" and "swing"...	Safe working practices in areas near to overhead lines will be maintained as set out in the Outline Construction Environment Management Plan [EN010132/APP/WB7.1] to avoid major accidents.
	Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or "pillars of support" of any existing tower.	Safe working practices in areas near to pylons/towers will be maintained as set out in the Outline Construction Environment Management Plan [EN010132/APP/WB7.1] to avoid major accidents. 10m lateral offset to towers at ground level embedded in Scheme design.
	We require that no permanent / temporary structures are to be built over our cables or within the easement strip. Ground levels above our cables must not be altered in any way.	Noted. No changes to ground levels above existing buried cables proposed. Lateral offset to cable easements embedded in Scheme design.
Lincolnshire County Council	Include details of crime prevention and in respect of	Security measures have been embedded in the Scheme

	major accidents to include sabotage criminal activity is assessed as pre-planned damage to the scheme could leave it vulnerable to a major accident.	design, including internal-facing perimeter CCTV, palisade fencing around energy storage compounds and substations. These are set out within Concept Design Parameters and Principles [EN010132/APP/WB7.13]
West Lindsey District Council	Whilst it is proposed not to have a standalone chapter, the risk of battery fire / explosion should be clearly addressed with (sic) the ES. It is noted that this is picked up in the Air Quality and Socio-Economic chapters.	Baseline conditions for air quality, and impacts from battery fire are assessed in ES Chapter 17: Air Quality [EN010133/ APP/C6.2.17] . Identified impacts from fire and explosions, and impacts therefore on human health, are considered in Section 21.5 and Section 21.6 .

21.6.8 Responses received as part of the statutory consultation under section 42 of the PA 2008 held from June to July 2022 are set out in **Table 21.6.3** below.

Table 21.6.3: Statutory Consultation Comments and Responses

Consultee	Comments / Matters Raised	Response / Matters Addressed
Bassetlaw District Council	No further comments are required at this stage.	Noted. No further actions required.
National Grid	Comments made at Scoping reiterated at statutory consultation stage	No further actions required.
Lincolnshire Fire and Rescue	The developer should produce a risk reduction strategy (Regulation 38 of the Building Regulations) as the responsible person for the scheme as stated in the Regulatory Reform (Fire Safety) Order 2005. We would also expect that safety measures and risk mitigation is	A risk assessment has been undertaken in the Outline Battery Storage Safety Management Plan [EN010132/APP/WB7.9] . Further information on mitigation measures for human health impacts from fires and explosions are contained in Section 21.6 – Major Accidents

	<p>developed in collaboration with LFR.</p>	<p>and Disasters, and in ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17].</p> <p>Design requirements as set out by LFR with regard to BESS design, and firewater provision have been included in the Scheme design.</p>
	<p>The strategy should cover the construction, operational and decommissioning phases of the project. During the construction phase the number of daily vehicle movements in the local area will significantly increase. The Service will want to view the transport strategy to minimise this impact and prevent an increase in the number of potential road traffic incidents. Any development should not negatively impact on the Service’s ability to respond to an incident in the local area.</p>	<p>Effects from construction vehicle movements on road safety for vehicular and non-vehicular traffic have been assessed in ES Chapter 14: Transport and Access [EN010132/APP/WB6.2.14] and where required, mitigation measures are set out to ensure human health risks are mitigated.</p>
<p>Nottinghamshire Fire and Rescue</p>	<p>The developer should produce a risk reduction strategy (Regulation 38 of the Building Regulations) as the responsible person for the scheme as stated in the Regulatory Reform (Fire Safety) Order 2005. We would also expect that safety measures and risk mitigation is developed in collaboration with NFRS.</p>	<p>A risk assessment has been undertaken in the Outline Battery Storage Safety Management Plan [EN010132/APP/WB7.9]. Further information on mitigation measures for human health impacts from fires and explosions are contained in Section 21.6 – Major Accidents and Disasters, and in ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17].</p> <p>Design requirements as set out by NFRS with regard to BESS design, and firewater provision have been included in the Scheme design.</p>

<p>Network Rail</p>	<p>Key concerns ... of glint and glare issues causing distraction for train drivers approaching and passing the site.</p> <p>Routing of construction traffic (including HGVs/abnormal loads) and operational site traffic will require further consideration and discussion with Network Rail.</p> <p>At this stage the information supplied is not sufficiently detailed to fully assess potential impacts of the scheme on the railway.</p> <p>In order to ensure that the scheme does not impact on operational railway safety, the developer must liaise closely with Network Rail Asset Protection to ensure that the haulage routes into the site are appropriate, and the design and construction of the new facility and associated infrastructure will not have an adverse impact on railway operations.</p>	<p>Effects from glint and glare on railway safety has been assessed in ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16] and where required, mitigation measures are set out to ensure major accident and disaster risks are mitigated.</p> <p>Effects from construction and operational vehicle movements on railway safety through use of level crossings, bridges and underpasses have been assessed in ES Chapter 14: Transport and Access [EN010132/APP/WB6.2.14] and where required, mitigation measures are set out to ensure impacts on railways are mitigated.</p>
<p>UK Health Security Agency</p>	<p>(Environmental Human Health) We have considered the submitted documentation and can confirm that we are satisfied with the approach taken in preparing the Environmental Impact Assessment (EIA) and the conclusions drawn. We wish to make no further comment at this time.</p>	<p>Noted. No further action required.</p>
<p>West Lindsey District Council</p>	<p>It is noted that “The risk zones for fires and explosions are to be fully defined in the ES to determine the number of residential dwellings, and number of publicly accessible</p>	<p>Risk zones for fires and unconfined explosions are set to 50m from BESS and substation infrastructure. A Fire Incident Impact Assessment has been included</p>

	<p>highways or rights of way that are of high or medium sensitivity to impacts from the Scheme.”</p>	<p>within ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17], which demonstrates that residential areas are of a minimum high sensitivity to increased particulate matter as a result of fires from battery or solar panel infrastructure fires. Highways and public rights of way are assumed to be of a medium sensitivity due to the transient nature of their use.</p>
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21.6.9 A small number of comments have been received on major accidents and disasters during the concurrent public consultation undertaken in accordance with section 47 of the PA 2008. These all disagree to the scope of assessment, and inclusion of major accidents and disasters within the Other Environmental Matters chapter. The scope and presentation was agreed with the Planning Inspectorate at Scoping stage, taking on board recommendations from statutory consultees with interests relating to avoidance of major accidents and disasters, and as such, this is considered an appropriate way to present the information.

[Assessment Methodology](#)

21.6.10 For the purpose of this assessment, major accidents or disasters, as they relate to the Scheme, fall into three categories:

- Events that could not realistically occur, due to the nature of the Scheme or its location;
- Events that could realistically occur, but for which the Scheme, and associated receptors, are no more vulnerable than any other development; and
- Events that could occur, and to which the Scheme is particularly vulnerable, or which the Scheme has a particular capacity to exacerbate. These events are considered within this assessment.

21.6.11 The UK Government’s National Risk Register 2020 (Ref 21.12) was used to identify possible major accidents or disasters that could be relevant to the Scheme. Those with little relevance in the UK, such as volcanic eruptions for example, were thereafter excluded. Based then on the likelihood of such an event occurring in relation to the Scheme, a shortlist was created for the assessment, taking account of the broader topic areas scoped in to the assessment. This is presented in **Table 21.6.4** below. The commentary includes reference to key documents secured under the draft DCO which include relevant mitigation measures (which are considered again later in this section).

Table 21.6.4: Major Accidents or Disasters Shortlisted for Further Consideration

Major Accident or Disaster	Potential Receptor	Commentary
Flooding	Property and people in areas of increased flood risk Employees	<p>Both the vulnerability of the Order limits to flooding and climate change, and the potential for the Scheme to exacerbate flooding elsewhere, are covered in ES Chapter 7: Climate Change [EN010132/APP/WB6.2.7], ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10], and within the Flood Risk Assessment and Drainage Strategy, presented in ES Appendix 10.1 [EN010132/APP/WB6.3.10.1].</p> <p>Due to the extent of the Scheme within areas of flood risk, safe working practices are secured through measures in the Outline Construction Environmental Management Plan [EN010132/APP/WB7.1] to ensure safety of construction and operation and maintenance employees from floodwater.</p>
Fire and Explosions	Employees, local residents, habitats and species	<p>The design of the BESS has integrated fire detection and suppression systems that will automatically operate. If fire spreads to multiple units, external firefighting water facilities are available. If no risk to human life is imminent, then the fire may be allowed to burn out in a controlled area.</p> <p>An Outline Battery Storage Safety Management Plan (OBSSMP) [EN010132/APP/WB7.9] has been prepared and is provided with the Application.</p> <p>Human health and other environmental impacts resulting from plumes from battery fires have been assessed in ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17].</p> <p>A desk-based review of unexploded ordnance risk is presented in ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4].</p>
Road accidents	Road users Aquatic environment	<p>An assessment of road accidents and safety is presented in ES Chapter 14: Transport and Access [EN010131/APP/C6.2.14]. This includes an assessment of safety to non-vehicular road users.</p>

		<p>This chapter also includes an assessment of impacts from hazardous loads, such as lithium ion batteries and transformer oil on the highway network.</p> <p>The risk posed by spillage of pollutants from highway incidents during operation, construction or decommissioning is considered in ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10].</p> <p>Impacts related to glint and glare on highway safety are presented in ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16] and associated ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]. Proposed design mitigation measures have been presented therein.</p>
Rail accidents	Rail users and operators	<p>Impacts related to glint and glare on railway safety are presented in ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16] and associated ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]. Mitigation measures are not required.</p>
Aviation accidents	<p>Civilian and military pilots</p> <p>Commercial pilots and passengers</p>	<p>Impacts related to glint and glare on aviation safety are presented in ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16] and associated ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]. Mitigation measures are not required.</p>
Damage or Severance of Utilities	<p>Employees</p> <p>Local residents</p>	<p>The Scheme has the potential to affect existing utility infrastructure above and below ground. To identify any existing infrastructure constraints, both consultation and a desk-based study has been undertaken. Mitigation measures set out in the Outline Construction Environmental Management Plan [EN010132/APP/WB7.1].</p>
Mining / Unstable ground conditions	Employees	<p>An assessment of current or past quarrying activity in the vicinity of the Scheme has been undertaken through ES Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11] and associated ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4]. These identify no significant risk to the Scheme as a result of mining activity. Risk associated with other unstable ground conditions are documented in the ES Appendices. None are deemed to be significant and as such,</p>

		geotechnical design can be deferred to detailed design stage.
Disturbance of unexploded ordnance	Employees	A desk-based review of unexploded ordnance risk is presented in ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4] . This demonstrates that across the Scheme, there is a no greater than low risk of finding unexploded ordnance. Therefore there can be attributed a low sensitivity to impacts of explosions from unexploded ordnance.
Vegetation, Pests, and Diseases	Habitats and species	New planting may be susceptible to biosecurity issues, such as the increased prevalence of pests and diseases, due to climate change. The planting design will take account of biosecurity risks whilst accounting for risks of invasive or non-native species being brought to the Scheme as a result of planting measures. Further information on proposed planting and mitigation of invasive plant spread is presented in ES Chapter 9: Ecology and Biodiversity [EN010132/APP/WB6.2.9] , and the Outline Landscape and Ecological Management Plan [EN010132/APP/WB7.3] .

21.6.12 It is considered that the presence of the Scheme would not make heritage assets any more vulnerable to those accidents or disasters as identified within this chapter, than they would be if the Scheme was not in place.

21.6.13 Where there is potential for interaction between a major accident and disaster, receptor, and the Scheme, these have been shortlisted (see **Table 21.6.4**) and a qualitative evaluation is provided below. An effect is considered significant based on the effect it would have on the environment, as a result of the assessed accident or disaster occurring as a result of the Scheme. Details on appropriate prevention measures and mitigation for significant effects on the environment from such events are either provided in the sections below or within the referenced topic chapters.

[Significance Criteria](#)

21.6.14 The Scheme is likely to have impacts on major accident and disaster receptors in the local District and County areas, and to a more minor extent, the East Midlands region and national level. The sensitivity of a receptor is based upon its relative importance, and its ability to adapt to or absorb changes as a result of changes to baseline conditions. The sensitivity of these receptors will be assessed in accordance with **Table 21.6.5**.

Table 21.6.5: Criteria for Assessing Sensitivity of Receptors

Sensitivity	Definition
High	The receptor or resource has little ability to absorb the change without fundamentally altering its present character or it is of international or national importance.
Medium	The receptor or resource has moderate capacity to absorb the change without significantly altering its present character or is of high and more than local (but not national or international) importance.
Low	The receptor or resource is tolerant of change without detrimental effect, is of low or local importance.

- 21.6.15 The magnitude of impacts will be quantified in full for the construction and operational phases of the Scheme and estimated for the Scheme's decommissioning (the operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066) in accordance with the metrics set out in **Table 21.6.6**.

Table 21.6.6: Criteria for Assessing Magnitude of Impacts (positive or negative)

Magnitude	Definition
Major	The total loss or major change/substantial alteration to key elements/features of the baseline (pre-development) conditions, such that the post development character/composition/attributes will be fundamentally changed
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions, such that post development character/composition/attributes of the baseline will be materially changed
Minor	A minor shift away from baseline condition. As change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation
Negligible	Very little change from baseline conditions. The change will be barely distinguishable and approximating to a non-change situation
Neutral	No change from baseline conditions.

- 21.6.16 The degree of significance of impacts, in respect of major accidents and disasters, is determined using the matrix below in **Table 21.6.7**, taking into consideration both receptor sensitivity to change and magnitude of change to baseline conditions.

21.6.17 Effects assessed to be moderate, major-moderate, or major, are deemed to be significant effects.

Table 21.6.7: Criteria for Assessing the Significance of Effects

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major-Moderate	Moderate
Medium	Major-Moderate	Moderate	Moderate-Minor
Low	Moderate	Moderate-Minor	Minor
Negligible	Moderate-Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

21.6.18 The degree of significance can be described either in terms of beneficial or adverse magnitudes of scale and should be used to determine which impacts from the Scheme need to be considered further in the ES, and therefore which effects require mitigation measures to be implemented in the design, construction, operation, and decommissioning of the Scheme.

21.6.19 The assessment considers potential cumulative and in-combination effects related to relevant projects, where they are considered likely to have significant environmental effects. This includes assessing the cumulative impact of the construction of this Scheme and its operational lifetime, against other nearby NSIPs and relevant TCPA planning applications and approvals which will also have effects across both West Lindsey District and Bassetlaw District. A list of these cumulative sites has been included at **ES Appendix 2.3 [EN010132/APP/WB6.3.2.3]**.

Baseline Conditions

21.6.20 A number of receptors are present in the vicinity of the Scheme which could be vulnerable to major accidents or disasters, either because of their proximity to the Scheme or their importance to the surrounding area. These include:

- Towns, villages, farms and residential homes;
- Commercial sites and buildings;
- Roads;
- Railways;
- Designated ecological sites, woodland, farmland, and waterbodies; and
- Underground infrastructure services including electricity, water, communications, and gas.

- 21.6.21 With regard to the major accident and disaster types set out in **Table 21.6.4**, the following baseline conditions have been determined. In the absence of the Scheme, the future baseline is anticipated to remain the same.

Flooding

- 21.6.22 Baseline data with regard to existing flood risk in **ES Chapter 7: Climate Change [EN010132/APP/WB6.2.7]** and **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]** demonstrates that there are areas within the Scheme that are at risk of flooding when estimated climate change modelling is accounted above the 1 in 100 year flood model. Critical infrastructure within the Scheme (the conversion units, substations and energy storage compounds) will be located in areas of low (less than 1 in 1,000 annual probability) flood risk. Non-flood sensitive infrastructure forming the wider Scheme is sequentially located outside the 1 in 100 plus climate change annual probability extent, and where not possible, restricted to areas which experience less than 1 m depth of flooding during the same event. In these areas, the mounting of PV panels will be adjusted to ensure electrical equipment is elevated, or in the case of tracker panels able to be moved to, no less than 0.6 m above the surrounding peak flood level. As development of parts of the Scheme are able to be located in areas at risk of flooding, construction workers will therefore be required to work in areas where there is a greater than 1 in 1,000 year risk of flooding. Construction workers are therefore described as of a medium sensitivity to flooding and climate change impacts.
- 21.6.23 Within **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]**, and within the Flood Risk Assessment (FRA), presented in **ES Appendices 10.1 to 10.8 [EN010132/APP/WB6.3.10.1-8]**, an assessment of the baseline sensitivity of onsite workers and offsite downstream receptors has been undertaken. This assessment concludes that both onsite and offsite receptors are of a medium sensitivity to impacts as a result of changes to onsite conditions that could exacerbate flooding elsewhere.

Fire and Explosions

- 21.6.24 The risk of fire from the BESS creates an increased risk of impacts to human health for onsite employees during operation, and to a lesser extent during construction and decommissioning. As such, employees working with the units will be properly trained to handle, install, and operate battery energy storage system components, and be competent at monitoring, responding to and operating fire detection and suppression systems. As such, it can be assessed that onsite employees are of a medium sensitivity to impacts of fires. Similarly, trained firefighters, where required to respond to battery fires, are also of a medium sensitivity.
- 21.6.25 A Fire Incident Impact Assessment has been included within **ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17]**, which demonstrates that residential areas are of a minimum high sensitivity to increased particulate matter as a result of fires from battery or solar panel infrastructure fires. Highways and public rights of way are assumed to be of a medium sensitivity due to the transient nature of their use.

Unexploded Ordnance

- 21.6.26 A desk-based review of unexploded ordnance risk is presented in **ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4]**. This demonstrates that across the Scheme, there is a no greater than low risk of finding unexploded ordnance. Therefore there can be attributed a low sensitivity to impacts of explosions from unexploded ordnance.

Road Accidents

- 21.6.27 A baseline assessment of road use, and accidents and safety is presented in **ES Chapter 14: Transport and Access [EN010131/APP/C6.2.14]**. This determines that most of the road network to be utilised for construction traffic is of a low sensitivity to impacts that may cause increased risk of accidents to non-vehicular traffic or as a result of the transportation of hazardous material. A number of smaller roads closer to the Scheme have been identified as being of medium sensitivity.
- 21.6.28 The risk posed by spillage of pollutants from highway incidents during construction or decommissioning is considered in **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]**. Therein, it is determined that sensitivity of surface water and groundwater bodies to spillages, leakages and pollutants is considered to be medium.
- 21.6.29 Impacts related to glint and glare on highway safety are presented in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** and associated **ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]**, which demonstrate road users are of a medium sensitivity to glint and glare impacts.

Rail Accidents

- 21.6.30 Impacts related to glint and glare on railway safety are presented in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** and associated **ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]**, which demonstrate railway users are of a medium sensitivity to glint and glare impacts.
- 21.6.31 Potential for rail accidents as a result of construction traffic movements have not been considered further due to the negligible level of risk identified in **ES Chapter 14: Transport and Access [EN010131/APP/C6.2.14]**. This also applies to the delivery of abnormal indivisible loads, which have been assessed in **ES Appendix 14.3 [EN01033/APP/C6.3.14.3]**.

Aviation Accidents

- 21.6.32 Baseline data for civil and military aviation accidents has been determined in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** and associated **ES Appendix 16.1 [EN010132/APP/WB6.3.16.1]**. The baseline assessment gives an overall assessment of aviation receptors, including air traffic control as being of a medium sensitivity to impacts.

Damage or Severance of Utilities

- 21.6.33 Direct impacts to telecommunications, utilities and television receptors have been scoped out of assessment in the ES. Nonetheless, embedded mitigation measures to ensure damage or severance of utility services during construction will be minimised has been included in the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]** and as detailed in **Section 21.3** of this chapter.

Unstable Ground Conditions

- 21.6.34 The sensitivity criteria set out in **Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]** identifies that the Scheme as a solar project is of low sensitivity to ground contamination. Although not explicitly stated in the relevant ES Chapter, it is assumed that solar development is also of a low sensitivity to ground stability. Supporting desk based assessments in **ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4]** confirm that the risk of ground instability from mining and naturally occurring geophysical instability is low.

Vegetation, Pests, and Diseases

- 21.6.35 Baseline conditions with regard to vegetation, pests, and disease are identified in **ES Chapter 9: Ecology and Biodiversity [EN010132/APP/WB6.2.9]** under the definition of "Invasive Species". However, a determined level of sensitivity has not been attributed to the baseline ecological conditions. Determination of the magnitude of impacts and therefore significance of effects will be determined as per the methodology set out in ES Chapter 9.

Embedded Mitigation

- 21.6.36 The design of the Scheme includes a number of embedded measures to minimise the risk of significant effects from major accidents and disasters affecting and occurring within the Scheme.
- 21.6.37 The Scheme layout seeks to avoid greatest areas of flood risk, and avoids existing utilities to reduce risk of damage or severance. Fire suppression is embedded into the design of the battery energy storage containers and the compound they are located within. Further matters are mitigated against through embedded measures set out in the following documents:
- **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]**
 - **Outline Ecological Protection and Mitigation Strategy [EN010132/APP/WB7.17]**
 - **Outline Construction Traffic Management Plan [EN010132/APP/WB6.3.14.1]**

- 21.6.38 Each of these outline documents are to be secured by requirements in the DCO, from which final versions of these documents will be produced at the relevant time post-consent.

[Identification and Evaluation of Likely Significant Effects](#)

Flooding

- 21.6.39 The vulnerability of the Scheme to flooding has been mitigated through embedded design measures to avoid building critical infrastructure in areas where there is a greater than 1 in 1,000 annual probability of flood risk. Elsewhere on the Sites, where works are able to be built compatibly with potential flooding of up to a depth of 1m, the vulnerability of construction workers and equipment is mitigated through embedded measures through the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]**. These include the requirement for contractors to produce a Flood Risk Management Action Plan/Method Statement which will provide details of the response to an impending flood and include the following. These measures are to be secured through Requirement in the DCO. As such, the impacts from flooding on infrastructure and on human health of workers is anticipated to be **not significant**.
- 21.6.40 The review of climate change resilience set out in **ES Chapter 7: Climate Change [EN010132/APP/WB6.2.7]** identifies that the impacts of increased rainfall events, winter precipitation, and increased probability of extreme weather events on the Scheme's construction is anticipated to be medium to high magnitude. However, given the timescale of construction, it is not anticipated these events will be significantly more likely than the baseline, and as such, the anticipated impacts are not severe and are **not significant**. These impacts are likely to be of a greater (high) magnitude during operation and decommissioning as a result of future baseline conditions. That notwithstanding, the level of effect to the Scheme is identified as **not significant**.
- 21.6.41 Impacts that the Scheme may have on onsite or offsite receptors as a result of increased flooding from construction activities have been assessed in **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]**. The assessment identifies impacts during construction and decommissioning from mud and debris blockages to the drainage network, temporary increases in impermeable areas, and compaction of soils. These impacts are likely to affect onsite workers, onsite machinery, and to downstream offsite residential receptors. All of these impacts require site specific mitigation to be implemented in addition to the embedded mitigation to ensure effects are not significant. Operational use will not be greater than during construction or decommissioning phases. The residual effects from these construction, operation and decommissioning impacts assuming all mitigation measures are implemented have been assessed as having a negligible adverse effect. This is therefore **not significant**.

Fire and Explosions

- 21.6.42 Health and safety on site would be managed by the contractor during construction and decommissioning to mitigate the risk of fire in line with legislative safety requirements. An **Outline Battery Storage Safety Management Plan (OBSSMP) [EN010132/APP/WB7.9]** has been prepared and is provided with the Application, and is to be secured by requirement in the DCO.
- 21.6.43 The risk of fire from the BESS during construction and decommissioning is negligible due to the containerised construction of the storage units, thus reducing the risk of damage to battery cells which may cause fires. Furthermore, risks associated with damage to battery cells is likely to be isolated and so risk of larger fires is reduced. As such, the estimated level of effect on site safety as a result of battery fires is **minor** adverse and therefore **not significant**.
- 21.6.44 During operation, the risk of battery fires is greater as a result of the electrical loading on the battery cells. As such, potential fires are likely to be of a larger scale, albeit with embedded mitigation should be able to be managed with no more than a minor negative impact on site safety (including human health of onsite employees and firefighters). As such, the estimated level of effect on site safety during the operational lifetime of the Scheme as a result of battery fires is moderate-minor adverse and therefore **not significant**.
- 21.6.45 In the more unlikely scenario that there is an unconfined explosion, following several successive technology failures, it is estimated that in the worst case, the direct impacts would be felt up to 50m from the affected battery energy cell. There are no PRoW, public access, or properties within this distance, and as such the immediate effect to public health is **not significant**.
- 21.6.46 During construction, operation, and decommissioning, the risk of other types of fires including electrical fires is not anticipated to be as great as those for the BESS. Therefore, the anticipated impacts of other fires onsite to human health and infrastructure resilience are no greater than minor adverse and therefore **not significant**.
- 21.6.47 The Fire Incident Impact Assessment included within **ES Chapter 17: Air Quality [EN010132/APP/WB6.2.17]** assesses that the effects from fires on human health to residential, public highway, and right of way receptors surrounding the site as a result of pollutants and particulate matter is negligible adverse, subject to implementation of good practice safety measures, and are therefore **not significant**.
- 21.6.48 The Scheme demonstrates to be of a no greater than low risk of containing unexploded ordinance. The impact of an explosion from buried ordinance is likely to have a medium to high impact on human health and safety, and as a result, measures to ensure site safety if unexploded ordinance is found will need to be secured. This is therefore mitigated through the embedded best practice avoidance and mitigation measures proposed for addressing risks to human health from

ground contamination and the discovery of ground contamination in the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]**. Subject to implementation, this means that the likely environmental effects from unexploded ordinance are minor adverse and is therefore **not significant**.

Road Accidents

- 21.6.49 The assessment of road accidents and safety presented in **ES Chapter 14: Transport and Access [EN010131/APP/C6.2.14]** concludes that subject to embedded mitigation measures being implemented, the effects of construction traffic to the Sites and to the Cable Corridor on highway safety are no greater than minor adverse, whilst the effects of transportation of hazardous loads are deemed to be no greater than negligible adverse. Construction traffic will be no greater during operational and decommissioning stages. As such these effects are **not significant**.
- 21.6.50 The potential environmental effects of spillage of pollutants or release of hazardous materials from highway incidents during construction or decommissioning is considered in **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010132/APP/WB6.2.10]**. Therein, it is determined that the residual effects subject to appropriate mitigation is no greater than negligible adverse. This is therefore **not significant**.
- 21.6.51 Impacts related to glint and glare on highway safety during the operational lifetime of the Scheme are presented in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** and its associated Appendix 16.1 **[EN010133/APP/C6.3.16.1]** which demonstrates that there are potential up to **moderate adverse** effects to road receptors (specifically for 300m on the B1241 Sturton Road). This is therefore **significant**. Embedded and additional mitigation measures in the form of tracker panel backtracking and temporary opaque fencing will be used until landscape screening planting matures. As such, residual effects on road users are estimated to be no greater than minor or negligible adverse effects. These are therefore **not significant**.

Rail Accidents

- 21.6.52 Impacts related to glint and glare on railway safety during the operational lifetime of the Scheme are presented in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** which demonstrates that there are no greater than neutral effects to rail receptors, specifically train drivers. These are therefore **not significant**, and thus does not require mitigatory design measures.

Aviation Accidents

- 21.6.53 The assessment of effects set out in **ES Chapter 16: Glint and Glare [EN010132/APP/WB6.2.16]** states that no significant effects are predicted in respect of aviation receptors during the operational lifetime of the Scheme. As such, there are **no significant** effects relating to major accidents and disasters with regard to aviation accidents.

Damage or Severance of Utilities

- 21.6.54 Direct impacts to telecommunications, utilities and television receptors have been scoped out of assessment in the ES (see Scoping Opinion found at Appendix 2.2 of the ES [EN010133C6.3.2.2]). Nonetheless, mitigation measures to ensure minimisation of damage or severance of utility services has been included in **Section 21.3**.
- 21.6.55 This topic was agreed to be scoped out of assessment on the basis that with embedded design measures to ensure damage or severance of utilities during construction is minimised, there were **not anticipated to be any significant environmental effects**. This is as a result of the low risk of damage or severance of utilities occurring due to avoidance embedded in the design, and the good working practice and mitigation measures secured through the **Outline Construction Environmental Management Plan [EN010132/APP/WB7.1]** to maintain high standards of work safety and competence.

Unstable Ground Conditions

- 21.6.56 The assessed level of risk of ground instability from mining and naturally occurring geophysical instability is low, as determined in **ES Appendices 11.1-4 [EN010132/APP/WB6.3.11.1-4]**. The sensitivity criteria set out in **Chapter 11: Ground Conditions and Contamination [EN010132/APP/WB6.2.11]** identifies that the Scheme as a solar project is of low sensitivity to ground contamination and therefore assumed as such for ground stability. Human health however is a high sensitivity receptor with regard to ground conditions. That notwithstanding, the residual effects of ground instability both on the Scheme and its infrastructure, and on its workforce, and the users and residents of surrounding premises is **not anticipated to be significant**.

Vegetation, Pests, and Diseases

- 21.6.57 As identified in **ES Chapter 9: Ecology and Biodiversity [EN010132/APP/WB6.2.9]** the greatest level of impact is anticipated from the potential spread of invasive species during construction, operation and decommissioning. Although not identified within the Scheme, precautionary measures to avoid the accidental spread of invasive species has been set out in **ES Appendix 9.13: Ecological Protection and Mitigation Strategy [EN010132/APP/WB6.3.9.13]**. As a result of the mitigation measures therein, the residual effect of the spread of invasive species is a neutral effect and is therefore not significant.

Mitigation Measures

- 21.6.58 Minimising the risk of major accidents during construction, operation, and decommissioning will be addressed through appropriate risk assessments as required in the following documents, which will be secured via a requirement to the DCO:

- Outline Decommissioning Statement **[EN010132/APP/WB7.2]**
- Outline Landscape and Ecological Management Plan **[EN010132/APP/WB7.3]**
- Outline Battery Storage Safety Management Plan **[EN010132/APP/WB7.9]**
- Outline Operational Environmental Management Plan **[EN010132/APP/WB7.14]**

21.6.59 The Outline Battery Storage Safety Management Plan (OBSSMP) has been produced for the Scheme and will be updated and maintained as a 'live document' throughout the operational phase of the Scheme. The implementation of the strategy will be secured via a requirement to the DCO.

[In-Combination Effects](#)

21.6.60 Major accidents and disasters are likely to have in-combination effects with other ES topics, most notably human health, as a result of the potential secondary impacts to on-site employees and to the public in the surrounding villages and hamlets identified. None of the identified residual effects from major accidents and disasters are assessed to be significant, and as such, there is not anticipated to be any significant in-combination effects on human health as a result of major accidents and disasters. This is secured through the embedded and additional mitigation measures identified at 21.6.39, 21.6.60, and the relevant ES chapters identified in this section.

[Cumulative Effects](#)

21.6.61 With the mitigation identified in the above sections and associated documents and ES chapters to reduce the risk of major accidents and disasters, it is not expected that any cumulative schemes would increase the risk or severity of the residual effects associated with major accidents and disasters affecting the Scheme or resulting from works associated with the Scheme. Potential cumulative schemes are identified within **ES Appendix 2.3 [EN010132/APP/WB6.3.2.3]**, which identifies a Zone of Influence for the project as well as any likely impacts on the project. These schemes have been considered within this ES chapter in determining whether there would be significant effects from major accidents and disasters.

[Residual Effects](#)

21.6.62 As in-combination and cumulative effects are not expected to increase the level of significance of any identified effects, the residual effects of major accidents and disasters are assessed as being not significant.

21.7 References

- Ref.1 ICNIRP (1998). ICNIRP Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic And Electromagnetic Fields (Up To 300 GHz). International Commission on Non-Ionizing Radiation Protection. Available at [REDACTED]
- Ref.2 Department of Energy and Climate Change (2011). National Policy Statement for Electricity Networks Infrastructure (EN-5). London: The Stationery Office.
- Ref.3 EMFs.info (2022). Sources of EMFs – Fields from Specific Power Lines. Available at [REDACTED]
- Ref.4 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 2017 No.572.
- Ref.5 Countryside and Rights of Way Act 2000, 2000 c.37.
- Ref.6 Health and Social Care Act 2012, 2012 c.7.
- Ref.7 Department of Energy and Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.
- Ref.8 Department of Business, Energy & Industrial Strategy (2021). Draft Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.
- Ref.9 North Kesteven District Council, Lincoln City Council, West Lindsey District Council (2017). Central Lincolnshire Local Plan. Sleaford: North Kesteven District Council.
- Ref.10 Planning Act 2008, 2008 c.29.
- Ref.11 IEMA (2020). Major Accidents and Disasters in EIA: A Primer. London: Institute of Environmental Management and Assessment. Available at [REDACTED]
- Ref.12 HM Government (2020). National Risk Register. London: The Cabinet Office. Available at www.gov.uk/government/publications/national-risk-register-2020