

Cottam Solar Project

Environmental Statement ES Addendum 21.1: Human Health and Wellbeing Effects

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Issue Sheet

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Environmental Statement ES Addendum 21.1: Human Health and Wellbeing Effects

Prepared by:

Name: Stephen Flynn

Title: Senior Planner

Approved by:

Name: Beccy Rejzek

Title: Associate Director MRTPI

Revision	Date	Prepared by:	Approved by:
original	30 January 2024	SF	BR

1 Introduction

1.1 Purpose of Document

- 1.1.1 This document is an addendum to the assessment of human health and wellbeing impacts included at Section 21.5 of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.
- 1.1.2 As such, this addendum report should be read alongside the submitted ES chapter section **[APP-056]**. This report provides supplementary information to the ES chapter and does not replace it.
- 1.1.3 In response to a request made by the Examining Authority in Issue Specific Hearing 4, as documented at Agenda Item 4 (pg.9) of **C8.1.23 Written Summary of Applicant's Oral Submissions and Responses at Issue Specific Hearing 4 [REP3-035]**, and at Q2.12.7 of the Examining Authority's (ExA's) Second Written Questions (ExQ2) **[PD-015]**, this addendum has been prepared to provide a collation of human health and wellbeing impacts as assessed in the ES, and to provide additional signposting to assessment outcomes with regard to human health and wellbeing impacts as assessed in each of the relevant ES topic chapters.
- 1.1.4 The objective of this addendum is to demonstrate that the Applicant has provided a suitably comprehensive and proportionate assessment of human health and wellbeing effects from the Scheme.

2 Approach to Health and Wellbeing Impacts in the ES

2.1 Scoping Opinion

2.1.1 As demonstrated in Section 3.20 of **C6.3.2.2 ES Appendix 2.2 EIA Scoping Opinion [APP-064]**, the scope and approach to assessment of human health in the ES was agreed with the Planning Inspectorate in March 2022. This ensured that human health and wellbeing impacts were suitably and proportionately assessed, as required by the Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017, in each of the ES chapters where impacts were relevant. It was agreed that there would be signposting to where these human health and wellbeing impacts had been assessed, rather than providing a separate assessment in its own chapter.

2.1.2 The relevant ES chapters as submitted are:

- **C6.2.10 ES Chapter 10 Hydrology Flood Risk and Drainage [APP-045]**, and its associated appendices **[APP-090 to APP-097]** and addendum **[REP-076]**;
- **C6.2.11 ES Chapter 11 Ground Conditions and Contamination [APP-046]**, and its associated appendices **[APP-098 to APP-108]**;
- **C6.2.15 ES Chapter 15 Noise and Vibration [APP-050]**, and its associated appendices **[APP-137 to APP-139]**;
- **C6.2.16 ES Chapter 16 Glint and Glare [APP-051]**, and its associated appendix **[APP-140]** and addendum **[REP-077]**;
- **C6.2.17 ES Chapter 17 Air Quality [APP-052]**, and its associated appendices **[APP-141 to APP-144]** and addenda **[REP-078 and REP-079]**;
- **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**;
- **C6.2.20 ES Chapter 20 Waste [APP-055]**; and
- Section 21.6 “Major Accidents and Disasters” in **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.

2.1.3 Human health and wellbeing impacts from electromagnetic fields, light pollution, and telecommunications, utilities and television receptors were scoped out of the ES, as assessment of each of these topics was also scoped out. Nevertheless, information on each of these topic areas deemed relevant to include in the ES is presented in **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.

2.2 Existing Provision in ES Chapter 21

2.2.1 Section 21.5 (“Human Health”) of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** provides a summary of the human health and wellbeing impacts assessed in the ES, and provides specific signposting to significant environmental effects assessed in the relevant ES topic chapters. Non-significant effects have been signposted to in a general aspect.

- 2.2.2 The Human Health section provides a summary of the legislative and planning policy context within which the considerations and assessment of human health and wellbeing impacts should be undertaken, before going on to summarise the consultation and commentary made by statutory bodies in respect of human health impacts, and the Applicant's response to these comments.
- 2.2.3 Whilst not providing a distinct assessment of human health and wellbeing, the Human Health section provides a summary of health and wellbeing impacts as set out in each of the ES chapters, following the below structure:
- Baseline conditions;
 - Embedded and additional mitigation;
 - Residual effects;
 - In-combination effects; and
 - Cumulative effects.
- 2.2.4 In doing so, the Human Health section covers the same scope of assessment as any other chapter in the ES.
- 2.2.5 The health assessment undertaken in the ES seeks to understand whether significant effects, identified in other relevant technical assessments, would result in human health and wellbeing effects. This assessment summary at Section 21.5 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** is therefore informed by the technical assessments as set out in paragraph 2.1.2 above.
- 2.2.6 The health assessment considers the residual effects of other EIA technical assessments – i.e. it only considers the effects post-mitigation. This identified no need for additional mitigation measures relevant to the effect on human health beyond that set out in the original technical assessments. Where this addendum makes additional recommendations, these are discussed in this addendum only.

2.3 Signposting

- 2.3.1 Signposting in Section 21.5 ("Human Health") of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** directs readers to each of the relevant ES topic chapters in which human health and wellbeing matters are assessed, and where deemed appropriate, provides section or paragraph references to aid navigation.
- 2.3.2 Where additional mitigation measures are provided as part of the DCO application, the control documents in which these can be found have also been signposted to.

3 Health and Wellbeing Impacts in the ES

3.1 Baseline Conditions

3.1.1 A summary of baseline conditions relevant to human health in each of the topic chapters has been presented at paragraphs 21.5.17-21.5.28 of Section 21.5 (“Human Health”) of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**. Therefore, the below Table 3.1 seeks to provide signposting of greater precision to aid navigation to the detailed baseline conditions as set out in the relevant ES chapter.

Table 3.1: Signposting to Baseline Conditions for Human Health and Wellbeing

ES Topic	Location in ES	Explanatory Notes
Hydrology, Flood Risk and Drainage	Paragraphs 10.5.1-10.5.38 [APP-045] Associated appendices [APP-090 to APP-097]	Baseline conditions are presented separately for each of the Sites in the Scheme, and for the Cable Route Corridor. Detailed baseline conditions for each part of the Scheme are given separate appendices.
Ground Conditions and Contamination	Paragraphs 11.5.1-11.6.1 [APP-046] Associated appendices [APP-098 to APP-108]	Baseline conditions are presented separately for each of the Sites in the Scheme, and for the Cable Route Corridor. Detailed baseline conditions for each part of the Scheme are given separate appendices.
Noise and Vibration	Paragraphs 15.5.1-15.5.34 [APP-050]	Baseline conditions are presented separately for each of the Sites in the Scheme, and for the Cable Route Corridor. Detailed baseline conditions are based on site surveys as presented in the ES Chapter.
Glint and Glare	Paragraphs 16.5.1-16.5.5 [APP-051] Associated appendix [APP-140]	Baseline conditions are based on receptor surveys for residential, road and railway receptors as presented in ES Appendix 16.1.
Air Quality	Paragraphs 17.5.1-17.5.21 [APP-052] Associated appendices [APP-141 to APP-143]	Baseline conditions are presented separately for each of the Sites in the Scheme. Detailed baseline conditions are based on Qualitative

ES Topic	Location in ES	Explanatory Notes
		Dust Assessments as presented in separate appendices for each of the Sites.
Socio-Economics, Tourism and Recreation	Paragraphs 18.5.1-18.5.69 [APP-053]	Baseline conditions are presented collectively for the Scheme for socio-economic baseline receptors. Tourism and recreation baseline conditions are detailed based on proximity to the Sites that make up the Scheme.
Waste	n/a	Human health impacts from waste are only anticipated as in-combination effects with contamination. As such, no baseline conditions have been assessed.
Major Accidents and Disasters	Paragraphs 21.6.16-21.6.33 [APP-056]	Baseline conditions are presented for the Scheme as a whole. These are generally taken from other ES topics to which major accidents and disasters relate.

3.2 Mitigation Measures in the Environmental Statement

Embedded Mitigation

- 3.2.1 A summary of embedded mitigation relevant to human health in each of the topic chapters has been presented at paragraphs 21.5.29-21.5.30 of Section 21.5 (“Human Health”) of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.
- 3.2.2 Topic specific mitigation is detailed in each of the relevant ES chapters. For hydrology, flood risk and drainage, this mitigation is set out in paragraph 10.7.1 **[APP-045]** and its associated bullet points. Likewise for ground conditions and contamination, this mitigation is set out in paragraphs 10.8.1-2 **[APP-046]** and its associated bullet points. Noise and vibration mitigation is based on the design measures found at paragraphs 15.6.1-15.6.18 **[APP-050]**, giving specific Site-by-Site mitigation requirements. Generalised embedded glint and glare mitigation can be found at paragraph 16.6.1 **[APP-051]**, whilst specific mitigation for air quality is set out in the Construction Dust Management Plans for each Site as set out in the

relevant sections of ES Appendices 17.1-17.3 [APP-141 to APP-143]. Embedded mitigation for socio-economic, tourism and recreation impacts is included in the control documents set out at paragraph 18.6.2 and detailed further at 18.6.3-18.6.9 [APP-053]. For major accidents and disasters, the same control documents are referred to at paragraph 21.6.35 [APP-056].

3.2.3 Signposting to any additional mitigation or enhancement measures relevant to each of the topic chapters, or where secured through the relevant certified documents secured by requirement in the DCO, has been presented at paragraphs 21.5.32-33 of Section 21.5 (“Human Health”) of the submitted **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.

3.3 Residual Effects

Hydrology Flood Risk and Drainage

3.3.1 Residual health and wellbeing impacts resulting from hydrology, flood risk and drainage impacts from the Scheme are a substantial consideration due to the potential impacts upon health and wellbeing of both on-site workers, and nearby residents and members of the public. The assessment of residual effects subject to the implementation of embedded design and mitigation measures is set out in Section 10.8 of **C6.2.10 ES Chapter 10 Hydrology Flood Risk and Drainage [APP-045]**. Those impacts related to human health and wellbeing effects are provided in Table 3.2 below. The effects assessed in Table 3.2 relate to all stages of the development of the Scheme unless specifically stated otherwise.

Table 3.2: Signposting to Residual Effects to Human Health and Wellbeing from Hydrology, Flood Risk and Drainage Effects

Summary of Residual Effect	Location in ES Chapter	Likely Significance of Effect
Risk to workers and residents from increased flooding from a permanent increase in impermeable surfaces	10.8.2	Negligible adverse Not significant
Risk to workers and residents from increased flooding from an increase in discharge to local watercourses	10.8.5	Negligible adverse Not significant
Risk to water resources from diffuse pollution in urban runoff	10.8.10	Negligible adverse Not significant
Risk to water resources from diffuse pollution in fire water runoff	10.8.16	Negligible adverse Not significant
Risk to water resources from increase in highway routine runoff / spillage risk	10.8.18	Negligible adverse Not significant

Summary of Residual Effect	Location in ES Chapter	Likely Significance of Effect
Risk to water resources from disposal of surface water and foul water from the site	10.8.22	Negligible adverse Not significant
Risk to workers and residents from increased flooding from mud and debris blockages during construction and decommissioning	10.8.26	Negligible adverse Not significant
Risk to workers and residents from increased flooding from a temporary increase in impermeable surfaces during construction	10.8.28	Negligible adverse Not significant
Risk to workers and residents from increased flooding from blockages of drainage networks	10.8.30	Negligible adverse Not significant
Risk to water resources from increase in silt-laden runoff during construction and decommissioning	10.8.31	Negligible adverse Not significant
Risk to water resources from increase in spillages and leaks of pollutants during construction and decommissioning	10.8.33	Negligible adverse Not significant

3.3.2 As demonstrated in the above table, the hydrology, flood risk and drainage effects are all negligible and therefore not significant. As a result, the effects on the health and wellbeing of workers and residents resulting from the above assessed impacts are also negligible adverse and **not significant**.

Ground Conditions and Contamination

3.3.3 As with hydrology and flood risk, the impacts to health and wellbeing from ground conditions and contamination effects from the Scheme are a substantial consideration due to the potential impacts upon the health and wellbeing of on-site workers, nearby residents and members of the public. The assessment of residual effects subject to the implementation of embedded design and mitigation measures is set out in Section 11.8 of **C6.2.11 ES Chapter 11 Ground Conditions and Contamination [APP-046]**. Those impacts related to human health and wellbeing effects are provided below in Table 3.3. The effects set out in Table 3.3 relate to all stages of the development of the Scheme unless specifically stated otherwise.

Table 3.3: Signposting to Residual Effects to Human Health and Wellbeing from Ground Conditions and Contamination Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Risk to workers from direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Table 11.7	Moderate/minor adverse Not significant
Risk to adjacent site users and residents from direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Table 11.7	Moderate/minor adverse Not significant
Risk to controlled water resources from leaching of contamination into groundwater	Table 11.7	Minor adverse Not significant
Risk to future site users from direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Table 11.7	Moderate/minor adverse Not significant

3.3.4 As demonstrated in the above table, the residual ground conditions and contamination effects of relevance to human health and wellbeing are no greater than a moderate/minor adverse effect. As a result, the effects on the health and wellbeing of workers, residents, and future site users resulting from the above assessed impacts are also therefore **not significant**.

Noise and Vibration

3.3.5 Noise and vibration impacts resulting from the Scheme are considered to have potential to induce secondary health and wellbeing impacts as a result of amenity impacts from noise and vibration on residential receptors. Primary noise and vibration impacts are assessed in Section 15.7 of **C6.2.15 ES Chapter 15 Noise and Vibration [APP-050]**. A full list of assessed impacts is provided in Table 3.4 below.

Table 3.4: Signposting to Residual Effects to Human Health and Wellbeing from Noise and Vibration Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Construction noise from Sites on neighbouring sensitive receptors	15.7.12	Moderate/minor adverse
	15.7.15	Not significant
	15.7.18	
	15.7.21	

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Construction noise from cable route on neighbouring sensitive receptors	15.7.22	Moderate/minor adverse Not significant
Construction noise from cable route on receptors CR06 and CR08	15.7.22	Major adverse Significant <i>Transient period only</i>
Construction vibration from Cottam 1 on neighbouring sensitive receptors	15.7.28	Moderate adverse Not significant
Construction vibration from Cottam 2, 3a and 3b on neighbouring sensitive receptors	15.7.31 15.7.34 15.7.37	Moderate/minor adverse Not significant
Construction vibration from cable route on neighbouring sensitive receptors	15.7.39	Moderate adverse Not significant
Construction traffic noise from Cottam 1 on neighbouring sensitive receptors	15.7.46	Moderate adverse Not significant
Construction traffic noise from Cottam 2, 3a and 3b on neighbouring sensitive receptors	15.7.49 15.7.52 15.7.55	Moderate/minor adverse Not significant
Construction traffic noise from cable route on neighbouring sensitive receptors	15.7.62	<i>Not assessed due to low traffic volume</i> Not significant
Operational noise from Sites on neighbouring sensitive receptors	15.7.79-82 15.7.83-86 15.7.87-90 15.7.91-94	Moderate/minor adverse Not significant

3.3.6 This shows that there are a range of effects, the majority of which are not significant. The only significant effect relates to construction noise on receptors CR06 and CR08. These receptors are residential receptors adjacent to the Cable Route Corridor as so will be sensitive to construction noise and vibration related to the cable installation. Given that construction activities for the Cable Route Corridor are transient, it is considered unlikely that a major impact would be experienced for any prolonged duration due to the temporary nature of construction operations. Works would also

be subject to the implementation of Best Practice Measures as secured through the **Outline Construction Environmental Management Plan (Revision C) [REP3-012]**.

- 3.3.7 Given the transient nature of the assessed noise and vibration impacts, it is not anticipated that this would lead to any substantive or long-term health and wellbeing impacts. As a result, the effects on the health and wellbeing of residents resulting from the above assessed impacts are **not significant**.

Glint and Glare

- 3.3.8 Residual health and wellbeing impacts resulting from glint and glare impacts from the Scheme are focussed on the potential significant effects to the amenity of nearby residential dwellings and the subsequent impacts upon wellbeing. Impacts on safety to transport are considered in the “Major Accidents and Disasters” topic. The assessment of residual effects subject to the implementation of embedded design and mitigation measures is set out in Section 16.12 of **C6.2.16 ES Chapter 16 Glint and Glare [APP-051]**. These effects pertain only to the Scheme’s operational lifetime.

Table 3.5: Signposting to Residual Effects to Human Health and Wellbeing from Glint and Glare Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Glint and glare to residential receptors from fixed solar PV mounting systems	16.12.1	Minor/negligible adverse Not significant
Glint and glare to residential receptors from tracking solar PV mounting systems	16.12.1	Minor/negligible adverse Not significant

- 3.3.9 As demonstrated in the above table, the residual glint and glare effects to are no greater than a minor/negligible adverse effect. As a result, effects on human health and wellbeing, limited to the amenity impacts resulting from glint and glare impacts, are **not significant**.

Air Quality

- 3.3.10 Air quality impacts from the Scheme that may result in human health and wellbeing impacts are considered as a result of physical health impacts to neighbouring residents due to dust, particulate matter and smoke. The assessment of potential air quality effects is set out in Section 17.7 of **C6.2.17 ES Chapter 17 Air Quality [APP-052]**.
- 3.3.11 The anticipated impact from construction dust and particulate matter considered to be a negligible adverse effect, and therefore not significant (paragraph 17.7.13). The

anticipated health impacts from a fire during the Scheme’s operational life is assessed as a negligible adverse effect, and therefore not significant (paragraph 17.7.18-19), subject to the implementation of good practice safety measures.

3.3.12 The assessment of residual effects at paragraph 17.10.1 in **C6.2.17 ES Chapter 17 Air Quality [APP-052]** considers that subject to the implementation of the appropriate site-specific mitigation, all residual impacts from air quality effects are negligible adverse effects. The resultant human health and wellbeing effects from these assessed impacts are also therefore no greater than negligible adverse effects. These therefore are **not significant** effects.

Socio-Economics, Tourism and Recreation

3.3.13 Human health and wellbeing is closely linked to the socio-economic, tourism and recreation environment, and as such, there are a large number of assessed effects that have direct or secondary health and wellbeing impacts. These have been assessed in Section 18.7 of **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**. A full list of assessed residual effects that are likely to have health and wellbeing implications is provided in Table 3.6 below.

Table 3.6: Signposting to Residual Significant Effects to Human Health and Wellbeing from Socio-Economic, Tourism and Recreation Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect (Local or Regional ¹)
CONSTRUCTION		
Changes to access to primary healthcare, and general population health and wellbeing, from uplift in population	18.7.30-31	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to disability and long-term health conditions from uplift in population	18.7.32	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to access to employment (IMD ²) from overall employment opportunities	18.8.12	Major-moderate beneficial (Local) Significant
Changes to access to education (IMD) from sector-based skills training and qualification opportunities	18.8.13	Moderate beneficial (Local) Significant

¹ Local: Local Impact Area defined as the combined area of West Lindsey District and Bassetlaw District. Regional: Regional Impact Area defines as the East Midlands statistical International Territorial Level.

² IMD: Index of Multiple Deprivation

Summary of Residual Effect	Location in ES	Likely Significance of Effect (Local or Regional ¹)
Changes to PRow desirability and use from impacts, diversions and closures	18.7.62	Moderate-minor adverse Not significant
Changes to long-distance recreational routes desirability and use from impacts, diversions and closures	18.7.62	Moderate-minor adverse Not significant
Changes to highway desirability and use for recreation from fear and intimidation from HGV traffic	18.7.63	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from impacts	18.7.64	Moderate-minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts	18.7.65	Minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts	18.7.67	Moderate-minor adverse Not significant
OPERATION		
Changes to access to primary healthcare, and general population health and wellbeing, from uplift in population	18.8.20	Minor adverse (Local) Neutral (Regional) Not significant
Changes to disability and long-term health conditions from uplift in population	18.7.85	Negligible adverse (Local) Neutral (Regional) Not significant
Changes to access to employment (IMD) from overall employment opportunities	18.8.18	Moderate-minor beneficial (Local) Not significant
Changes to access to education (IMD) from sector-based skills training and qualification opportunities	18.8.19	Moderate-minor beneficial (Local) Not significant
Changes to PRow desirability and use from impacts on views	18.7.107	Moderate-minor adverse Not significant

Summary of Residual Effect	Location in ES	Likely Significance of Effect (Local or Regional ¹)
Changes to long-distance recreational routes desirability and use from impacts on views	18.7.107	Moderate-minor adverse Not significant
Changes to other routes desirability and use for recreation	18.7.108	Moderate-minor beneficial Not significant
Changes to recreational waterway desirability and use from impacts on views	18.7.109	Minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts on views	18.7.110	Minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts on views	18.7.111	Minor adverse Not significant
DECOMMISSIONING		
Changes to overall employment opportunities during decommissioning	18.7.125	Moderate-minor beneficial (Local) Negligible beneficial (Regional) Not significant
Changes to overall employment opportunities following completion of decommissioning	18.7.126	Minor beneficial (Local) Negligible adverse (Regional) Not significant
Changes to the socio-demographic environment during decommissioning activities	18.8.22	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to PRow desirability and use from impacts, diversions and closures	18.7.146	Moderate-minor adverse Not significant
Changes to PRow desirability and use from impacts on views	18.7.146	Moderate-minor beneficial Not significant
Changes to long-distance recreational routes desirability and use from impacts, diversions and closures	18.7.147	Moderate-minor adverse Not significant

Summary of Residual Effect	Location in ES	Likely Significance of Effect (Local or Regional ¹)
Changes to long-distance recreational routes desirability and use from impacts on views	18.7.147	Moderate-minor beneficial Not significant
Changes to highway desirability and use for recreation from fear and intimidation from HGV traffic	18.7.148	Moderate-minor adverse Not significant
Changes to other routes desirability and use for recreation	18.7.149	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from decommissioning works impacts	18.7.151	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from impacts on views	18.7.151	Minor beneficial Not significant
Changes to formal recreation centre desirability and use from decommissioning works impacts	18.7.152	Minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts on views	18.7.152	Minor beneficial Not significant
Changes to informal and youth recreation centre desirability and use from decommissioning works impacts	18.7.153	Moderate-minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts on views	18.7.153	Minor beneficial Not significant

3.3.14 As demonstrated in the above table, adverse residual effects to socio-economic, tourism and recreation effects are no greater than a moderate-minor adverse effect at any point in the Scheme's development. These therefore are **not significant** effects. The secondary impact upon health and wellbeing as a result of these impacts is not anticipated to be as significant during construction and decommissioning as during operation, due to the length of time that these effects will be felt. Nonetheless, the greatest level of impacts on human health and wellbeing are long-term moderate-minor adverse effects on wellbeing due to the potentially reduced desirability of public rights of way and recreational routes in the locally impacted areas. These therefore are also **not significant** effects.

- 3.3.15 In comparison, the assessment of socio-economic, tourism and recreation effects demonstrates that there are beneficial residual effects to access to employment, and access to education, as measured Indices of Multiple Deprivation. These are up to major-moderate beneficial effects, and therefore are **significant effects**. Given the links between employment, education and health, the work and training opportunities created by the Scheme as supported by the measures in the **Outline Skills Supply Chain and Employment Plan (Revision A) [EN010133/EX4/C7.10_A]** (OSSCEP) will have a positive effect on health and wellbeing. Whilst the majority of jobs during construction will be temporary in nature and benefit people over a relatively wide geography, it should be noted that the improvements to skills supported and associated increase in future opportunities and incomes will be long-term. These enhancement measures in the OSSCEP **[EN010133/EX4/C7.10_A]** have been included with the specific intention of increasing the level of local employment and the skill levels of local residents. The Applicant is committed to working with the supply chain, wider businesses and partners to ensure that employment and skills opportunities are accessible to underrepresented and vulnerable groups. These measures will be agreed by the local planning authorities and relevant statutory bodies in the finalised Skills, Supply Chain and Employment Plan secured by Requirement 20 of Schedule 2 of the **Draft Development Consent Order (Revision F) [EN0101033/EX4/C3.1_F]**.
- 3.3.16 The beneficial effects to human health and wellbeing as a result of beneficial effects on employment and education deprivation in the Local Impact Area are assessed to be **significant beneficial effects**.
- Waste
- 3.3.17 The assessment of residual effects for waste does not include impacts on human health and wellbeing. Instead, please refer to the assessment of in-combination effects set out at paragraph 3.4.8 below.
- Major Accidents and Disasters
- 3.3.18 The assessment of residual effects from major accidents and disasters is based on the assessment finding from multiple parts of the ES, and as such, summarises those sections already covered in response to human health and wellbeing. There is a significant level of crossover between major accidents and disasters and human health and wellbeing, as injury and risk to life are the predominant risks. The assessment of likely residual effects from major accidents and disasters is detailed at paragraphs 21.6.37-21.6.55 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**, and those pertaining to human health and wellbeing are set out in Table 3.9 below. Each of these is subject to the necessary embedded and additional mitigation and enhancement measures being implemented.

Table 3.9: Signposting to Residual Effects to Human Health and Wellbeing from Major Accidents and Disasters Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Risk to workers from working in areas at greater than 1 in 1,000 annual probability of flood risk	21.6.37	Negligible adverse Not significant
Risk to workers from increased exposure to extreme weather events due to climate change	21.6.38	Not significant adverse (magnitude undefined)
Risks to workers and residents from increased flooding from Scheme	21.6.39	Negligible adverse Not significant
Risks to workers, firefighters, and nearby residents from BESS fire during installation and decommissioning	21.6.41	Minor adverse Not significant
Risks to workers, firefighters, and nearby residents from BESS fire during operation	21.6.42	Moderate-minor adverse Not significant
Risks to workers, firefighters, and nearby residents from unconfined explosions from BESS	21.6.43	Negligible adverse Not significant
Risks to workers, firefighters, and nearby residents from other fires on the Scheme	21.6.44	Minor adverse Not significant
Risks of health impacts to nearby residents from pollutants and particulate matter from fires	21.6.45	Negligible adverse Not significant
Risks to workers, and nearby residents from unexploded ordnance	21.6.46	Negligible adverse Not significant
Risks to highway safety from Scheme HGV traffic	21.6.47	Minor adverse Not significant
Risks to highway safety from transportation of hazardous loads	21.6.47	Negligible adverse Not significant
Risk to highway safety from glint and glare impacts	21.6.49	Minor/negligible adverse Not significant

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Risk to railway safety from glint and glare impacts	21.6.50	Minor/negligible adverse Not significant
Risk to aviation safety from glint and glare impacts	21.6.51	Minor/negligible adverse Not significant
Risk to worker safety and to residential wellbeing from damage or severance of utilities	21.6.52	Not significant adverse (magnitude undefined)
Risk to worker safety from unstable ground conditions	21.6.54	Not significant adverse (magnitude undefined)

3.3.19 As demonstrated in the above table, the residual effects from major accidents and disasters are no greater than a moderate-minor adverse effect. As a result, effects on human health and wellbeing as a result of these impacts are **not significant**.

3.4 In-Combination Effects

3.4.1 In-combination effects have been assessed in each of the relevant ES chapters in compliance with paragraph 5(2)(a) to (d) of the EIA Regulations 2017.

3.4.2 Section 10.9 of **C6.2.10 ES Chapter 10 Hydrology Flood Risk and Drainage [APP-045]** identifies no in-combination effects and therefore there are no resultant additional effects pertaining to human health and wellbeing.

3.4.3 The assessment of in-combination effects in relation to ground conditions and contamination has been undertaken at Section 11.10 of **C6.2.11 ES Chapter 11 Ground Conditions and Contamination [APP-046]**. Whilst this identifies some in-combination effects with the hydrological environment, it does not identify any significant effects. As such, there are no resultant additional effects pertaining to human health and wellbeing.

3.4.4 In-combination effects on a number of residential receptors that are shared receptors between the Cottam 3a and 3b Sites as identified at paragraph 15.8.2 of **C6.2.15 ES Chapter 15 Noise and Vibration [APP-050]**. As this pertains to human health and wellbeing, there is an additional negligible adverse effect on these receptors for in-combination noise impacts. This effect is **not significant**.

3.4.5 Similarly, in-combination effects as a result of glint and glare have been identified at 32 residential properties that have some visibility of both Cottam 3a and 3b Sites and the relevant reflective area. As such, paragraph 16.11.2 of **C6.2.16 ES Chapter 16 Glint and Glare [APP-051]** identifies a minor/negligible adverse effect to these receptors. This is therefore an additional human health and wellbeing effect to be considered. Due to the low magnitude of the impact, this effect is **not significant**.

- 3.4.6 Section 17.9 of **C6.2.17 ES Chapter 17 Air Quality [APP-052]** identifies no in-combination effects and therefore there are no resultant additional human health and wellbeing effects.
- 3.4.7 Assessment of in-combination effects has been undertaken in Section 18.9 of **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**. The only effects relating to human health and wellbeing are in-combination transport and access effects resulting from the carrying out of multiple Works packages of the Scheme. These in-combination effects impact upon the wellbeing of non-vehicular road users and public right of way users. Resultantly, there is an additional moderate-minor adverse effect to the desirability and use of the local road network for recreational non-vehicular highway users. Additional in-combination effects may impact upon public right of way users, however, these are not anticipated to increase the magnitude of adverse impacts. As such, these effects are **not significant**.
- 3.4.8 Contaminated soils have potential to create an in-combination effect for waste with regard to human health as a result of risk to workers performing earth works and to waste handlers contacting contaminated excavation waste. As such, paragraph 20.9.6 of **C6.2.20 ES Chapter 20 Waste [APP-055]** identifies an additional minor adverse effect to human health and wellbeing. This effect is **not significant**.
- 3.4.9 The assessment of in-combination effects in relation to major accidents and disasters identifies that in-combination effects are almost entirely with human health and wellbeing effects. As such, paragraph 21.6.58 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** identifies no additional in-combination effects to those identified residual effects. As such, there are no resultant additional effects pertaining to human health and wellbeing.

3.5 Cumulative Effects

- 3.5.1 Cumulative effects have been assessed in each of the relevant ES chapters in consideration of the developments in **C6.3.2.3 ES Appendix 2.3 Cumulative Assessment Sites [APP-065]**. Professional judgement has been applied to determine the Zone of Influence for each ES topic, and the relevant cumulative developments to be assessed. As a minimum, the topics used for assessing human health and wellbeing effects have assessed the cumulative effects of the Scheme against **West Burton Solar Project [EN010132]**, **Gate Burton Energy Park [EN010131]**, and **Tillbridge Solar Project [EN010142]**.
- 3.5.2 Section 10.10 of **C6.2.10 ES Chapter 10 Hydrology Flood Risk and Drainage [APP-045]** identifies no significant cumulative effects and therefore there are no resultant additional cumulative effects pertaining to human health and wellbeing.
- 3.5.3 The assessment of cumulative effects in relation to ground conditions and contamination at Section 11.11 of **C6.2.11 ES Chapter 11 Ground Conditions and Contamination [APP-046]** identifies only negligible adverse cumulative effects with

regard to human health and controlled waters. Therefore, these cumulative health and wellbeing impacts are **not significant**.

- 3.5.4 Paragraph 16.10.3 of **C6.2.16 ES Chapter 16 Glint and Glare [APP-051]** identifies that shared receptors between the assessed cumulative projects are unlikely to concurrently have visibility of multiple areas or, if visibility is possible, no significant impact is predicted due to the presence of significant mitigating factors. Therefore, a maximum cumulative minor/negligible adverse effect to these receptors is anticipated. This is therefore an additional human health and wellbeing effect to be considered. This effect is therefore **not significant**.
- 3.5.5 The cumulative assessment of air quality impacts on human health and wellbeing in Section 17.9 of **C6.2.17 ES Chapter 17 Air Quality [APP-052]** identifies no cumulative effects and therefore there are no resultant additional human health and wellbeing effects.
- 3.5.6 As the in-combination effect on human health and wellbeing from waste is not significant, it is not anticipated that any cumulative effect from the identified projects will occur. Hence, cumulative human health impacts were not assessed in Section 20.10 of **C6.2.20 ES Chapter 20 Waste [APP-055]**.
- 3.5.7 Paragraph 21.6.59 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** identifies no significant cumulative effects and therefore there are no resultant additional cumulative effects pertaining to human health and wellbeing.

Noise and Vibration

- 3.5.8 Cumulative effects to a number of residential receptors have been identified in Section 15.9 of **C6.2.15 ES Chapter 15 Noise and Vibration [APP-050]**. As these effects relate to human health and wellbeing, these have been set out in Table 3.10 below.

Table 3.10: Signposting to Cumulative Effects to Human Health and Wellbeing from Noise and Vibration Effects

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Construction noise from the Scheme and Blyton Park Driving Centre (planning permission 142855) on shared neighbouring sensitive receptors	15.9.4	Negligible adverse Not significant
Construction noise from the Scheme and Tillbridge Solar [EN010142] on shared neighbouring sensitive receptors	15.9.5	Negligible adverse Not significant

Summary of Residual Effect	Location in ES	Likely Significance of Effect
Construction noise from cumulative cable route works on neighbouring sensitive receptors	15.9.8	Major adverse Significant <i>Transient period only</i>

3.5.9 As demonstrated in the above table, the cumulative effects from noise and vibration are no greater than a negligible adverse effect. As a result, the cumulative effects on human health and wellbeing resulting from noise and vibration impacts are **not significant**.

[Socio-Economics, Tourism and Recreation](#)

3.5.10 The assessment of cumulative effects undertaken in Section 18.10 of **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]** takes into account a number of NSIP and non-NSIP developments in proximity to the Scheme to provide a more developed assessment of socio-economic, tourism and recreation impacts (see Table 18.24 [APP-053]). Cumulative impacts are based on the projected year of greatest impacts determined by the earliest likely years of development.

3.5.11 The cumulative effects that pertain to human health and wellbeing are set out in Table 3.11 below.

Table 3.11: Signposting to Cumulative Effects to Human Health and Wellbeing from Socio-Economic, Tourism and Recreation Effects

Summary of Cumulative Effect	Location in ES	Likely Significance of Effect (Local or Regional)
CONSTRUCTION		
Changes to access to primary healthcare, and general population health and wellbeing, from uplift in population	18.10.16	Moderate-minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to disability and long-term health conditions from uplift in population	18.10.16	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to access to employment (IMD) from overall employment opportunities	18.10.18	Major-moderate beneficial (Local) Significant
Changes to access to education (IMD) from sector-based skills	18.10.18	Moderate beneficial (Local)

Summary of Cumulative Effect	Location in ES	Likely Significance of Effect (Local or Regional)
training and qualification opportunities		Significant
Changes to PRow desirability and use from impacts, diversions and closures	18.10.31	Moderate-minor adverse Not significant
Changes to long-distance recreational routes desirability and use from impacts, diversions and closures	18.10.31	Moderate adverse (peak) Significant
Changes to highway desirability and use for recreation from fear and intimidation from HGV traffic	18.10.29	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from impacts	18.10.29	Moderate-minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts	18.10.29	Minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts	18.10.29	Moderate-minor adverse Not significant
OPERATION		
Changes to access to primary healthcare, and general population health and wellbeing, from uplift in population	18.10.40	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to disability and long-term health conditions from uplift in population	18.10.40	Negligible adverse (Local/Regional) Not significant
Changes to access to employment (IMD) from overall employment opportunities	18.10.43	Moderate-minor adverse (Local) Not significant
Changes to access to education (IMD) from sector-based skills training and qualification opportunities	18.10.44	Moderate-minor beneficial (Local) Not significant
Changes to PRow desirability and use from impacts on views	18.10.54	Moderate-minor adverse Not significant

Summary of Cumulative Effect	Location in ES	Likely Significance of Effect (Local or Regional)
Changes to long-distance recreational routes desirability and use from impacts on views	18.10.54	Moderate-minor adverse Not significant
Changes to other routes desirability and use for recreation	18.10.53-54	Moderate-minor beneficial Not significant
Changes to recreational waterway desirability and use from impacts on views	18.10.53	Minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts on views	18.10.53	Minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts on views	18.10.53	Minor adverse Not significant
DECOMMISSIONING		
Changes to overall employment opportunities during decommissioning	18.10.65	Moderate beneficial (Local) Significant Negligible beneficial (Regional) Not significant
Changes to overall employment opportunities following completion of decommissioning	18.10.66	Moderate-minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to the socio-demographic environment during decommissioning activities	Table 18.29	Minor adverse (Local) Negligible adverse (Regional) Not significant
Changes to PRow desirability and use from impacts, diversions and closures	Table 18.29	Moderate-minor adverse Not significant
Changes to PRow desirability and use from impacts on views	Table 18.29	Moderate-minor beneficial Not significant
Changes to long-distance recreational routes desirability and use from impacts, diversions and closures	Table 18.29	Moderate-minor adverse Not significant

Summary of Cumulative Effect	Location in ES	Likely Significance of Effect (Local or Regional)
Changes to long-distance recreational routes desirability and use from impacts on views	Table 18.29	Moderate-minor beneficial Not significant
Changes to highway desirability and use for recreation from fear and intimidation from HGV traffic	Table 18.29	Moderate-minor adverse Not significant
Changes to other routes desirability and use for recreation	Table 18.29	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from decommissioning works impacts	Table 18.29	Moderate-minor adverse Not significant
Changes to recreational waterway desirability and use from impacts on views	Table 18.29	Minor beneficial Not significant
Changes to formal recreation centre desirability and use from decommissioning works impacts	Table 18.29	Minor adverse Not significant
Changes to formal recreation centre desirability and use from impacts on views	Table 18.29	Minor beneficial Not significant
Changes to informal and youth recreation centre desirability and use from decommissioning works impacts	Table 18.29	Moderate-minor adverse Not significant
Changes to informal and youth recreation centre desirability and use from impacts on views	Table 18.29	Minor beneficial Not significant

3.5.12 As demonstrated in the above table, a single adverse cumulative socio-economic, tourism and recreation effect is anticipated only as a result of a moderate adverse effect to long-distance recreational routes (specifically the Trent Valley Way). This therefore is a **significant effect**, albeit this is a short-term temporary effect only during cumulative construction works. This is therefore anticipated to contribute to up to a peak moderate adverse effect on health and wellbeing. This is therefore a **significant effect**, although this would only be for a short duration while drilling operations under the River Trent are being undertaken. This worst-case scenario has been determined due to the importance of the Trent Valley Way as a regionally important recreation route (compared to locally important public rights of way) and thus the number of users potentially affected by the cumulative scale of

construction works, particularly if the worst-case scenario is for this to occur three times over a five year period. Furthermore, the desirability and enjoyment of this route is likely to be adversely affected for up to a medium term as a result of repeated closures and as a result of long range views of construction activities at both the Gate Burton Energy Park [EN010131] and West Burton Solar Project [EN010132]. These would contribute towards an adverse perception of the enjoyment of the route and of its health and wellbeing benefit to its users.

3.5.13 In comparison, the assessment of socio-economic, tourism and recreation effects demonstrates that there are a number of cumulative beneficial effects to access to employment, and access to education, as measured Indices of Multiple Deprivation. These are up to major-moderate beneficial effects, and therefore are **significant effects**. As stated previously, significant benefits to deprivation are likely to induce significant benefits to human health and wellbeing. Whilst the majority of jobs during construction will be temporary in nature and benefit people over a relatively wide geography, it should be noted that the improvements to skills supported and associated increase in future opportunities and incomes will be long-term. The resultant beneficial changes to human health and wellbeing resulting from the Scheme and the cumulatively assessed developments are **significant effects**.

3.5.14 In comparison, the assessment of socio-economic, tourism and recreation effects demonstrates that there are beneficial residual effects to access to employment, and access to education, as measured Indices of Multiple Deprivation. These are up to major-moderate beneficial effects, and therefore are **significant effects**. Given the links between employment, education and health, the work and training opportunities created by the Scheme as supported by the measures in the **Outline Skills Supply Chain and Employment Plan (Revision A) [EN010133/EX4/C7.10_A]** (OSSCEP) will have a positive effect on health and wellbeing. Whilst the majority of jobs during construction will be temporary in nature and benefit people over a relatively wide geography, it should be noted that the improvements to skills supported and associated increase in future opportunities and incomes will be long-term. These enhancement measures in the OSSCEP [EN010133/EX4/C7.10_A] have been included with the specific intention of increasing the level of local employment and the skill levels of local residents. The Applicant is committed to working with the supply chain, wider businesses and partners to ensure that employment and skills opportunities are accessible to underrepresented and vulnerable groups. These measures will be agreed by the local planning authorities and relevant statutory bodies in the finalised Skills, Supply Chain and Employment Plan secured by Requirement 20 of Schedule 2 of the **Draft Development Consent Order (Revision F) [EN0101033/EX4/C3.1_F]**.

3.6 Conclusion

3.6.1 The above sections therefore demonstrate that the Scheme will not have significant adverse impacts on human health and wellbeing save for a single short-term temporary cumulative adverse effect on the desirability and use of the Trent Valley

Way long-distance recreational route. This is not considered to outweigh the benefits of the Scheme. In relation to human health and wellbeing, the Scheme provides significant residual beneficial effects in relation to reducing deprivation by increasing access to employment and education in the Local Impact Area.

4 Additional Considerations Arising during Examination

4.1 Context and Process for Comments and Written Responses

4.1.1 As the Scheme covers a substantial geographic area, and the ES covers a broad range of topics, it has generated a significant amount of public interest and commentary by local authorities and statutory bodies. The assessment of human health and wellbeing has been a recurring topic of comments, which the Applicant has sought to address through its responses documents at each of the relevant examination deadlines. Furthermore, the Applicant has addressed questions raised by the Examining Authority in their **First Written Questions [PD-011]** and at Issue Specific Hearings.

4.1.2 This section aims to address any outstanding comments relating to human health and wellbeing that could not be suitably addressed in the format of a responses document. Nevertheless, this section should be read alongside the Applicant's responses to human health and wellbeing comments made during the examination in the following documents:

- **C8.1.2 The Applicant's Responses to Relevant Representations [REP-049];**
- **C8.1.4 Written Summary of the Applicants Oral Submissions and Responses at Open Floor Hearing 1 [REP-050];**
- **C8.1.10 Applicants Responses to Procedural Deadline A and Additional Submissions [REP-056];**
- **C8.1.15 Applicant Response to ExA First Written Questions [REP2-034];**
- **C8.1.16 Applicants Response to Local Impact Reports [REP2-047];**
- **C8.1.17 The Applicants Responses to Written Representations Part 1 [REP2-048];**
- **C8.1.18 The Applicants Responses to Written Representations Part 2 [REP2-050];**
- **C8.1.19 The Applicants Responses to Written Representations Part 3 [REP2-051];**
- **C8.1.22 Written Summary of Applicant's Oral Submissions and Responses to Action Points at Issue Specific Hearing 3 [REP3-034];**
- **C8.1.23 Written Summary of Applicant's Oral Submissions and Responses at Issue Specific Hearing 4 [REP3-035];**
- **C8.1.25 Written Summary of the Applicant's Oral Submissions and Responses at Open Floor Hearing 2 [REP3-037];**
- **C8.1.27 Applicant Response to Deadline 2 Submissions [REP3-039];**
- **C8.1.29 Applicant Response to Deadline 3 Submissions [REP3-039];** and

- **C8.1.30 Applicant Response to ExA Second Written Questions [EN010133/EX4/C8.1.30].**

4.2 Summary of Key and Outstanding Comments Raised

Physical Health Impacts

- 4.2.1 There have been a notable number of comments, particularly made by members of the public, interested parties, and the local resident objection group 7000 Acres in relation to the physical health impacts of the Scheme. Recurring topics are the physical health impacts of plumes from BESS fires (including requests from the UK Health Security Agency [RR-044] for updated information) and physical health impacts from electromagnetic fields originating from parts of the Scheme.

Mental Health and Wellbeing Impacts

- 4.2.2 The application and subsequent examination of the Scheme has generated a significant number of comments pertaining to mental health and wellbeing impacts upon residents and, to a lesser extent, visitors to the area of West Lindsey most directly impacted by the Scheme's geographic location. The comments have referred to the Scheme in isolation, and the cumulative effect of the Scheme with other NSIPs in the Till Valley area of West Lindsey.
- 4.2.3 A large number of the comments refer to adverse mental health impacts from the Scheme and cumulative developments in a generalised manner. This has required the Applicant to consider the comments in a cross-topic way when providing responses, given the generalised nature of many of the comments has made it difficult to consider targeted mitigation measures. Nonetheless, there are several specific comments that the Applicant has sought to address through the examination process, including the following:
- DCO process: mental health impacts due to stress, or negative perception of potential outcomes due to the inaccessibility of the examination process and involvement in the process for multiple NSIPs;
 - Construction: mental health impacts as a result of construction impacts on neighbouring and nearby residential properties;
 - Construction and operation: direct mental health impacts on agricultural workers due to loss of employment;
 - Construction and operation: mental health and wellbeing impacts as a result of changes in the landscape character of area and impacts on residential amenity, which includes changes to perceptions of visual surroundings and changes to desirability and enjoyment of use of recreational facilities in the countryside; and
 - Operation: long-term health and wellbeing impacts due to continued landscape, visual and amenity impacts as a result of long-term changes to the

landscape setting, character, and desirability of recreational facilities in the countryside.

- 4.2.4 A recurring comment made is that the change to the landscape character of the area as a result of the Scheme (and cumulative NSIP schemes) will have a wide-ranging detrimental impact on the desirability of the locality to live and visit, thus having a negative impact on residential amenity and enjoyment of where people live. This has also been specifically raised by the Examining Authority (Q1.12.21 of **First Written Questions [PD-011]**). In a related aspect, the impact to landscape on desirability of the countryside is considered by a number of commentators to have a negative impact on physical health and mental wellbeing as a result of discouragement from using public rights of way or local roads for recreational use. The length of the operational lifetime of the Scheme has been specifically raised in relation to these concerns due to the potential longevity of continued mental health impacts, and questions have been raised as to how effectively this has been considered in the ES.

[Access and Provision of Healthcare](#)

- 4.2.5 Some of the comments raised by members of the public and Interested Parties have questioned the assessment of the level of impacts on the provision of healthcare to residents and vulnerable population demographics in the area impacted by the Scheme. The primary concern raised was that the number of construction workers required for the Scheme and cumulatively assessed NSIPs in the area would have detrimental effect on primary healthcare services such as GP surgeries. There have been calls for an independent review of these issues.
- 4.2.6 Separately, a smaller number of comments have questioned the potential traffic impacts of the Scheme's construction on accessing healthcare, or for healthcare services to be delivered to remote locations as a result of transport delays. This comment was also raised specifically by Nottinghamshire Healthcare NHS Foundation Trust in their Relevant Representation **[RR-039]**.

[Comments on Scope or Assessment Methodology](#)

- 4.2.7 The scope and assessment methodology of the human health assessment in the ES has been challenged by a number of commentators. This includes a number of comments relating to the level of consultation undertaken with statutory and local health bodies and healthcare providers. This has also generated supplementary comments requesting additional assessment, either by way of a Health Impact Assessment by the Applicant or an independent body, to be undertaken to assess the impacts upon healthcare service providers to be able to deliver their services. A small number of comments have also requested a specific report on the risk of the Scheme generating a mental health crisis within impacted communities.
- 4.2.8 The scope of assessment has directly been commented upon in respect of the assessment of cumulative health and wellbeing impacts from the multiple NSIPs proposed in West Lindsey. Other comments challenge the level of assessment

undertaken and comment that health and wellbeing in affected communities has not been given enough consideration or has not been satisfactorily surveyed. Concerns have also been raised about consultation with, and therefore adequate assessment of, vulnerable or isolated communities living in the areas near the Scheme.

4.3 Response to Key and Outstanding Comments on Human Health and Wellbeing

Physical Health Impacts

4.3.1 The Applicant is confident that physical health impacts from the Scheme have been suitably assessed through the individual ES topics described previously in this document.

4.3.2 With regard to BESS fires, assessments of plumes and the likely impacts on health resulting from these have been undertaken in **C6.2.17 ES Chapter 17 Air Quality [APP-052]**, and its associated appendices **[APP-141 to APP-144]** and addenda **[REP-078 and REP-079]**. Notably, the two ES Addenda directly respond to comments from the UK Health Security Agency from whom requests for expanded assessments in line with up-to-date methodology and best practices were requested in their Relevant Representation **[RR-044]**. The Applicant has further provided updated information relevant to the management of BESS within the Scheme through updates to the **Outline Battery Storage Safety Management Plan (Revision B) [REP3-018]**. This document is secured by Requirement 6 of Schedule 2 of the **Draft Development Consent Order (Revision F) [EN0101033/EX4/C3.1_F]**.

4.3.3 Health impacts from electromagnetic fields were scoped out of the ES assessment as it was agreed at scoping stage that there were no significant adverse effects anticipated to be generated by the Scheme. The Applicant has provided technical information at Section 21.3 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]** which sets out the peak EMF likely to be generated by the Scheme and in the Shared Cable Route Corridor and has explained why there are no adverse associated health impacts. The Applicant has provided further information as needed in response to questions and comments by members of the public, including those living near or adjacent to the Grid Connection Cable to show that even those closest to the cable route would not experience long-term health impacts as exposure rates would be significantly below ICNIRP monitoring levels. These responses can be found at:

- LNT-11, 7A-42, ECO-16, OEM-02, OEM-03, and OEM-07 in **C8.1.2 The Applicant's Responses to Relevant Representations [REP-049]**;
- PMi-03, CPa-05, and CBo-05 in **C8.1.4 Written Summary of the Applicants Oral Submissions and Responses at Open Floor Hearing 1 [REP-050]**;
- EBA-14 in **C8.1.10 Applicants Responses to Procedural Deadline A and Additional Submissions [REP-056]**;

- 1.13.31 in **C8.1.15 Applicants Responses to ExA First Written Questions [REP2-034]**; and
- ECO-07 and OEM-02 in **C8.1.19 The Applicants Responses to Written Representations Part 3 [REP2-051]**.

4.3.4 In response to targeted concerns about the proximity of the Grid Connection Cable to permitted residential dwellings at Normanby by Stow, the cable route has been diverted to the south of the settlement to increase the separation distances to these dwellings (please see Change 4 in **C9.2 Change Request Application [AS-063]** and its associated documents). This change will reduce the level of EMF exposure experienced at these properties.

Mental Health and Wellbeing Impacts

4.3.5 The Applicant is committed to minimising impacts from construction on local residents and businesses. Mitigation measures as set out in the relevant control documents, primarily the **Outline Construction Environmental Management Plan (Revision C) [REP3-012]**, have been provided in response to the assessed likely impacts. Whilst these measures predominantly are in place to mitigate physical impacts, it is considered that full implementation of these measures will help to reduce negative perception of construction activities in the local population. These perceptions have not however been distinctly assessed in the ES due to their highly subjective nature. That notwithstanding, the impact of these activities on enjoyment and desirability of recreational facilities (including public rights of way through the countryside) have been assessed. Paragraph 3.5.12 above identified that there is a potential peak short-term significant adverse effect to health and wellbeing to users of the Trent Valley Way as a result of cumulative construction impacts.

4.3.6 The Applicant has also made efforts to respond to comments made during the examination by The British Horse Society **[RR-023]** to ensure recreational equestrian use of roads and public rights of ways have been properly assessed and included in mitigation measures. This has subsequently led to amendments to the **Outline Construction Traffic Management Plan (Revision E) [EN010133/EX4/C6.3.14.2_E]** and **Outline Public Rights of Way Management Plan (Revision D) [EN010133/EX4/C6.3.14.3_D]**.

4.3.7 Comments have made reference to the potential direct mental health impacts on agricultural workers due to loss of employment as a result of the Scheme. These impacts have not been assessed separately from any other mental health impacts on the population. This is in specific reference to the worst-case scenario loss of the 17 FTE agricultural jobs that currently exist on the Sites that make up the Scheme (see paragraph 18.7.15 of **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**). The Applicant is confident that the mitigation measures put in place through the **Outline Skills Supply Chain and Employment Plan (Revision A) [EN010133/EX4/C7.10_A]** are applicable to agricultural workers if made redundant, so that they have an increased prospect of finding new employment or skill-learning opportunities. Furthermore, as the Sites are currently operated by

landowner farm businesses, some employment is likely to be able to be retained on other parts of the business' land not covered by the Scheme's Order Limits. With this in consideration, the likely level of adverse impacts upon the mental health and wellbeing of agricultural workers is likely to be low, or only felt across a small number of workers who would be eligible for support through the measures set out in the OSSCEP. As a result, the significance of effect on the mental health and wellbeing of agricultural workers was not explicitly assessed in the ES.

- 4.3.8 The assessment of mental health and wellbeing throughout the operational lifetime of the Scheme has had regard to the length of time over which the effects will occur. As such, all health and wellbeing impacts during operation are defined as being long-term, demonstrated in the measured receptors in **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**. The magnitude of the assessed long-term mental health and wellbeing impacts takes account of the potential for these to be permanent amongst some members of the population, whilst there is potential for this to reduce over time as peoples' perceptions of the Scheme change of its lifetime. As such, the Applicant is confident that the significance of assessed effects for operational effects has been sufficiently considered and that the long-term mental health and wellbeing effects from the Scheme are **not significant**.
- 4.3.9 The Applicant has not directly assessed the change to the landscape character of the Till Valley area as a result of the Scheme (and cumulative NSIP schemes) as a human health and wellbeing impact. This is because the assessment of direct impacts on residential amenity from changes to views from dwellings has been included in **C6.2.8_A ES Chapter 8 Landscape and Visual Impact (Revision A) [REP2-009]**, and thus considered a landscape and visual impact rather than a human health and wellbeing impact. Assessment of perception of the countryside for recreational use has been included in **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]** and has thus been included in the assessment of human health and wellbeing impacts.
- 4.3.10 Assigning an effect on personal perception of the landscape and its mental health and wellbeing value is dependent on subjective interpretation of the landscape as a whole and of individual views by an individual and collective set of receptors. Residual landscape effects on "Settlements, Industry, Commerce and Leisure" and "Public Rights of Way and Access" range from minor beneficial, to minor-moderate beneficial residual effects at the 15-year assessment point **[REP-060]**. Residual visual effects at the 15-year assessment point **[REP2-052]** are location specific and based on viewpoint, public right of way, and transport receptors. Due to the range of visual receptor types, the assessment outcomes range from moderate-major beneficial to moderate-major adverse landscape and visual effects. Notably, the assessment outcomes for residential viewpoints **[REP2-052]** range only from minor-moderate beneficial to minor-moderate adverse landscape and visual effects.
- 4.3.11 Finally, the assessment of the changes to the overall physical and emotional setting of a person's or community's livelihood includes impacts as a result on in-

combination effects across all the technical topics in the Environmental Statement and the subjective matters discussed above. The in-combination considerations towards individual and community amenity or sense of place, are considered as follows:

- Impacts upon the landscape character;
- Landscape and visual impacts from residential receptors;
- Landscape and visual impacts from transport and recreational receptors, such as public rights of way;
- Impacts upon previous or historical use of agricultural land, and the employment thereon;
- Recreational impacts from changes to the physical properties of public rights of way, such as views and sense of enclosure;
- Recreational impacts from changes to the enjoyment and desirability of recreational facilities in the countryside; and
- Perception of danger or harm from aspects of the Scheme such as EMF, flooding, and fire and explosion risks.

4.3.12 All of the aforementioned effects are relevant to the consideration of mental health and wellbeing impacts., None of the technical assessments that factor into this in-combination effect (landscape, socio-economics, tourism and recreation, and major accidents and disasters) concluded overall or long-term significant adverse effects. Therefore when applying professional judgement to this scenario, it was concluded that no express assessment of the mental health and wellbeing impacts would be required, as the likely effects would not be significant. Hence, the assessment of impacts upon individual and community amenity or sense of place was not included at Section 21.5 of **C6.2.21 ES Chapter 21 Other Environmental Matters [APP-056]**.

Mental Health and Wellbeing Impacts During Examination

4.3.13 Assessment of the impacts of the consultation and examination process have not been undertaken as it was not considered that these would have significant impacts on mental health and wellbeing. The Applicant considers that the level of consultation provided, including targeted consultation for residents most likely to be affected by visual changes to their setting, and the level of information produced about the Scheme, the DCO process, and how members of the public can engage, demonstrates that there has been a forthcoming in its approach to informing members of the public. Furthermore, the Applicant considered that the responses issued to comments made by written and oral representations during the examination process have been accurate and informative to ensure that Interested Parties have enough information to make an informed judgement of the Scheme. With respect to inclusion of isolated or vulnerable communities, the Applicant is confident that appropriate measures were made to ensure hard-to-reach groups

such as gypsy and traveller communities were suitably included in the consultation process, as set out in Section 8 of **C5.1 Consultation Report [APP-021]**.

- 4.3.14 In considering the mental health and wellbeing impacts of the pre-application and examination process, the level of significance of changes to different sections of the affected communities will vary to a large degree. The level of awareness and involvement in the examination process may impact upon participants' mental health and wellbeing adversely through stress and focus on the most negative aspects of the Scheme, particularly for participants of multiple DCO examinations. Conversely, these participants may also be most informed of the process and thus less likely to suffer mental health and wellbeing impacts as a result.

Access and Provision of Healthcare

- 4.3.15 The assessment of potential impacts on demand for healthcare services is based on the worst-case proportion of construction and operational workers anticipated to be required to move to the area during their respective periods of employment. This is based on the assumption that most healthcare services would be accessed near to their place of residence rather than place of employment. Any change, which is unlikely to be significant, would also be short term, reducing the impact on local healthcare. The Applicant is therefore confident that the effects, even when considered cumulatively with other NSIPs in the Till Valley area of West Lindsey, are **not significant**. The effects to health and wellbeing on existing residents who have pre-existing health conditions and therefore are more sensitive to changes to healthcare access are also **not significant**. The Applicant has used up-to-date data (at the point of DCO application) from individual GP surgeries in the Local Impact Area to determine the level of demand and capacity for GP services (see paragraphs 18.5.21-22 of **C6.2.18 ES Chapter 18 Socio-Economics, Tourism and Recreation [APP-053]**).
- 4.3.16 The Applicant has responded to Nottinghamshire Healthcare NHS Foundation Trust at NHFT-01 in **C8.1.2 The Applicant's Responses to Relevant Representations [REP-049]**, demonstrating that there is no greater than a negligible adverse effect on driver delay as a result of construction traffic. As such, there is no significant effect on access to, or delivery of, healthcare services.
- 4.3.17 Where comments have been raised specifically regarding groups with known health or deprivation inequalities in the communities affected by the Scheme, the Applicant is confident that these inequalities have been sufficiently accounted for in the assessment of health and wellbeing impacts. It is not anticipated that any vulnerable groups within the community are likely to be disproportionately impacted by the Scheme with regard to socio-economic impacts, direct physical health impacts, nor at a greater risk of social isolation as a result of the Scheme. As such, there are anticipated to be **no significant effects** to the health and wellbeing of vulnerable or isolated groups.

Comments on Scope or Assessment Methodology

- 4.3.18 The scope and assessment methodology for each of the ES chapters relevant to human health was agreed in March 2022 as set out in **C6.3.2.2 ES Appendix 2.2 EIA Scoping Opinion [APP-064]**. This included input and consideration of comments and requirements from local planning authorities and statutory bodies responsible for human health. It was agreed herein at Section 3.20 **[APP-064]** that incorporating human health matters across the relevant ES chapters was a suitable methodology. Further consultation pre-application with statutory and local health bodies and healthcare providers has been undertaken by way of Section 42 statutory consultation **[APP-034]**. The Applicant confirms no additional consultation was undertaken as it was considered that the comments received were sufficient to be able to undertake the human health assessment in accordance with the Scoping Opinion. No request for a Health Impact Assessment was made prior to the application of this DCO, nor has the scope and methodology of the human health assessment thereafter been called into question by a local authority or statutory body for health. The Applicant is confident that the scope and methodology of the human health and wellbeing assessment undertaken has sufficiently addressed concerns raised during the pre-application process, and that any comments raised during the examination process have been adequately responded to.
- 4.3.19 The Applicant's assessment of the Scheme's compliance with policies set out in the 2023 Central Lincolnshire Local Plan (CLLP) is set out within Appendix 4 of the **Planning Statement (Revision C) [EN010133/EX4/C7.5_C]**. Compliance with Policy S54 of the CLLP has not been assessed. This is due to the Applicant's understanding that the policy is not directly relevant to NSIPs. The policy requirement for a HIA as set out in Policy S54 is for TCPA planning applications, and the HIA scoping process is therefore determined by the local planning authority, whereas HIA scoping for NSIPs is determined by the Planning Inspectorate. A separate HIA had not been scoped in at **C6.3.2.2 ES Appendix 2.2 EIA Scoping Opinion [APP-064]**, and therefore was not required to be undertaken for this Scheme.

5 Conclusion

- 5.1.1 This document has been produced in response to a request made by the Examining Authority in Issue Specific Hearing 4, as documented at Agenda Item 4 (pg.9) of **C8.1.23 Written Summary of Applicant's Oral Submissions and Responses at Issue Specific Hearing 4 [REP3-035]**, and at Q2.12.7 of the Examining Authority's (ExA's) Second Written Questions (ExQ2) **[PD-015]**, to provide a supporting summary of the human health and wellbeing assessment included in the Cottam Solar Project DCO Environmental Statement.
- 5.1.2 This document demonstrates that the scope and assessment of human health and wellbeing effects, including mental health, and subjective matters such as perception of the local surroundings by the residential and visiting population have been suitably considered and proportionally assessed.
- 5.1.3 This document furthermore details the extent of commentary received and responded to during the course of the examination thus far. In doing so, it conveys the additional considerations made by the Applicant in response to comments, questions, and concerns raised by Interested Parties, statutory bodies, and the Examining Authority. This document demonstrates that the Scheme does not cause significant adverse effects to human health and wellbeing that either cannot be mitigated, or outweigh the benefits the Scheme is able to provide at a local and national level.
- 5.1.4 In conclusion, this document demonstrates that the Scheme is likely to cause only one significant adverse effects to human health and wellbeing. These being: the resultant short-term and temporary moderate adverse effect to physical and mental health and wellbeing as a result of potential repeated closures of the Trent Valley Way for cable laying and drilling works. Although significant, this human health and wellbeing impact does not outweigh the benefits the Scheme is able to provide at a local and national level.