EAST PARK ENERGY

East Park Energy

EN010141

Environmental Statement

Volume 1 – Main Report

Chapter 16: Other Environmental Topics

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CONTENTS

16.0 Other Environmental Topics 16-2
16.1 Introduction 16-2
16.2 Human Health 16-3
16.3 Waste 16-36
16.4 Major Accidents and Disasters 16-51
16.5 Electromagnetic Fields 16-58
16.6 References 16-62

TABLES

Table 16.1: PEIR consultation responses with respect to human health
Table 16.2: The wider determinants of health (IEMA Scoping Guidance)
Table 16.3: Assessment of potential impacts on human health
Table 16.4: Construction phase waste estimates and fate
Table 16.5: Operational phase waste estimates and fate
Table 16.6: Decommissioning phase waste estimates and fate
Table 16.7: Landfill or energy recovery tonnages
Table 16.8: Magnetic fields for buried underground cables

16.0 OTHER ENVIRONMENTAL TOPICS

16.1 Introduction

16.1.1 This chapter of the Environmental Statement (ES) presents the likely effects of the Scheme with regard to:

- Human Health;
- Major Accidents and Disasters;
- Waste; and
- Electromagnetic Fields.

16.1.2 For each of these environmental topics, significant effects were not predicted at the EIA scoping stage. The purpose of this chapter is to present an overview of the likely impacts of the Scheme to confirm that effects would not be significant in EIA terms.

16.1.3 Baseline conditions have been established for each topic area through desk-based assessment, and the assessment methodologies are presented in the relevant sub-section.

16.2 Human Health

16.2.1 This section of the ES considers the potential impacts on human health (both physical health and mental wellbeing) arising from the Scheme, and how the design development and assessment process has strived to reduce the effects of adverse impacts, whilst maximising enhancements where impacts are likely to be beneficial. The Scoping Opinion issued by the Planning Inspectorate (see **ES Vol 2 Appendix 4-2 [EN010141/DR/6.2]**) confirmed the assessment of likely significant effects in relation to human health does not require a standalone assessment chapter within this ES. An assessment of the Scheme's impacts on the established 'wider determinants of health' has been undertaken.

Legislative and Policy Context

16.2.2 Since the enactment of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1], there has been a legal requirement to consider the impacts on human health within the EIA process. Whilst the way in which human health is addressed within environmental impact assessment, and subsequently reported within the Environmental Statement, is dependent on the type and location of a proposed development, and the way in which it would interact with human receptors, health must be considered at an appropriate level.

16.2.3 With respect to how human health is promoted within UK planning policy, the key policy drivers are:

- Overarching National Policy Statement for Energy (EN-1)[2] – Section 4.4: Assessment Principles (Health);
- National Planning Policy Framework[3] – Section 8: Promoting healthy and safe local communities; and
- Relevant Local Plan / Neighbourhood Plan policies.

Overarching National Policy Statement for Energy (EN-1)

16.2.4 Paragraph 4.4.1 of EN-1 states that: *"Energy infrastructure has the potential to impact on the health and well-being ("health") of the population."* This statement is expanded upon as it is explained that whilst access to energy is beneficial to society and therefore health as a whole, the construction of energy infrastructure and the production and distribution of energy may have negative impacts on some people's health.

16.2.5 Paragraph 4.4.2 states that direct impacts on health may be associated with:

- increased traffic;
- pollution (air or water);
- dust and odour;
- hazardous waste and substances;
- noise;
- exposure to radiation; and
- increases in pests.

16.2.6 However, it is also noted at Paragraph 4.4.3 that energy infrastructure may affect the demographics of the local population and therefore may affect access to social infrastructure such as transport, open space and public health facilities.

16.2.7 Paragraphs 4.4.4 to 4.4.5 state that an Environmental Statement should assess, through consideration within the full EIA process, health effects for each element of a project, identifying adverse impacts and the mitigation measures to avoid, reduce or compensate for them. It is further noted that cumulative developments should be considered where relevant.

16.2.8 EN-1 also encourages (at paragraph 4.4.6) the taking of opportunities to mitigate indirect impacts by promoting local improvements to encourage health and wellbeing within affected populations. This is particularly appropriate for vulnerable groups and people with protected characteristics under the Equality Act 2010. Being vulnerable is defined as being in need of

special care, support, or protection because of age, disability, risk of abuse or neglect[4], whilst section 149 of the Equality Act 2010[5] refers to the public sector equality duty, which must be considered by a public authority when exercising its functions, with respect to persons sharing a relevant protected characteristic, those being: age, disability; gender reassignment, pregnancy and maternity, race, religion or belief, sex, and sexual orientation.

National Planning Policy Framework

16.2.9 Paragraph 8 of the NPPF identifies the three overarching objectives that apply to the planning system, that collectively will help achieve sustainable development. Paragraph 8(b) states that the 'social' objective is (emphasis added): "*to support strong, vibrant and* ***healthy communities****, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities'* ***health, social and cultural well-being***."

16.2.10 Paragraph 96 states that planning policies and decisions should aim to achieve 'healthy, inclusive and safe places' that 'enable and support healthy life styles, especially where this would address identified local health and well-being needs.' To help achieve this, Paragraph 105 of the NPPF provides a clear intent to protect and enhance informal recreational provision, by requiring planning policies and decisions to protect and enhance public rights of way (PROW).

Local Development Plan Policies

16.2.11 Whilst the determination of the Scheme will ultimately be informed by national planning policy, specifically EN-1, it is important to recognise local planning policy when identifying health related impacts and effects, as local planning policy may often identify specific health related issues within the local area.

16.2.12 The Bedford Borough Local Plan 2030[6] was adopted in January 2020, with section 5 of the plan being dedicated to 'Health'. Policy 2S – Healthy Communities outlines the proposed approach to 'reduced health inequalities and promote healthier lifestyles.' The policy has been prepared for development management purposes outside of the NSIP framework, therefore the explicit advocacy for Health Impact Assessment (HIA) for larger developments is not relevant for the Scheme, though the inclusion of this section in the ES with regard to Human Health are comparable. However, of note is item iii) of the policy which states that Bedford Borough Council will:

> *iii) Require development to be designed to promote health, safety and active living for all age groups, including healthy living options for older people, active space for children and adults and encourage physically active lifestyles through the provision of sustainable modes of transport (e.g. walking and cycling)."*

16.2.13 Emphasising the importance health is being given in emerging local development plans, the Huntingdonshire Local Plan to 2036[7], adopted in May 2019, also includes specific reference to HIA with Policy LP 29 requiring different levels of HIA for differing scales of development, to support the overriding purpose of facilitating safe, health and inclusive communities. As per the comparative policy for Bedford identified in 16.2.12, the inclusion of Human Health within the EIA process is considered an appropriate mechanism for addressing the human health impacts for the Scheme.

Consultation and Engagement

16.2.14 Statutory consultation on the project took place between September 2024 and October 2024. This included consultation on the Preliminary Environmental Information Report (PEIR) which contained a preliminary assessment of human health impacts. The feedback received from statutory consultees is summarised within Table 16.1.

Table 16.1 – PEIR consultation responses with respect to human health

Consultee	Summary of Comments	Response
CCC	It appears that matters pertaining to traffic; air, dust and odour; hazardous waste and substances; noise; have been discussed however the Council remain concerned it is limited and has not considered mental health impacts resulting from visual amenity, given the size, scope and timeline of this project. A further concern is around the cumulative health/ mental health impacts from the development in conjunction with surrounding shortlisted development (the additional solar farms, East West Rail etc). The Council consider as stated above that mental health impacts and potential cumulative impacts both intra project and with the surrounding development must be considered very closely.	The Applicant has undertaken this human health assessment in line with IEMA guidance, as set out in paragraph 16.2.15. A separate Residential Visual Amenity Assessment (RVAA) has been prepared and is submitted as **ES Vol 2 Appendix 5-7 [EN010141/DR/6.2]** of this application. The human health assessment concludes that the Scheme will not result in significant effects on human health. Consideration has been given to the possible mental health effects, which are identified in Table 16.3, including stress, anxiety and worry. These impacts would be short-term during construction, and unlikely to be significant. Human health has been considered throughout the EIA process and this chapter provides cross-references to where it has been considered in each topic chapter. A specific cumulative human health assessment of the Scheme in combination with other emerging schemes has not been undertaken. However, separate cumulative assessments have been undertaken across the remainder of the ES (as set out in **ES Vol 1 Chapter 17: Cumulative Effects [EN010141/DR/6.1]**), which concludes there would be no significant cumulative effects resulting from the Scheme.
CCC	HIAs are a best practice response, and we would have preferred a proportionate HIA however as this has been scoped out we still would like to see a Mental Health Impact Assessment as standalone document or mental health addressed as part of Health in the ES.	As set out above, consideration has been given to the possible mental health effects, which are identified in Table 16.3, including stress, anxiety and worry. These impacts would be short-term during construction, and unlikely to be significant.

Consultee	Summary of Comments	Response
CCC	'No health pathway has been identified between the Scheme and this *[Community Safety]* wider determinant of health' The Council would like to raise a questions regarding the BESS considerations (Battery Storage). We would like to gain more information about health (including fire risk and EMF) of those in proximity to the BESS in the Outline Battery Fire Safety Plan.	The BESS has been located away from close residential receptors, with the closest residential receptor more than 500m from the BESS. Consideration of fire risk at the BESS has been set out under Major Accidents and Disasters in Section 16.4. The BESS will be managed in accordance with an **outline Battery Safety Management Plan [EN010141/DR/7.10]** that includes provision to notify local residents in the extremely unlikely situation that an incident occurs. Mitigation measures include warning residents on the health effects of smoke and ways to reduce exposure, such as staying indoors and closing windows, or moving to a cleaner air location.
CCC	'No health pathway has been identified between the Scheme and this *[Community identity, culture, resilience and influence]* wider determinant of health' Some of this information has been addressed in Bio Physical Environment documentation however, the Council has Concerns around the community resilience to construction phase with simultaneous decommissioning of certain elements and associated impacts for 30 months with the cumulative effects. Any perceptions of negative health impacts and community concerns need to be addressed in an open channel between the developer and local communities & LGA if needed.	As set out in the **outline Construction Environmental Management Plan [EN010141/DR/7.3],** the Applicant has committed to setting up a Community Liaison Group at the outset of construction to function as an open forum and ensure dialogue with representatives of the local community, and local councils.
CCC	'No health pathway has been identified between the Scheme and this *[Open Space, Leisure and Play]* wider determinant of health' The Council considers Open Space, Leisure and Play includes green space, the visual amenity of the site and the views of said green space– any potential impacts of the solar park and associated health	**ES Vol 1 Chapter 5: Landscape and Visual Impact [EN010141/DR/6.1]** provides an assessment of the Scheme on the landscape and views. This is supported by **ES Vol 2 Appendix 5-7: Residential Visual Amenity Assessment [EN010141/DR/6.2]** that specifically considers amenity impacts on people's property.

Consultee	Summary of Comments	Response
	outcomes including mental health have not been discussed in this documentation.	Consideration has been given to the possible mental health effects, which are identified in Table 16.3, including stress, anxiety and worry. These impacts would be short-term during construction, and unlikely to be significant.

Approach to assessment

16.2.15 The approach to identifying potential likely significant effects on human health associated with the Scheme has been derived from the following guidance published by the Institute of Environmental Management and Assessment (IEMA) in November 2022, and referred to by the Planning Inspectorate in its Scoping Opinion:

- IEMA Guide to: Effective Scoping of Human Health in Environmental Impact Assessment ('IEMA Scoping Guidance')[8]; and
- IEMA Guide to: Determining Significance for Human Health in Environmental Impact Assessment ('IEMA Assessment Guidance')[9].

16.2.16 The Scoping Opinion advised that cross-referencing should be provided from the EIA methodology chapter (of a PEIR or ES), to highlight where health related aspects have been included within EIA topic assessments. However, for greater clarity this cross-referencing is provided within Table 16.3 alongside the assessment of impacts on human health.

Assessment of potential impacts on human health

16.2.17 The IEMA Scoping Guidance refers to the 'wider determinants of health' that should be used to identify likely impacts and effects relating to health within the EIA process. Table 16.2 describes these wider determinants of health in more detail, and provides context as to how they can influence human health.

Table 16.2: The wider determinants of health (IEMA Scoping Guidance)

Categories	Wider determinants of health	Description
Health related issues	- physical activity - risk taking behaviour - diet and nutrition	The physical and mental health of a population, with respect to aspects such as food related habits, smoking / drinking / drug use, criminality, keeping active, and how stress is dealt with.
Social environment	- housing - relocation - open space, leisure and play - transport modes, access and connections - community safety - community identity, culture, resilience and influence - social participation, interaction and support	The social capital relationships between family, friends and community that can influence health outcomes; and the opportunities afforded by social mobility, where a person's socio-economic situation improves or declines relative to that of their parents, or throughout their own lifetime.
Economic environment	- education and training - employment and income	The employment status and skill set of individuals and communities, which, when enhanced, not only provides financial opportunities to access social infrastructure, but inherently benefits a range of mental health issues such as depression, anxiety and self-esteem
Bio-physical environment	- climate change mitigation and adaptation - air quality - water quality or availability - land quality - noise and vibration - radiation	The environmental factors that can detrimentally affect health, from both a sensory (commonly a visual, aural or olfactive interaction) and a natural perspective. These factors can influence both physical and mental health, even when pathways are only perceived, such as water vapour from a chimney stack being mistaken for smoke.
Institutional and built environment	- health and social care services - built environment - wider societal infrastructure and resources	The availability, and access to, social infrastructure such as community facilities, public transport, amenities and recreational opportunities (either formal or informal).

16.2.18 In assessing how the Scheme may impact the wider determinants of health identified above in Table 16.2, consideration has been given to the potential health pathways that could occur between the various development components of the Scheme and people. It is important to consider the impacts affecting vulnerable groups or those who share protected characteristics, particularly where other EIA topics have, under standard circumstances, concluded that the Scheme is unlikely to give rise to significant environmental effects.

16.2.19 Table 16.3 below provides a comprehensive assessment summary of how the Scheme could potentially impact human health during construction (to also incorporate any specific aspects of decommissioning) and operational phases of the Scheme. The assessment:

- Identifies the pathways that could exist between the Scheme and people, and how the health of these people may be affected;
- References where within the ES information relating to the wider determinants of health, including relevant assessment, effects and mitigation can be found;
- Identifies how the Scheme has responded to potential human health impacts and how further actions might be incorporated as design progresses; and
- States whether impacts on the wider determinants of health are likely to result in significant human health effects, and who might be affected.

Table 16.3: Assessment of potential impacts on human health

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
Health Related Behaviours				
Physical Activity	**Availability and accessibility of Public Rights of Way** The Scheme could require a temporary diversion or closure to any of the Public Rights of Way (PRoW) that either cross or pass within the vicinity of the Site. This would potentially reduce the health benefits associated with these routes, by limiting or discouraging access, by members of the public.	**ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]:** Confirms that access to all PRoW will be maintained during construction, and only temporary diversions will be required, which will be localised and short term (~4 weeks). Where construction traffic crosses PRoW, banksmen and signage will be provided to ensure the safety of PRoW users. An **outline Public Rights of Way Management Plan [EN010141/DR/7.8]** has been submitted with the application, which set out the principles by which PRoW will be managed during the construction, operation and decommissioning phases. **ES Vol 1 Chapter 14: Socio-Economics [EN010141/DR/6.1]:** Confirms that none of the PRoW are part of the National Cycle Network or National Long Distance Trails, and that no PRoW are likely to be used to access employment. Given the considerable	The Scheme has: - Limited where and how PRoW are affected, to temporary, focused diversions. - Considered the safety of recreational users by proposing banksmen or signage where construction traffic is required to cross a PRoW. - Committed to a PRoW Management Plan to confirm how PRoWs would be managed during the various stages of the project. - Committed to there being no permanent PRoW closures or diversions. - Committed to publicising works that may affect PRoW via the Community Liaison Group, as set out in the **outline Construction Environmental**	Given that the impacts on PRoW are predicted to be minimal and temporary in nature, largely due to the residual network of PRoW routes available at any given time, there are unlikely to be any significant health effects on physical activity arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
		network of PRoW in this area, PRoW are considered of low sensitivity, with impacts being considered negligible and not significant.	**Management Plan [EN010141/DR/7.3]**.	
	Opportunities for recreational activity Solar farms can often provide opportunities to provide bespoke, informal recreation routes that can be used by a range of users.	**ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]:** Confirms that as part of Work No. 8, permissive paths will be created within the Scheme. These are highlighted on the **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]** and set out in the **outline Landscape and Ecological Management Plan [EN010141/DR/7.7]**.	The Scheme has: - Included a number of new permissive paths to increase recreational opportunity within, and around, the Site. - Committed to providing interpretation panels that provide content on subjects including local biodiversity, cultural heritage assets, renewable energy generation and climate change. - Committed to providing and improving signage along PRoW and permissive paths throughout the Site. - Committed to providing benches/seating at strategic locations across the Scheme. Details of these, including locations will be set out in the final Landscape and Ecological Management Plan, and will be	The provision of new permissive paths is considered a positive aspect of the Scheme, providing an enhancement to existing recreational routes within the local area. However, given the scale of proposed permissive routes compared to the existing path network, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
			consulted on with Parish Councils.	
Risk Taking Behaviour	**Criminal Activity – onsite** Crime cost the agricultural industry £52.8M in 2023[10], a year-on-year increase of around 4.3%. Any development within rural areas can be at risk of crime during both construction and operation. Illegal access to construction and operational sites can present serious health and safety risks, with the potential to result in serious injury or death from a range of hazards.	**outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3] & outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]:** The Site will be secured by temporary fencing (such as Heras fencing) during the construction phase, with overall management of security resting with the Principal Contractor. All plant and materials will be secured to prevent theft or vandalism. Remote monitoring and intrusion detection is likely to be managed via the use of deterrent systems such as 'Armadillo' camera security units. **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]:** Throughout the operational life of the Scheme, the Site will be secured by security fencing, with overall management of security resting with the Site Owner / Operator. All plant and materials will be secured to prevent theft or vandalism. The Site will be monitored by pole mounted	The Scheme has: - Included measures to ensure that construction sites are safe and secure, minimising their attractiveness to opportunistic crime.	Whilst the Scheme represents a potential opportunity for criminal activity during all phases of development, the adoption and implementation of robust site safety and security measures will mean that health risks associated with crime are likely to be negligible. Therefore, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
		CCTV and ancillary systems, e.g., weather stations. All security systems will be regularly inspected for integrity. **ES Volume 1 Chapter 2: The Scheme [EN010141/DR/6.1]:** Confirms that as part of Work No. 6, that the Scheme will incorporate CCTV at intermittent locations. These locations are shown indicatively on **ES Vol 3 Figure 2-1: Illustrative Environmental Masterplan [EN010141/DR/6.3]** for the purpose of assessment and are subject to confirmation as part of the final design post-consent.		
	Criminal and anti-social activity – construction workforce behaviour Where there is a temporary influx of construction workers to a local population, there may often be a perception within the local community that there is potential for associated criminal	**ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]:** There is no inclusion for construction worker accommodation as part of the temporary construction compounds. The construction programme is based on multiple work sites running concurrently, reducing the time for construction workers being required on site. Any temporary relocation of staff to the area is likely to be limited in terms of numbers and duration, and would make use of hospitality	The Scheme has: - Excluded any requirement for onsite worker accommodation. - Stated that the Considerate Contractors Scheme will be adopted. - Ensured that a 'toolbox talk' on off-site behaviour is included in any programme of site briefings.	Whilst the perception of construction workforce behaviour may result in anxiety and stress for local communities, this is likely to be limited. However, vulnerable groups and those sharing protected characteristics may be affected by this disproportionality. Effective implementation of the Considerate Contractors Scheme and other

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	and anti-social behaviour. This perception can include a range of activities including driving standards, the illegal disposal of waste, and alcohol related disorder. However, many of these experiences may more commonly be related to larger construction projects where construction worker accommodation is provided on, or near to construction sites and workers are temporarily embedded within the local communities.	accommodation within a 30-minute drive of the Site. **ES Vol 1 Chapter 14: Socio-Economics and Tourism [EN010141/DR/6.1]:** Chapter 14 of the ES provides an assessment of local accommodation facilities within a 30-minute drive of the Site at Table 14.22. This concludes that even at the peak of construction there would be significant adverse effect on accommodation availability in the local area. **outline Construction Environmental Management Plan [EN010141/DR/7.3]:** The oCEMP confirms that the Considerate Constructors Scheme will be adopted for the Scheme. This standard includes best practice measures that go beyond statutory compliance, and thus will further reduce the potential for pollution and nuisance associated with the Scheme.		community liaison programmes, will reduce potential impacts so that there are unlikely to be any significant adverse health effects arising from the Scheme.
Diet and Nutrition	No health pathway has been identified between the Scheme and this wider determinant of health.			

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
Social Environment				
Housing	**Impacts on rental accommodation from construction workforce.** The ability to access affordable rental accommodation is a widely known, and increasingly common problem throughout the UK. Where there is a temporary influx of construction workers, and no bespoke worker accommodation site provided, there is potential for rental accommodation to be secured within the local market, which reduces supply for the local population. The potential demand for this type	**ES Volume 1 Chapter 2: The Scheme [EN010141/DR/6.1]:** There is no inclusion for construction worker accommodation as part of the temporary construction compounds. The construction programme is based on multiple work sites running concurrently, reducing the time for construction workers being required on site. **ES Vol 1 Chapter 14: Socio-Economics [EN010141/DR/6.1]:** Confirms that there is a negligible impact in terms of saturation of the local hospitality sector accommodation due to construction. Table 14.22 reports that throughout the construction period, there would typically always be 1,400 rooms available throughout the hospitality accommodation sector within a 30-minute drive to the Site. **outline Construction Traffic Management Plan (oCTMP) [EN010141/DR/7.4]:** The oCTMP confirms that on-site parking will be provided in construction	The Scheme has: - Proposed a construction programme that would limit the need for any temporary relocation by construction workers. - Ensured there is adequate accommodation available in the local region and that utilising this accommodation during the construction phase will not adversely impact the sector or availability of accommodation. - Confirmed that a range of transport options will be provided, including sustainable transport options, to facilitate site travel on a daily basis	Given that the need for overnight stays within the local area is likely to be minimal, there is unlikely to be any tangible impact on the local rental market and therefore, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	of rental accommodation, which could be secured at a premium rent, may also lead to the fear or in extreme cases the occurrence, of no-fault evictions so that properties may be rented out at a premium.	compounds, but sustainable transport methods will also be promoted, such as using public transport, car sharing, and potentially staff minibuses from public transport hubs. This will benefit those construction workers that do not have access to a private vehicle and may otherwise choose to relocate to the area.		
Relocation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Open space, leisure and play	No health pathway has been identified between the Scheme and this wider determinant of health.			
Transport modes, access and connections	**Impacts on local transport links and associated behaviours.** A daily influx of construction workers can often place a strain on local public transport services,	**outline Construction Traffic Management Plan [EN010141/DR/7.4]:** The oCTMP confirms that onsite parking will be provided in construction compounds, but sustainable transport methods will also be promoted, such as using public transport, car sharing, and potentially staff minibuses from public transport hubs. This will ensure that anti-	The Scheme has: - Confirmed that a range of transport options will be provided, including sustainable transport options, to facilitate site travel on a daily basis.	With the promotion and implementation of sustainable transport methods, to supplement parking provision within construction compounds, it is unlikely that construction workers traveling to Site, or using the local highway network to travel between

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	particularly in rural areas, where services are not provided to the standard or frequency of urban areas. Furthermore, private car use can often lead to off-site parking, which can cause a nuisance for both local businesses and residents.	social parking is avoided, whilst encouraging more sustainable commuting methods. **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]:** The traffic and transport assessment concludes there will be no significant effects with regard vehicle travellers (including driver delay), non-motorised users (including severance, delay, fear and intimidation), or public transport users (including delay).		sites, would significantly impact the ability for local people to access and use local transport infrastructure and services. Therefore, there are unlikely to be any significant health effects arising from the Scheme.
Community safety	No health pathway has been identified between the Scheme and this wider determinant of health.			
Community identity, culture, resilience and influence	No health pathway has been identified between the Scheme and this wider determinant of health.			

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
Social participation, interaction and support	No health pathway has been identified between the Scheme and this wider determinant of health.			
Economic Environment				
Education and Training	**Apprenticeships and Up-Skilling** The construction industry provides opportunities for life-long learning across a spectrum of development sectors. The Scheme has potential to support training and retraining within the local employment workforce. This market led approach offers a valuable supplementation of local, and often publicly funded,	**ES Vol 1 Chapter 14: Socio-Economics [EN010141/DR/6.1]:** Confirms as part of the assessment of potential employment impacts, that there is an opportunity for the appointed contractors to employ trainees and apprentices as part of the construction workforce. **outline Skills, Supply Chain and Employment Plan (oSSCEP) [EN010141/DR/7.11]:** Section 2.2 of the oSSCEP sets out that one of the Applicant's objectives is to upskill local people with technical skills and provide access to learning pathways to enhance employability in the local area.	The Scheme has: - Confirmed that training and apprenticeship programmes will be delivered as part of the project. - Ensured an outline plan is in place, which will be a certified document of the DCO, setting out how local employment opportunities will be delivered.	Generally, apprenticeship and training opportunities would likely make a negligible, but positive overall impact on the local workforce, which would not be considered significant in EIA terms.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	training programmes.			
Employment and Income	**Temporary impacts on local employment / economy** The construction of solar developments, particularly of the scale of the Scheme, requires a range of technical skills relating to utilities, drainage, groundworks, fabrication and plant operations. In addition, ancillary services are required in relation to facilities management, security and welfare. Whilst a large proportion of construction employment is time bound, lasting for	**ES Vol 1 Chapter 14: Socio-Economics [EN010141/DR/6.1]:** Construction related employment would be of a medium-term and temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period of approximately 2.5 years. It is estimated that the average number of workers on Site across the construction phase would be 496, with a peak workforce of 854 in Month 12 and a low of 30 in Month 1 as mobilisation takes place. These factors are based on experience of constructing other similar-scale installations across Europe. It is envisaged that around 48% of the construction workforce would be local (within a 90-minute travel to work catchment). It is estimated that construction will contribute approximately £130.1m to the economy, of which £54.3m would likely be within the local area.	The Scheme has: - Identified the direct local impact of construction employment. - Provided a potential benefit to the local economy of over £50m. - Set out in the **oSSCEP [EN010141/DR/7.11]** how local workers will be prioritised where possible when considering potential suppliers. - Identified in the oSSCEP how sole traders and SMEs within the local economy can be encouraged to participate within the procurement process for supply chain services.	Overall, construction of the Scheme would result in a positive, but not significant, impact in relation to the local, regional and national economies and comparative employment markets. However, there is potential for increased benefits if the procurement of services and associated employment, actively encouraged fulfilment by those in vulnerable groups, or persons sharing protected characteristics. If persons inherently affected by inequalities in health were to benefit, it is likely that further beneficial health effects could result from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	the duration of the construction programme or elements of it, a steady source of income is a key factor in maintaining physical and mental health, particularly if it comes with opportunities to learn transferable skills or upskilling.			
	Permanent impacts on local employment / economy The 2019 Public Health England guidance document 'Health matters: health and work'[11] states that there is a clear evidential link between 'good work', and protection against social exclusion	**ES Vol 1 Chapter 14: Socio-Economics [EN010141/DR/6.1]:** It is estimated that during the operational phase there would be 20 gross direct full time employee (FTE) equivalent roles resulting from the Scheme (12 in site maintenance; 5 in management and administration; and 3 in land management). The overall effect on employment, taking account of additionality, is an estimate of 14.5 FTE net additional jobs resulting from the Scheme, of which 10 might be drawn from the local area.	The Scheme has: - Identified the direct local impact of permanent employment during operation of the Scheme. - Set out in the **oSSCEP [EN010141/DR/7.11]** how local workers will be prioritised where possible when considering potential suppliers. -	Overall, the ongoing operation of the Scheme would result in a positive, but not significant, impact in relation to the local, regional and national economies and comparative employment markets, due to the level of employment created. Given the scale of employment created, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	through the provision of: - Income - Social Interaction - A core role - Identity and purpose Conversely, there is also evidence that unemployment is bad for your health and associated with an increased risk of mortality and morbidity including: - Limiting long-term illness - Cardiovascular disease - Poor mental health - Suicide - Health-harming behaviours			

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
Bio-Physical Environment				
Climate Change Mitigation and Adaptation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Air Quality	**Traffic generation** Construction vehicles have the potential to detrimentally affect local air quality through exhaust emissions, though this depends on many factors including the type, age and condition of construction vehicles, the current use of affected roads by similar vehicles, and the proximity and sensitivity of any affected receptors.	**ES Vol 1 Chapter 11: Air Quality [EN010141/DR/6.1]:** The predicted HGV and LDV movements on the local road network are below the Institute of Air Quality Management indicative thresholds where more detailed assessment would be expected, and there are no known concerns regarding air quality in the local area. Therefore, human health risks associated with construction traffic are considered unlikely and no further assessment was deemed necessary. The additional traffic that would be generated by the Scheme for a temporary period is not predicted to result in significant adverse impacts on local air quality. Potential effects on human health receptors from construction vehicle emissions are unlikely to be significant.	The Scheme has: - Identified there is unlikely to be a risk associated with construction traffic accessing and leaving the Site.	The impact on human health from construction traffic emissions has been assessed as not significant, though it should be noted that persons living along the affected road network that suffer from pre-existing cardiopulmonary illnesses, may be more susceptible to a minimal increase in HGV and LDV movements. However, given the level of construction traffic movements predicted, there are unlikely to be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	Construction Plant Emissions Construction activity, particularly the machinery and plant typically used across sites (known as Non-Road Mobile Machinery (NRMM)), has the potential to significantly contribute to air pollution and affect the health of residents and workers. Air pollution from construction plant and machinery can be exacerbated by: - Leaving equipment running longer than needed. - Poor maintenance of equipment	**ES Vol 1 Chapter 11: Air Quality [EN010141/DR/6.1]:** Confirms that the use of NRMM across the Site, will give rise to combustion emissions, primarily CO, NO_x and PM_{10}, with potential resulting impacts on local air quality. However, as there would not be any continuous sources of NRMM emissions close to any human receptors, with power plant (generators) sited at the compounds over 200m from any human receptors. Therefore, the use of NRMM and on-site plant is not expected to result in significant adverse impacts at any location. Resulting effects would be not significant. **outline Construction Environmental Management Plan [EN010141/DR/7.3]:** Confirms that all plant would have the appropriate certification and checks with copies held on file on site. All plant would be regularly inspected, and records of these inspections would also be held on file on site.	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from NRMM. - Included provisions for NRMM to be inspected and maintained to ensure that emissions are kept to a minimum. - Ensured that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Set out a process for dealing with pollution / odour related complaints from members of the public.	Site construction compounds have been located to minimise any air pollution impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from emissions, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to provide updates on the construction programme, whilst efficiently and compassionately addressing any amenity related complaints, would make it unlikely that there would be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	- Inappropriate siting of equipment during operation.			
	Dust creation Construction can create dust in a number of ways and can be heavily influenced by local weather conditions. Dry, warm weather can create arid construction sites, where construction activity can disturb surface material, easily making it airborne. Conversely, wet conditions help to 'damp down' stored materials and bare ground, potentially reducing the risk of dust particles	**ES Vol 1 Chapter 11: Air Quality [EN010141/DR/6.1]:** The construction dust assessment, which incorporates standard best practice mitigation, concluded that whilst there is a high risk of dust soiling impacts arising from fugitive dust associated with earthworks, and a medium risk of dust soiling impacts associated with construction works and trackout, there is a low risk of PM_{10} human health impacts from the fugitive dust associated with these activities. Confirms that given the scale of the Scheme, enhanced mitigation measures would be employed to minimise the risk of adverse impacts. The measures to be employed are detailed in the **oCEMP [EN010141/DR/7.3]** and are based on standard industry guidance	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from dust. - Provided an outline Dust Management Plan as part of the oCEMP. - Ensured that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Set out a process for dealing with dust related complaints from members of the public.	Site construction compounds have been located to minimise any dust impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from emissions, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to provide updates on the construction programme, whilst efficiently and compassionately addressing any amenity

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	transferring off site. Windy conditions will result in a greater potential of dust particles being transferred off site. Construction dust can have serious health implications both for those within (construction workers) and adjacent to (receptors) a construction site. Health issues that have been linked to construction dust are: - lung cancer; - silicosis; - chronic obstructive pulmonary disease (COPD); and - asthma.	***outline Construction Environmental Management Plan [EN010141/DR/7.3]:*** Provides an outline Construction Dust Management Plan as part of the **oCEMP [EN010141/DR/7.3]**.		related complaints, would make it unlikely that there would be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
Water Quality or Availability	**Access to potable water** Any development has the potential to affect access to potable water (water used for drinking, cooking and bathing) during both construction and operational phases. Construction activity has the potential to affect potable water through the potential contamination of ground water, or surface water features, that provide a water source to public supplies, by placing significant demand on water supplies for construction activity, and the potential for accidental damage to public water infrastructure.	**ES Vol 1 Chapter 8: Hydrology and Flood Risk [EN010141/DR/6.1]:** Confirms that whilst public water abstractions are regarded as having a very high sensitivity, the only public water abstraction of relevance is at Offord, which is located a considerable distance from the Site, meaning that no impacts are likely to arise. In terms of normal operation, there would be no potential impacts on groundwater from on-site processes. However, in an emergency situation, such as battery fire, a sluice, included as part of the surface water drainage, could be operated to isolate the retention basin and prevent any run-off for a period of time. This would allow the run-off to be collected and treated in an appropriate way. **outline Construction Environmental Management Plan [EN010141/DR/7.3]:** States that ongoing engagement with utility companies will confirm the location of utilities infrastructure, including water mains. Where identified, suitable offsets will be established where suitable working practices should be undertaken, noting that the location of utilities infrastructure	The Scheme has: - Identified that public water abstractions are too far from the Scheme to be affected. - Demonstrated how potable and non-potable water for construction activity will not affect any existing supply. - Stated how utilities infrastructure will be protected during construction activity. - Included suitable provisions to safeguard public water supplies during an emergency event. - Include details within the CEMP of how access to potable water will be maintained during any emergency disruption to public water supplies.	No significant impacts that could affect potable water have been identified through the assessment process. Therefore, it is unlikely that there would be any significant health effects arising from the Scheme.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	Operational impacts are likely to result from pollution or excessive water use due to operational processes; water consumed by people could be contaminated, or the availability of water could be limited, or at times, restricted. The Scheme will have a limited need for water use during operation and there are no ongoing processes onsite that under normal situations, would affect water supplies.	may vary slightly from recorded information. The use of a water tanker(s) within the sites will avoid any reliance on existing water supplies for construction activity. On site- potable water, required for welfare facilities, is also likely to be provided by separate supply.		
Land Quality	**Impacts on Construction Workers and Neighbouring Properties** The Health and Safety at Work Act	**ES Vol 1 Chapter 12: Ground Conditions [EN010141/DR/6.1]:** Confirms that limited sources of potential contamination have been identified, with a historical gravel pit (likely to have been infilled) and demolition rubble in East Park Site A, and two former ponds in East Park	The Scheme has: - Incorporated toolbox talks to provide awareness training of contamination and UXO risks. - Included provision for welfare units as part of temporary	Construction activities will be controlled by health and safety legislation, guided by a suite of relevant management plans, and managed by experienced and suitable skilled

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	1974 requires employers to, as far as reasonably practicable, provide and maintain a safe working environment that is without risk to health, and includes adequate facilities and arrangements for welfare. The construction industry in the UK is one of the safest globally, with 2.4 deaths per 100,000 workers in 2024, compared to 9.6 deaths per 100,000 in the United States. However, the construction industry is annually responsible for the highest number of workplace deaths in the UK, with 51 deaths recorded from April 2023 to March 2024, representing 37% of	Site B and East Park Site C. Whist it would be confirmed through detailed site investigation, it is unlikely that existing contamination would impact construction workers during construction activity, or pose a risk to modular office / welfare facilities located at each site. UXO risk has been assessed as low throughout the majority of the Site, with a medium risk of Luftwaffe and anti-aircraft ordnance in part of East Park Site B. Proposed mitigation includes UXO awareness training for all construction staff and UXO clearance in East Park B. **outline Construction Environmental Management Plan [EN010141/DR/7.3]:** Commitment to prepare a UXO Management Plan to inform construction activity, particularly ground breaking work in East Park Site B. As part of this UXO Management Plan, a UXO Specialist will be available at all times during the construction phase to monitor works as required using visual recognition and instrumentation, and respond to reports of suspicious objects.	construction compounds to ensure that suitable sanitary provision is available to all construction worker, at all times.	construction professionals. As such, it is likely that any significant risk to the health of construction workers would be fully mitigated. Therefore, it is unlikely that there would be any significant health effects arising from the Scheme. With respect to members of the public, it is unlikely that they would be exposed to the same on-site risks as construction workers. Any transfer of contaminants off-site should be negligible assuming that prescribed clean-up protocols are adhered to. If UXO is discovered and controlled detonations are required, suitable liaison with members of the public regarding impending actions will help prevent any emotional or psychological response to explosions, which is particularly important for people who are neurodivergent, have

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	all work place fatalities.[12] Whilst solar farms are relatively simple construction projects when compared to other forms of developments, there is still considerable risk of the four main causes of accidents: - Falls - Struck by - Trapped by - Contact with Of these risks, land quality is most closely related to 'Contact with' risks. Whilst this would predominantly relate to contamination, the Scheme, due to its location, has identified risks associated with			anxiety issues, or who have an exaggerated startled response due to suffering with post-traumatic stress disorder (PTSD).

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	unexploded ordinance (UXO). Whilst it would be rare for members of the public to be exposed to these same risks, any off-site transfer of contaminants or remedial action (such as a controlled detonation) required for UXO, could pose a risk in certain circumstances.			
Noise and Vibration	**Construction Traffic** A common concern for residents and other sensitive receptors in relation to construction is the noise and vibration impacts arising from additional vehicles, which are often HGVs, using public roads to access the	**ES Volume 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]:** The predicted construction traffic noise impacts, resulting from the use of the public roads to access site, has been assessed as not significant. The temporary nature of the impact and relatively short period of peak staff traffic flow, results in changes at receptors of less than 3dB, which is the level of perceptible change in the short term. Predicted construction noise is well within this level, with no receptor along affected	The Scheme has: - Identified there is unlikely to be a risk associated with construction traffic accessing and leaving the Site.	The impact on human health from construction traffic emissions has been assessed as not significant, though it should be noted that persons living along the affected road network that suffer from pre-existing cardiovascular illnesses, may be more susceptible to a minimal increase in HGV and LDV movements. However, given the level and short-term nature of

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	construction site. Proximity to the construction site is not necessarily an indicator of level of impact and likely effects, as access routes could take construction vehicles past sensitive receptors and local communities where other impacts from the construction activity are not even perceptible. In extreme cases, this could lead to people and communities being excluded from consultation exercises, which could lead to increased stress and anxiety, and in extreme cases (long-term exposure to road traffic noise over 65dB) an increased risk of	roads likely to experience a change of more than 2dB.		construction traffic movements predicted, there are unlikely to be any significant health effects arising from the Scheme. Direct potential effects on human health receptors from construction traffic noise are unlikely to be significant.

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	cardiovascular disease[13].			
	Construction activity Construction activity, particularly the machinery and plant typically used across sites (known as Non-Road Mobile Machinery (NRMM)), has the potential to significantly contribute to noise pollution and affect the health of residents and workers. Noise pollution from construction plant and machinery can be exacerbated by: - Leaving equipment running longer than needed.	**ES Volume 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]:** Confirms that the use of NRMM across the Site, would vary from day to day and therefore could potentially result in short term impacts at specific locations. However, based on the type of plant likely to be deployed on site, all receptor locations would be within the accepted threshold values for construction noise. Therefore, the levels of noise, as a result of construction, would range between negligible to slight impact at residential receptors and a negligible to minor effect, which are not significant. **outline Construction Environmental Management Plan [EN010141/DR/7.3]:** Confirms that noise monitoring would be undertaken to ensure compliance with relevant threshold values for construction noise. The process for undertaking any programme of noise surveys during construction will be confirmed within the final CEMP.	The Scheme has: - Located construction compounds away from sensitive receptors, minimising any likelihood of significant impacts from NRMM. - Included provisions for NRMM to be inspected and maintained to ensure that they operate efficiently. - Ensured that community liaison provides ongoing updates regarding construction, so people have advance warning of any construction activity occurring near to them. - Set out a process for dealing with noise related complaints from members of the public.	Site construction compounds have been located to minimise any noise pollution impacts on residential and other sensitive receptors. It is therefore considered unlikely that there would be any direct significant health impacts from noise sources, though people who are closest to construction activity may have perceptions of impacts that give rise to worry, stress or anxiety. Ensuring good communications with local residents to update them on the construction programme, whilst efficiently and compassionately addressing any amenity related complaints, would mean that it is unlikely that there would be any

Wider Determinant of Health	How might the Scheme affect the wider determinants of health?	References within other parts of the ES	How has the Scheme responded?	Are there likely to be significant health effects from the Scheme?
	- Poor maintenance of equipment. - Inappropriate siting of equipment during operation.			significant health effects arising from the Scheme.
Radiation	No health pathway has been identified between the Scheme and this wider determinant of health.			
Institutional and Built Environment				
Health and Social Care Services	No health pathway has been identified between the Scheme and this wider determinant of health.			
Built Environment	No health pathway has been identified between the Scheme and this wider determinant of health.			
Wider Societal Infrastructure and Resources	No health pathway has been identified between the Scheme and this wider determinant of health.			

16.3 Waste

16.3.1 This section of the ES identifies the likely waste streams arising from the Scheme and whether these would result in any likely significant environmental effects.

16.3.2 Waste is defined by the Waste Framework Directive (Directive 2008/98/EC)[14] as: *"any substance or object which the holder discards or intends or is required to discard"*.

16.3.3 In practical terms, wastes include surplus spoil, scrap, recovered spills, unwanted surplus materials, packaging, office waste, wastewater, broken, worn-out, contaminated or otherwise spoiled plant, equipment and materials. Often, where waste is generated and subsequently disposed of, there is a potential for resources to be permanently lost and for indirect environmental impacts and associated effects to occur.

Legislation, Policy and Guidance

16.3.4 The Waste Framework Directive[15] provides the framework for the management of waste across the EU. The Waste (England and Wales) Regulations 2011 (as amended)[16] transposed the Waste Framework Directive into domestic law in England and Wales. The framework requires waste prevention programmes and waste management plans that apply the waste hierarchy. The waste hierarchy is shown below in Figure 16.1.

16.3.5 The waste hierarchy will be applied throughout the lifetime of the Scheme during construction, operation and decommissioning.

Figure 16.1 Waste Hierarchy

16.3.6 Paragraph 5.15.8 of the Overarching National Policy Statement for Energy (EN-1) states that: *"The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a report that sets out the sustainable management of waste and use of resources throughout any relevant demolition, excavation and construction activities."* Paragraph 5.15.9 goes on to state that *"The arrangements described and a report setting out the sustainable management of waste and use of resources should include information on how re-use and recycling will be maximised in addition to the proposed waste recovery and disposal system for all waste generated by the development. They should also include an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation."*

16.3.7 NPS EN-1 further states that applicants should seek to minimise the volume of waste produced and the volume of waste sent for disposal. Construction best practices should be utilised in relation to storing of materials in an adequate and protected place on site to prevent waste.

Assessment of Potential Effects

16.3.8 Given the nature of the Scheme, significant quantities of waste are not anticipated. Expected waste streams during the construction, operation and decommissioning phases are discussed below.

16.3.9 The **outline Construction Environmental Management Plan [EN010141/DR/7.3]**, **outline Operational Environmental Management Plan [EN010141/DR/7.5]** and **outline Decommissioning Environmental Management Plan [EN010141/DR/7.6]** describe embedded mitigation measures to control and manage waste on-site. In addition, an **outline Waste Management Plan [EN010141/DR/7.12]** has been prepared as part of the application. Post-consent, these outline plans will be developed into full plans which must be in substantial accordance with the outline and will require approval by the LPAs. The Scheme must be undertaken in accordance with those approved plans. This is secured via a Requirement in Schedule 2 of the **draft DCO [EN010153/DR/3.1]**.

Construction Phase

16.3.10 Many of the infrastructure elements would be prefabricated offsite i.e. PV panels, racks, inverters and transformers, battery energy storage system (BESS) units, substation components. As such, the generation of waste resulting from the construction and replacement of these elements will be minimal.

16.3.11 The types of wastes generated during construction are likely to comprise:

- General waste from site offices and welfare facilities;
- Small quantities of waste from the maintenance of construction vehicles;
- Packaging waste from incoming materials; and
- Other waste from construction of fencing, access roads and other supporting infrastructure.

16.3.12 Waste streams are likely to include:

- Metals (iron and steel);
- Plastic;
- Paper and cardboard;
- Wood; and
- Chemicals, fuels and oils.

16.3.13 Table 16.4 below provides an estimate of the waste volumes likely to be generated during the construction phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice and implementation of the **outline Waste Management Plan [EN010141/DR/7.12]** which would be implemented for each phase of the Scheme.

Table 16.4: Construction phase waste estimates and fate

Waste Type	Tonnage / Unit	Fate
General Waste (e.g. from offices and welfare units)	~ 70 t	50% recycle / 50% landfill or energy recovery
Paper/Cardboard Packaging (e.g. module and equipment boxes)	~ 800 t	90% recycle / 10% landfill or energy recovery
Wooden Packaging (e.g. pallets, crates, cable drums)	~ 855 t	70% re-use or recycle / 30% energy recovery
Plastic Packaging (e.g. shrink-wrap, straps, foam)	~ 190 t	90% recycle / 10% landfill or energy recovery
Concrete Waste (e.g. excess concrete mix, spillage that hardens)	~ 800 t	90% recycle or recovery / 10% landfill
Aggregate Waste (e.g. surplus gravel / sand from works)	~ 3,500 t	90% recycle or recovery / 10% landfill
Cement-Bound Sand Waste (e.g. excess backfill material)	~ 525 t	90% recycle or recovery / 10% landfill
Cable Offcuts – Metals (e.g. scrap copper/ aluminium from cable trimming)	~ 60 t	95% recycle / 5% landfill or energy recovery
Cable Offcuts – Plastics (e.g. scrap insulation sheath)	~ 48 t	95% recycle / 5% landfill or energy recovery

Waste Type	Tonnage / Unit	Fate
Misc. Hazardous Waste (e.g. paints, oils, solvents from construction use)	Negligible	50% recycle / 50% landfill or energy recovery

16.3.14 There is likely to be a requirement for some earthworks on Site, and there would also be soil arisings resulting from the construction of underground cable trenches, piling operations or localised excavations for construction of foundations or placement of services. The CL:AIRE Code of Practice (CoP)[17] provides a framework which allows the re-use of excavated materials on-site or their transfer between sites. In the unlikely event that soil arisings are not used on-site then the contractor would look to reuse soils in accordance with the CoP, thereby minimising export of materials to landfill.

16.3.15 All waste transported off site will be delivered to the appropriately licenced receivers of such materials. Operators receiving any waste materials resulting from the Scheme will be subject to their own permitting and regulatory procedures.

16.3.16 Prior to construction, opportunities to minimise waste produced through the construction phase as far as possible will be explored. Possibilities to re-use or recycle materials will be explored before resorting to landfill options.

16.3.17 Re-usable waste includes soil excavated for trenches, roads, compound areas and foundations. These will be re-used on-site where possible.

16.3.18 Toxic and / or hazardous waste must be treated by an authorised operator. Transportation of hazardous waste will also require an authorised carrier. Materials are to be dealt with in accordance with the **oCEMP [EN010141/DR/7.3]**.

16.3.19 With the above measures in place and the appropriate control measures followed, no significant effects are anticipated during the construction phase.

Operational Phase

16.3.20 During operation, waste arisings would include:

- Welfare facility waste;
- Equipment needing replacing;
- Waste metals; and
- General waste (paper, cardboard, wood, etc.).

16.3.21 Table 16.5 below provides an estimate of the waste volumes likely to be generated during the operational phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice and implementation of the **outline Waste Management Plan [EN010141/DR/7.12]** which would be implemented for each phase of the Scheme.

Table 16.5: Operational phase waste estimates and fate

Waste Type	Tonnage / Unit	Fate
General Waste (e.g. from operations and maintenance buildings units)	~ 80 t	50% recycle / 50% landfill or energy recovery
Solar photovoltaic modules	~ 29,000 t	90% recycle / 10% landfill or energy recovery
Inverters	~ 1,040 t	90% recycle / 10% landfill or energy recovery
Solar transformers	~ 1,900 t	90% recycle / 10% landfill or energy recovery
Battery storage units	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Battery transformers	~ 2,200 t	90% recycle / 10% landfill or energy recovery

Waste Type	Tonnage / Unit	Fate
Cabling	~ 700 t	95% recycle / 5% landfill or energy recovery
Fencing	~ 450 t	90% recycle / 10% landfill or energy recovery
Paper/Cardboard Packaging (e.g. module and equipment boxes)	~ 800 t	90% recycle / 10% landfill or energy recovery
Wooden Packaging (e.g. pallets, crates, cable drums)	~ 655 t	70% re-use or recycle / 30% energy recovery
Plastic Packaging (e.g. shrink-wrap, straps, foam)	~ 190 t	90% recycle / 10% landfill or energy recovery

16.3.22 Any arisings would be managed in accordance with the Waste Duty of Care Code of Practice[18], which implements the duty of care set out in Section 34(1) of the Environmental Protection Act 1990[19]. Wastes would be managed in accordance with the waste hierarchy as set out in the Waste (England and Wales) Regulations 2011, any waste capable of being recycled would be sent to an appropriate recycling waste management facility.

16.3.23 During the operational phase of the Scheme, waste arisings are expected to be minimal and are not anticipated to result in a significant effect.

Decommissioning Phase

16.3.24 During the decommissioning phase it is expected that a number of waste streams will be created. They are likely to include the following:

- Solar panels and mounting structures;
- Cables;
- Fencing;
- Waste materials from foundations;

- Electrical equipment;
- Energy storage i.e. batteries;
- Welfare facility waste;
- Waste chemicals, fuels and oils;
- Waste metals.

16.3.25 The majority of the mounting structures, cabling and fencing are comprised of metal and are readily recyclable. PV panels comprise aluminium frames, laminated glass, silicon cells and polymer sheeting. PV panels would be dismantled and the panels separated into their component parts to allow the constituent elements to be recycled. At the point of decommissioning, all of the panels would be removed to a PV panel recycling facility. The resource value of the various components of the panels, along with the legislative requirements of the waste management regime, mean that the vast majority of the PV infrastructure would be recycled.

16.3.26 Other associated infrastructure, such as the transformers, will be removed from their concrete foundations and will be transported via HGV off site. The equipment will either be re-used or recycled where possible.

16.3.27 When removing the substation, the infrastructure will be loaded onto an abnormal indivisible load vehicle (AIL) and removed from site in much the same way as it was delivered to site. The area will be returned to its former condition and the substation likely to be refurbished and re-used on another site or taken to a recycling facility.

16.3.28 The inverter and transformer platforms and concrete foundations will be broken up and removed off site. The crushed foundations will be provided to a licensed waste transfer station for appropriate disposal or sold as recycled aggregate. Any uneven ground will be reinstated to its former condition.

16.3.29 All tracks will be restored to the previous condition. The aggregate used for the internal tracks will be recovered, loaded onto HGVs and transported off site for re-use at another site or to a recycling facility.

16.3.30 Underground cables will be disconnected from the local electricity network and removed from site, but with conduits and other material more than 1m below ground level left in-situ.

16.3.31 Table 16.6 below provides an estimate of the waste volumes likely to be generated during the decommissioning phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice and implementation of the **outline Waste Management Plan [EN010141/DR/7.12]** which would be implemented for each phase of the Scheme.

Table 16.6: Decommissioning phase waste estimates and fate

Waste Type	Tonnage / Unit	Fate
General Waste (e.g. from operations and maintenance buildings units)	~ 70 t	50% recycle / 50% landfill or energy recovery
Solar photovoltaic modules	~ 26,400 t	90% recycle / 10% landfill or energy recovery
Solar mounting structures	~ 5,800 t	100% recycle
Inverters	~ 1,040 t	90% recycle / 10% landfill or energy recovery
Solar transformers	~ 1,900 t	90% recycle / 10% landfill or energy recovery
Battery storage units	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Battery transformers	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Cabling	~ 3,580 t	95% recycle / 5% landfill or energy recovery

Waste Type	Tonnage / Unit	Fate
Fencing	~ 450 t	90% recycle / 10% landfill or energy recovery
Concrete Waste (e.g. excess concrete mix, spillage that hardens)	~ 26,400 t	90% recycle or recovery / 10% landfill
Aggregate Waste (e.g. surplus gravel / sand from works)	~ 30,000 t	90% recycle or recovery / 10% landfill
Cement-Bound Sand Waste (e.g. excess backfill material)	~ 17,500 t	90% recycle or recovery / 10% landfill

16.3.32 All waste transported off site will be delivered to appropriately licenced receivers of such materials. Operators receiving any waste materials resulting from the Scheme will be subject to their own consenting procedures. It is worth noting that it is not possible to forecast the capacity of the landfill sites for decommissioning at this stage due to potential change in waste generation and operators at that time.

16.3.33 Waste arisings will be prevented and designed out where possible. Opportunities to re-use material resources will be sought where practicable. Where re-use and prevention are not possible, waste arisings will be managed in line with the Waste Hierarchy.

Waste Capacity

16.3.34 In terms of the fate of waste materials, reasonable estimates have been provided for the level of recycling. However, it is recognised within the solar and BESS industries that there will be a need for recycling facilities to be upscaled over time. Nonetheless, there are already companies and technologies that achieve very high recycling and recovery rates from solar PV panels and BESS units, and this technology is only likely to advance over

time, particularly considering the value of the constituent materials which form the basis of these components.

16.3.35 Based on the above, the vast majority of waste produced during the project lifecycle would be recycled or reused. Estimates for the landfill or energy recovery of waste is provided in Table 16.7.

Table 16.7: Landfill or energy recovery tonnages

Phase	Destination	Tonnage
Construction	Non-Hazardous landfill / energy recovery	~396
	Inert landfill	~483
	Hazardous landfill / incineration	<1
Operation	Non-Hazardous landfill / energy recovery	~4,050
	Inert landfill	0
	Hazardous landfill / incineration	<1
Decommissioning	Non-Hazardous landfill / energy recovery	~3,633
	Inert landfill	~7,390
	Hazardous landfill / incineration	<1

16.3.36 The Scheme straddles the administrative boundary of Cambridgeshire in the east and Bedfordshire in the west. This section of the report reviews the waste management capacity available within each authority in turn, to determine whether or not there is sufficient available to accommodate the volumes of waste set out above, taking into account other waste arisings in the local area.

Cambridgeshire

16.3.37 In Cambridgeshire, the Cambridgeshire and Peterborough Minerals and Waste Local Plan was adopted by Cambridgeshire County Council in July 2021 and provides the framework for waste development until 2036. The waste forecasts used for the plan indicate that waste arising from within the local plan area could increase to 3.163Mtpa by the end of the plan period (2036), added to which would be the need to provide additional waste capacity of more than local significance (a proportion of London's waste). The plan recognises that London is moving towards net self-sufficiency, but nonetheless some provision for landfill of some of London's household and commercial and industrial (C&I) waste is made in the early part of the plan period (until 2026).

16.3.38 The Cambridgeshire and Peterborough Minerals and Waste Local Plan was adopted using the Cambridgeshire and Peterborough Waste Need Assessment (2019) which details estimated arising, forecasts, and capacity in order to achieve net self-sufficiency in relation to the management of waste arising from the plan area (plus London apportionment up to 2026).

16.3.39 The Waste Need Assessment identifies a recycling capacity gap (municipal and C&I) of approximately 22,000tpa in 2026 increasing up to circa 120,000tpa in 2036. The assessment indicates a surplus capacity of circa 124,000tpa of compost reducing to 100,000tpa in 2036; and a surplus capacity of circa 410,000tpa of construction, demolition and excavation (CD&E) recycling from 2026 through to 2036. This is calculated on the basis that the existing capacity is taken to be that which is operational, however there are several sites identified within the plan that are permitted but not yet operational. It is assumed that these are likely to contribute towards the waste management capacity up to the later years of the plant period.

16.3.40 To address the, albeit limited capacity gap, the Minerals and Waste Local Plan supports opportunities to contribute positively to the sustainable management of waste and looks to encourage development of recycling proposals to assist in achieving the aspiration of moving waste up the waste hierarchy. The Plan identifies sites (operational and committed with planning

permission but not operational at the point of adoption) that make up a significant contribution to managing any waste but does not allocate any sites for future waste management development (Waste Management Areas – WMAS). The Council has determined that any future need across the plan period beyond that, is considered under a broad spatial criteria-based policy that directs proposals to suitable sites.

16.3.41 Irrespective of the limited waste capacity available, it is unlikely that current capacity could accommodate some of the more specialised wastes, such as battery and PV panel waste. Nonetheless, it is noted in the decision by the Secretary of State for East Yorkshire Solar Farm[1], although the capacity of facilities to handle decommissioned solar PV panels is still developing, the recycling industry is likely to respond to demand over time.

16.3.42 In terms of energy recovery, the Plan confirms that a capacity gap was identified within the Waste Need Assessment for treatment and other forms of recovery, however permitted sites that are not yet operational, but considered likely to be operational within the first half of the plan period would be able to take up any capacity gap identified. Crucially, the figures provided within the Plan include permitted but not operational development.

16.3.43 Specifically, this includes implementation of a historic planning consent for a 650,000tpa EfW in Peterborough. This facility received planning consent from the Secretary of State in November 2009, but has thus far, yet to be built. In July 2018 the permission was varied with regard to changes to layout. The proposed development, incorporating technology approved under Section 36 consent, would generate 42.7MW with an expected feedstock of 595,000tpa.

16.3.44 Also critical to whether there is a future capacity gap, the Wisbech Incinerator (Energy from Waste) Facility known as Medworth CHP received consent from the Secretary of State for the Department for Energy Security and Net Zero in February 2024. On the 7 November 2024 the SoS issued a Correction

[1] *SoS Decision letter for East Yorkshire Solar Farm, 9 May 2025 and ExA report ref 3.13.50 and 3.13.51*

Notice and Correction Order to make corrections to the Medworth Energy from Waste Combined Heat and Power Order 2024, and in February 2025 construction began on the 500ktpa >50MW EfW. Separately, the Veolia Peterborough EfW has been operational since 2015, and is capable of handling 110ktpa of residual waste to generate 7.25MW. These three facilities in conjunction with a series of additional small scale Anaerobic Digestion (AD) and other physical / chemical treatment processes helps to ensure net self-sufficiency for the Cambridgeshire / Peterborough sub-region.

16.3.45 The Authority continues to have limited available landfill capacity, principally that being left through remaining capacity at Waterbeach, albeit the Waste Need Assessment identifies a shortfall in both non-hazardous landfill for municipal and C&I waste, and CD&E recovery up to the end of the plan period. The deficit in inert recovery and landfill can be accommodated through void space created from mineral extraction operations that are permitted over the plan period, and by not applying the capacity for recycling, treatment or recovery. The Authority is satisfied that the small gap in available capacity will ultimately close.

Bedfordshire

16.3.46 The Waste Local Plan within Bedfordshire represents a Joint Plan provided by Central Bedfordshire Council, Bedford Borough Council, and Luton Borough Council. The Minerals and Waste Local Plan was adopted by the three boroughs in 2014 and runs until 2028. The Plan is supported by Waste Technical Evidence Paper 2: *Assessment of Need for Additional Waste Management Capacity (March 2012)*. Taking the latest available data i.e. that set out in the 2014 Plan, it is noted that waste arisings to be managed by the joint authorities at 2028/29 (tonnes) are 946,000. The Plan also predicts future additional capacity (i.e. the amount by which capacity should increase each year) escalating across the plan period maximising with 229,000 tonnes in 2028 /29.

16.3.47 Only operational waste management capacity was used to calculate predicted future requirements, and no account was taken of facilities that have planning consent, which remained unconstructed. In this context, the development of Rookery South Energy Recovery Facility was consented 2011 but had not been constructed at the time of the Strategic Sites and Policies Plan. The facility has since been constructed and now provides circa 545,000 tonnes of available capacity.

16.3.48 The Bedfordshire Plan identifies four strategic waste management sites (Policy WSP2) at which large-scale recovery and other built waste management should take place. In addition, a single site is identified for disposal by landfilling. These strategically located large scale sites[2] are provided to ensure that sufficient capacity will exist to meet any future need.

16.3.49 Based on the above, it is apparent that there is sufficient recovery and disposal capacity either in place or planned for to accommodate the volumes of waste set out within Table 16.7 taking into account other waste arising in the area.

Summary

16.3.50 The assessment has concluded that there would be no significant effects resulting from the Scheme.

[2] *Elstow North; Land at Former Bromborough Landfill; Rookery Pit South; Land at Thorn Turn*

16.4 Major Accidents and Disasters

Introduction

16.4.1 This section summarises the potential effects of the Scheme as a result of major accidents or disasters.

Legislation, Policy and Guidance

16.4.2 Schedule 4 paragraph 8 of the EIA Regulations requires that an ES includes a description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned. Further, that where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events and the approach to managing emergencies.

16.4.3 In relation to major accidents the EIA Regulations refer to Directive 2012/18/EU[20] (the control of major-accident hazards involving dangerous substances). This directive defines major accidents as:

> *"an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment covered by this Directive, and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances."*

16.4.4 The reference to disasters is interpreted to relate to natural events, as indicated by the preamble to the 2014 Directive (2014/52/EU)[21] which states at paragraph 15:

> *"In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because of their vulnerability to major accidents, and/or natural*

disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment".

16.4.5 Nonetheless, it is recognised that disasters can occur as a result of human intervention e.g., conflict and war, political influences etc.

16.4.6 The following relevant guidance has been considered as part of this assessment of major accidents and disasters:

- *Major Accidents and Disasters in EIA: A Primer*, produced by the Institute for Environmental Management and Assessment in 2020[22];
- *Grid Scale Energy Storage System Planning – Guidance for Fire and Rescue Services*, produced by the National Fire Chiefs Council (NFCC) in 2023[23]; and
- *Draft Grid Scale Energy Storage System Planning – Guidance for Fire and Rescue Services*, published for consultation by the NFCC in July 2024.

Approach

16.4.7 In general, 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.

16.4.8 A shortlist has been drawn up of potential major accidents or disasters that could affect the Scheme with reference to the UK Risk Register and the approach taken on other comparable solar NSIPs.

16.4.9 The Scheme is located within a politically, geologically, and meteorologically stable part of Europe. Accordingly, the Scheme is not at material risk from, for example, civil unrest, war, earthquakes, or extreme weather conditions (hurricanes etc.). The shortlist is therefore as follows:

- Flood Risk
- Fire Risk
- Road Incidents
- Aircraft Incidents
- Utilities
- Unexploded Ordnance

Assessment of Potential Effects

Flood Risk

16.4.10 The impact of flooding and effects of the Scheme on flood risk have been assessed as part of **ES Vol 1 Chapter 8: Hydrology and Flood Risk [EN010141/DR/6.1]** and **ES Vol 2 Appendix 8-1: Flood Risk Assessment [EN010141/DR/6.2]**.

16.4.11 The Scheme has been designed to ensure that critical components of infrastructure would not be affected by extreme flood events and that the Scheme will not exacerbate flood risk elsewhere.

16.4.12 The flood risk assessment concludes that there would be no significant effects as a result of flood risk, including when accounting for future climate change. In the event of flooding there would be no likely significant environmental effects resulting from the Scheme.

Fire Risk

16.4.13 The Scheme includes the East Park BESS (Work No. 2). The battery storage units have the potential to generate heat and therefore there is a risk of a fire developing if the operator does not adopt sufficient management and control measures. The BESS would include cooling systems which are designed to

regulate temperatures to within safe conditions to minimise the risk of fire. The units would also contain fire detection and suppression systems.

16.4.14 The NFCC has published guidance in relation to grid scale battery energy storage systems that has informed the approach to establishing the design parameters for Work No. 2, and the **outline Battery Safety Management Plan [EN010141/DR/7.10]**.

16.4.15 The NFCC guidance for BESS notes that consideration should be given within the site design to the management of water run-off such that in an emergency situation where polluted water may run-off from the facility this can be safely contained and treated, rather than risking pollution of groundwater or local watercourses. To achieve this an impermeable surface would be required for the BESS, likely to be concrete or an impermeable membrane, such that any run-off can be directed towards a retention basin. In normal operation the retention basin would allow rainwater to pass through and drain to a nearby watercourse (as set out in the **outline Surface Water Management Plan [EN010141/DR/7.13**), but if a fire was detected an automatic sluice would be operated to isolate the retention basin and prevent any run-off for a period of time. This would allow the run-off to be collected and treated in an appropriate way. The retention basin would be secured by Work No. 6B as set out in **ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]**.

16.4.16 An **outline Battery Safety Management Plan (oBSMP) [EN010141/DR/7.10]** has been prepared as part of the application, with compliance secured by a requirement of the DCO. The oBSMP sets out the regulatory guidance reviewed to ensure that all safety concerns around the BESS element of the Scheme are addressed so far as is reasonably practicable such that likely significant effects would not arise.

16.4.17

16.4.18 An air quality assessment of unplanned emissions from a BESS fire during the operation and maintenance of the Scheme has been undertaken. This is

provided as an appendix to the **outline Battery Safety Management Plan (oBSMP) [EN010141/DR/7.10]**.

16.4.19 The assessment has been undertaken using an atmospheric dispersion model (ADMS-6) to determine the determine the likely effects on human health from a potential BESS fire. The assessment concludes that based on the factors of distance to the nearest locations of human exposure and the anticipated short-term nature of a fire incident, there would be no significant air quality effects as a result of a BESS fire incident.

16.4.20 If the DCO is granted, the, oBSMP will be developed into a final management plan as a requirement of the DCO with approval by the Local Planning Authorities (LPA) prior to construction.

16.4.21 Following adoption of the above embedded mitigation measures, the risk resulting from fire would be low, and there would be no likely significant environmental effects resulting from the Scheme.

Road Incidents

16.4.22 The effects of the Scheme on highway accidents safety have been assessed as part of **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]**. The assessment concludes that the Scheme would not likely exacerbate the frequency or severity of road incidents in the local area. An overall negligible effect is concluded, which is not significant.

16.4.23 Glint and glare impacts on local highway users are also considered in the **ES Vol 2 Appendix 5-6: Glint and Glare Assessment [EN010141/DR/6.2]**. The assessment concludes that impacts are acceptable and not significant.

Aircraft Incidents

16.4.24 The potential for glint and glare impacts on aircraft using local airfields has been assessed in **ES Vol 2 Appendix 5-6: Glint and Glare Assessment [EN010141/DR/6.2]**. The assessment concludes that impacts on all aviation assets are acceptable and not significant.

Utilities

16.4.25 The Site is crossed by a number of utility corridors, including high pressure gas pipelines, water mains, and overhead electrical lines. The design of the Scheme take into account the easement and separation distances required by the owners and operators of the various utilities, as set out in **ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]**. These buffers are, in part, designed to safeguard the utilities from damage or disruption. Where it is necessary to cross utilities, particularly during the construction phase, it will be necessary to agree safe working practices with the utility operators prior to undertaking works. All works would be undertaken in accordance with the Health and Safety at Work Act 1974[24], Management of Health and Safety at Work Regulations 1999[25], CDM Regulations 2015[26] and the Pipelines Safety Regulations 1996[27].

16.4.26 On the basis of the proposed approach to the design and the mitigation that would be implemented during construction, there would not be a significant likelihood of damage to utilities at the Site.

Unexploded Ordnance

16.4.27 An Unexploded Ordnance (UXO) Desk Based Risk Assessment (*Appendix E* of **ES Vol 2 Appendix 12-1 [EN010141/DR/6.2]**) undertaken by a specialist consultancy (First Line Defence) has identified the potential for UXO at the Site. The findings of the UXO Risk Assessment are:

- Risk of both German and anti-aircraft unexploded ordnance: Part of East Park Site B including the sections between Keysoe and Little Staughton, surrounding Lodge Farm and the former Kangaroo Inn, have been elevated to Medium Risk for UXO, whereas the remainder of the Site is attributed a Low Risk.
- Risk of Allied Ordnance: The Site is attributed as a Low Risk from the potential of such UXO.

16.4.28 The UXO specialist has therefore made the following recommendations:

- a UXO Risk Management Plan is prepared and adopted for the Site and site-specific UXO awareness briefings are given to all personnel involved in the development who will conduct intrusive works; and,
- Within the areas designated as a having a Medium Risk of UXO, there should be a UXO specialist on-site support wherever excavation is proposed and an intrusive downhole magnetometer survey should be undertaken where boreholes and piled foundations are proposed.

16.4.29 The **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3]** sets out that a UXO Management Plan will be prepared prior to construction commencing. If the DCO is granted, the, oCEMP will be developed into a final management plan as a requirement of the DCO with approval by the Local Planning Authorities (LPA) prior to construction. All works across the Site will be required to accord with the UXO Management Plan, and site-specific UXO Awareness Briefings will be given to all operatives undertaking intrusive works.

16.4.30 In certain areas identified by the UXO Management Plan, an Intrusive Magnetometer Survey of all pile locations and excavations will be undertaken down to the maximum bomb penetration depth.

16.4.31 A UXO Specialist will be available at all times during the construction and decommissioning phases to monitor works as required using visual recognition and instrumentation, and respond to reports of suspicious objects.

16.4.32 Following adoption of the above embedded mitigation measures, the risk resulting from UXO would be low, and there would be no significant environmental effects resulting from the Scheme.

Summary

16.4.33 The assessment has concluded that the Scheme is at a low risk from major accidents and disasters, meaning that it is therefore unlikely that associated significant environmental effects would occur.

16.5 Electromagnetic Fields

16.5.1 The East Park substation and the grid connection between the East Park substation and the Eaton Socon Substation are rated at 400 kV and therefore in accordance with *DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012*[28] have the potential to cause adverse impacts as a result of electromagnetic fields (EMFs).

16.5.2 National Policy Statement for Electricity Networks Infrastructure (EN-5)[29] states that:

> *EMFs comprise electric and magnetic fields. Electric fields are the result of voltages applied to electrical conductors and equipment. Fences, shrubs and buildings easily block electric fields. Magnetic fields are produced by the flow of electric current; however, unlike electric fields, most materials do not readily block magnetic fields. The intensity of both electric fields and magnetic fields diminishes with increasing distance from the source. (paragraph 2.9.45)*
>
> *All overhead power lines produce EMFs. These tend to be highest directly under a line and decrease to the sides at increasing distance. Although putting cables underground eliminates the electric field, they still produce magnetic fields, which are highest directly above the cable. EMFs can have both direct and indirect effects on human health, aquatic and terrestrial organisms. (paragraph 2.9.46)*
>
> *The levels of EMFs produced by power lines in normal operation are usually considerably lower than the ICNIRP 1998 reference levels. For electricity substations, the EMFs close to the sites tend to be dictated by the overhead lines and cables entering the installation, not the equipment within the site. (paragraph 2.9.51)*
>
> *In March 2004, the National Radiological Protection Board (now part of NIHP CRCE), published advice on limiting public exposure to*

electromagnetic fields. The advice recommended the adoption in the UK of the EMF exposure guidelines published by ICNIRP in 1998. (paragraph 2.9.54)

These guidelines also form the basis of the Control of Electromagnetic Fields at Work Regulations 2016. Resulting from these recommendations, government policy is that exposure of the public should comply with the ICNIRP 1998 guidelines. The electricity industry has agreed to follow this policy. Applications should show evidence of this compliance as specified in 2.10.11.

16.5.3 The 400 kV grid connection as part of the Scheme would be entirely underground. Electric field effects therefore cannot occur as the electric field is screened by the cable sheathing. For magnetic field effects, the UK has set out that exposure should comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidance exposure limits, which is 360 microteslas (μT).

16.5.4 National Grid has produced a document '*Undergrounding High Voltage Electricity Transmission Lines: The Technical Issues*' which was issued in January 2015 and at Section 9 covers the potential for electromagnetic fields from underground cables. The document sets out the potential magnetic field from underground buried 400 kV cables, as per Table 16.8 below.

16.5.5 The National Grid guidance also notes that:

"As the source of a magnetic field is approached the field gets higher. Cables are typically installed 1m below ground, whereas the conductors of an overhead line are typically more than 10m above ground, so the magnetic field directly above such a cable is usually higher than that directly below the equivalent overhead line.

However, as the individual cables are installed much closer together than the conductors of an overhead line, this results in the magnetic field from cables falling more quickly with distance than the magnetic

field from overhead lines. Overall, then, directly above the cable and for a small distance to the sides, the cable produces the larger field; but at larger distances to the sides, the cable produces a lower field than the overhead line, as shown in the table below."

Table 16.8 Magnetic fields for buried underground cables

				Magnetic field in µT at distance from centreline			
				0m	5m	10m	20m
400kV Underground Cable	Trough	0.13m Spacing, 0.3m Depth	Max.	83	7	1.8	0.5
			Typical	21	2	0.5	0.1
	Direct Buried	0.5m Spacing, 0.9m Depth	Max.	96	13	3.6	0.9
			Typical	24	3	0.9	0.2
	Deep Bore Tunnel	25m Depth	Max.	0.11	0.10	0.09	0.05
			Typical	0.03	0.03	0.02	0.01

16.5.6 The above table demonstrates that the maximum magnetic field possible would be 96 µT, which is considerably lower than the UK exposure limit of 360 µT.

16.5.7 The above data demonstrates that 400 kV underground cables such as that proposed as part of the Scheme do not pose a significant risk to human health.

16.5.8 National Grid's 'Electric and Magnetic Fields' website states that "*underground cables will always produce magnetic fields that comply with the UK exposure guidelines*"[30].

16.5.9 Furthermore, NPS EN-5 states at paragraph 2.9.58 that:

"There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences."

16.5.10 It can therefore be reasonably concluded that there would be no significant effects as a result of electromagnetic fields, and that no further mitigation is required.

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