Lime Down
Solar Park

Environmental Statement

Volume 1, Chapter 20: Other Environmental Matters

September 2025

Revision 1

Planning Inspectorate Reference: EN010168

Document Reference: APP/6.1

APFP Regulation 5(2)(a)

List of Contents

List of Tables

20 Other Environmental Matters

20.1 Introduction

20.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) of the environmental topics that are not presented as individual chapters. These topics are not scoped out of the environmental assessment, rather they are included within this single chapter to provide an assessment proportionate to the nature of the impacts identified.

20.1.2 This chapter describes and assesses the potential effects of the Scheme on:

- Minerals (Section 20.2);
- Materials and Waste (Section 20.3);
- Telecommunications, Utilities and Television (Section 20.4);
- Glint and Glare (Section 20.5);
- Electromagnetic Fields (Section 20.6); and
- Major Accidents and Disasters (Section 20.7).

20.1.3 Subsequent to the EIA Scoping Report (Ref 20-1), Ground Conditions and Contamination is assessed in a standalone **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1].**

Development Parameters Assessed

20.1.4 **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]** sets out the development parameters for the Scheme against which the effects covered in this chapter have been assessed.

20.1.5 **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** sets out the worst-case parameters. The peak construction year for the purpose of the EIA is anticipated to be 2028, assuming commencement of construction in 2027 and the Scheme is built out over a 24-month period.

20.1.6 The assessment has been based on likely worst-case parameters, in accordance with the Rochdale Envelope approach. The actual impacts of the Scheme may therefore be less than anticipated within these assessments if the Scheme is built to a differing design within the worst-case parameters.

20.2 Minerals

Introduction

20.2.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects on Mineral resources which are relevant to the Scheme.

20.2.2 This section is supported by **ES Volume 2, Figure 20-1: Minerals Constraints [EN010168/APP/6.2]** and **ES Volume 3, Appendix 20-1: Minerals Legislation, Policy and Guidance [EN010168/APP/6.3]**.

Consultation

20.2.3 A request for an Environmental Impact Assessment (EIA) Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3**, **Appendix 1-2: Scoping Opinion Response Table [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-1** below.

Table 20-1: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.162	The Planning Inspectorate raised one matter regarding the scope of the minerals assessment and agreed that a standalone chapter was not necessary.	The minerals assessment has therefore been included as part of this Other Environmental Matters chapter.

20.2.4 Engagement has been undertaken with stakeholders comprising minerals. The matters raised are summarised in **Table 20-2** below.

Table 20-2: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Wiltshire Council as the Minerals Planning Authority February 2024 and 3 May 2024	Requested the minerals Geographic Information System (GIS) data used to produce the Wiltshire and Swindon Materials and Waste Development Framework. The data supplied included several inconsistencies the Policies Map. Wiltshire County Council confirmed via email the GIS data was out of date and should be disregarded.	Digitised data from the published Wiltshire and Swindon Minerals and Waste Development Framework Policies Map has been used in its place for the assessment

20.2.5 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to minerals are presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.2.6 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1].**

Legislation and Planning Policy

20.2.7 A summary of applicable legislation, planning policy and other guidance documents relating to Minerals pertinent to the Scheme is provided below. Further details can be found in **Appendix 20-1: Minerals Legislation, Policy and Guidance [EN010168/APP/6.3]**.

20.2.8 Full details of the legislation, policy, and guidance of relevance to the assessment of Minerals is provided in full in **ES Volume 1, Chapter 5: Energy Need Legislative Context and Energy Policy [EN010168/APP/6.1]**.

Legislation

20.2.9 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 20-1) are relevant to the Scheme and minerals assessment. Schedule 4, Clause 5 of the EIA Regulations stipulates that a description of the likely significant effects of the development on the environment resulting from the use of natural resources should be included with an ES and, therefore, this section of the Other Environmental Matters Chapter addresses this for minerals.

National Planning Policy

20.2.10 The National Policy Statements (NPSs) that are relevant to the Scheme are:

- Overarching National Policy Statement for Energy (EN-1) (Ref 20-2);
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 20-3); and
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref 20-4).

20.2.11 The NPSs listed above came into effect on 17 January 2024. These NPSs set out the Government's energy policy for the delivery of nationally significant energy infrastructure, the need for new energy infrastructure, and guidance for the determination of an application for a Development Consent Order (DCO).

20.2.12 The relevant NPS requirements, together of an indication of where in the ES the information is provided to address these requirements, are provided in **ES Volume 3, Appendix 5-1: National Policy Statement Requirements [EN010168/APP/6.3].**

20.2.13 The National Planning Policy Framework (NPPF) (December 2024) (Ref 20-5) sets out the Government's planning policies for England and how these are expected to be applied.

20.2.14 The NPPF recognises that it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. It therefore requires mineral planning authorities to provide for the extraction of mineral resources of local and national importance through the identification of sites for mineral extraction and to safeguard mineral resources in order that they are not sterilised by non-mineral development where this should be avoided. It goes to advise local planning authorities to avoid permitting other development proposals in Mineral Safeguarding Areas (MSA) if it might constrain future mineral extraction.

Local Planning Policy

20.2.15 Local planning policies that are relevant to the Scheme and minerals are:

- Wiltshire and Swindon Minerals Core Strategy Development Plan Document (June 2009) (Ref 20-6);
- Wiltshire and Swindon Minerals Development Control Policies Development Plan Document (September 2009) (Ref 20-7); and
- Wiltshire and Swindon Aggregate Minerals Site Allocations Local Plan (May 2013) (Ref 20-8).

20.2.16 Together these documents provide the basis for mineral supply in Wiltshire and Swindon, identify sites for future mineral extraction, and make provision to safeguard existing mineral sites and resources. For the purposes of this assessment, these documents are referred to collectively as the 'Wiltshire and Swindon Minerals Local Plan'. This assessment has considered the provisions and policies of the Wiltshire and Swindon Minerals Local Plan as they apply to the Scheme and considered the potential impacts on identified mineral resources.

Other Guidance

20.2.17 Other guidance documents relevant to the assessment of the impacts of the Scheme on minerals include:

- Mineral Safeguarding in England Good Practice Advice (British Geological Society (BGS)) (Ref 20-9); and
- Mineral Safeguarding Practice Guidance (Mineral Products Association and Planning Officers Society) April 2019 (Ref 20-10).

20.2.18 The assessment takes account of these published good practice guidance.

Assessment Assumptions and Limitations

20.2.19 This assessment is based on a desktop exercise and relies wholly on published geological information. No mineral trial pit or boreholes have been sunk specifically in association with the Scheme. In addition, no mineral samples have been collected for analysis to determine whether any identified deposits are of economic value. This assessment assumes that all identified safeguarded mineral deposits are present and are of sufficient depth and quality to be of economic value. As the Scheme is temporary in nature, involves limited excavations, it is considered that a desktop-based assessment using published information is an adequate basis to consider the impact on mineral resources.

Study Area

20.2.20 The minerals assessment has considered a Study Area comprising the full extent of the Scheme, together with a 1km buffer extending from the Solar PV Sites and the Cable Route Corridor . The extent of the Study Area is shown in **ES Volume 2, Figure 20-1: Minerals Constraints [EN010168/APP/6.2]**.

20.2.21 The 1km buffer is based upon the consultation requirements for proposals considered to be incompatible with affected minerals, as set out in Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8). Incompatible proposals located close to MSAs and mineral related developments may lead to sterilisation of part of the resource. The BGS good practice advice (Ref 20-9) suggests that it may be appropriate to extend MSAs beyond the resource boundary to take account of such risks. Although the Solar PV Panels, Battery Energy Storage System (BESS Area), and associated infrastructure are not considered to be particularly unfavourable to mineral related developments, adopting a 1km buffer ensures potential impacts on all mineral resources, including existing mineral extraction sites, are considered.

Assessment Methodology

Sources of Information

20.2.22 In the preparation of this chapter, the following sources of published information have been used:

- BGS Mineral Resource Report for Wilshire (Ref 20-9);
- Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8); and
- Wiltshire Council and Swindon Borough Council (2023) Wiltshire and Swindon Local Aggregate Assessment 2022 (Ref 20-11).

Impact Assessment Methodology

20.2.23 The assessment of likely significant effects identifies how the Scheme is predicted to affect identified mineral resources and the significance of those effects. The assessment process takes account of published good practice guidance, such as the BGS Mineral Safeguarding in England Good Practice Advice (Ref 20-11) and other relevant policies outlined in **ES Volume 3, Appendix 20-1: Minerals Legislation, Planning Policy and Guidance [EN010168/APP/6.3].**

20.2.24 The predicted significance of the effect is determined through a standard method of assessment as set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and based on professional judgement which considers both the sensitivity of identified receptors and the magnitude of change.

20.2.25 For this assessment, a high sensitivity receptor is an existing quarry or site-specific allocation for future mineral working. This is because these sites have already been through a selection process and are either contributing or will be contributing to sustaining the economy and society. A high sensitivity site would also include safeguarded nationally scarce mineral resources or mineral resources of exceptional quality.

20.2.26 A medium sensitivity receptor is an identified local or widespread mineral resource which is protected so other development does not needlessly prevent the future exploitation of the resource and ensure non-renewable resources are conserved and safeguarded for future generations.

20.2.27 A low sensitivity site does not contain any known mineral resources of economic interest.

20.2.28 A high impact development prevents the future exploitation of a known mineral resource. This can either be through direct destruction of the

resource through ground disturbance or effectively physically preventing access to a mineral resource by way of surface development.

20.2.29 A medium impact development for a mineral resource would add significant constraints for future exploitation. This could either be in the form of introducing sensitive land uses adjacent to the mineral resource or by bisecting the resource with, for example, a roadway, cable, or pipeline. These add constraints to future mineral working which would inhibit the full exploitation of the resource.

20.2.30 A low impact development either does not inhibit future exploitation of the mineral resource or includes mitigation to ensure the mineral resource is not sterilised, for example, by winning and working the mineral reserve prior to the development taking place.

20.2.31 The effect of the Scheme has been considered as a whole with no distinction in terms of the effect on mineral resources between construction, operation and maintenance, and decommissioning phases. This is on the basis that as soon as construction commences the impact on mineral resources is considered to occur and remains until the Scheme is decommissioned. However, during the construction phase, the trenching works associated with the cable installation could raise specific short term operational issues in respect of the underground workings within the Cable Route Corridor. These potential impacts have been specifically identified and assessed.

20.2.32 Assessment of the likely significant effects of the Scheme on mineral resources considers a number of parameters including the extent, magnitude, duration, and reversibility of the Scheme, as well as the extent, likely quality, and situation of the mineral reserve. The significance is assessed based on the potential effects to identified mineral resources in terms of national and local planning policy.

Baseline Conditions

20.2.33 This section describes the existing and anticipated future baseline conditions for the minerals assessment.

Existing Baseline

20.2.34 The existing baseline conditions are derived from desk-based studies.

20.2.35 The likely mineral resources within the Study Area have been identified using published geological information from the BGS (Ref 20-9) and Wiltshire Council as the Mineral Planning Authority (MPA) together with relevant available borehole information and a review of current and historic mineral workings in the vicinity.

20.2.36 The BGS Mineral Resource Maps provide the best available geological and resource information on the broad extent of minerals resources in Wiltshire (Ref 20-9) and have been used to assist the identification of mineral resources in the Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8). The Study Area has been considered in the context of the applicable mineral resource planning policies.

20.2.37 The mineral interest is determined by the underlying geology. Within the Site, the surface bedrock is a series of sedimentary beds dating from the Jurassic period. The oldest occurring bedrock is mudstone, progressing to limestone and younger mudstones and sandstone. The strata is generally progressively younger moving from west to east across the Site. The bedrock is overlain in places by quaternary superficial deposits of alluvium, clays, silts, sand and gravels principally of fluvial origin.

20.2.38 In terms of the Solar PV Sites, the BGS (Ref 20-9) have previously identified the limestone outcrops (the Cornbrash Formation) occurring within parts of Lime Down C, D and E as being of potential mineral interest. However, there is no evidence of any significant mineral working relating to these deposits in the Study Area, or of Cornbrash Formation being exploited at a significant level in Wiltshire. There are no safeguarded mineral resources within the Solar PV Sites identified in the Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8). The Cable Route Corridor between each of the Solar PV Sites (the Interconnecting Cables) do not affect any safeguarded minerals.

20.2.39 The Cable Route Corridor (Grid Connection Cables) running south from the Solar PV Sites and the Existing National Grid Melksham Substation, however does cross a Mineral Safeguarding Area (MSA) between Corsham and Whitley. The MSA is identified in the Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8). The area of the MSA affected extends to 27.2 hectares (ha). Within this MSA, the Cable Route Corridor also crosses the permitted area of Monks Park Mine, where oolitic limestone is worked for building stone. The stone is mined approximately 20 to 30m below ground surface. The mine extends to approximately 125ha with the entrance located within a 1.25ha surface yard area off Monks Lane approximately 700m west of Gastard. The Cable Route Corridor affects approximately 10.4ha of the permitted area associated with Monks Park Mine on the eastern side. The Mine entrance associated yard and vehicular access lie outside the Cable Route Corridor but are within the Study Area.

20.2.40 To the west of Monks Park Mine is Park Lane Quarry. Park Lane Quarry is a separate mine also extracting oolitic limestone for building stone. The permitted area of this mine is unaffected by the Cable Route Corridor but is partially within the Study Area.

20.2.41 The BGS identify River Terrace Deposits associated with the River Avon as a potential mineral resource. These superficial fluvial sand and gravel deposits south of Chippenham are identified as another MSA and a Mineral Resource Zone (MRZ) in the Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8). This MRZ (referred to as the Bristol Avon MRZ) is identified as a potential area for future sand and gravel supply in Wiltshire. The Cable Route Corridor as it approaches the Existing National Grid Melksham Substation, southeast of Whitley, affects approximately 3.7ha of the Bristol Avon MRZ.

Future Baseline

20.2.42 This section considers those changes to the baseline conditions, described above, that might occur in the absence of the Scheme and during the time period over which the Scheme would have been in place.

20.2.43 The future baseline scenarios are set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and described for minerals below.

20.2.44 The baseline is the current geological strata, changes to which occur in timescales which are irrelevant to the Scheme.

20.2.45 However, in absence of the Scheme, there will be some limited changes to the future baseline for mineral resources as a consequence of ongoing mineral extraction operations. This does mean some existing mineral resources being exploited and therefore will be absent in future years.

Potential Impacts

20.2.46 Embedded mitigation measures being incorporated into the design and construction of the proposed Scheme are set out in the section below. Prior to the implementation of any mitigation (embedded or additional), the proposed Scheme has the potential to affect mineral resources (positively or negatively), during construction, operation and decommissioning, in the following ways:

- Disturb a mineral deposit to the extent the deposit becomes unviable to exploit;
- Impose a constraint on mineral extraction in the local vicinity by physically preventing its exploitation; and
- Adversely affect future local mineral supply.

20.2.47 The only identified shallow mineral deposits that the Scheme has potential to affect to the extent it becomes potentially unviable to exploit in future are the superficial sand and gravel deposits within the Bristol Avon MRZ. On the basis the Scheme does not require deep excavations (as

explained below), disturbance would be limited to the surface layers rather than underlying deposits and, therefore, would not affect the long-term viability of working the identified sand and gravel resource.

Embedded Mitigation

20.2.48 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on Minerals through the process embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

20.2.49 The following embedded mitigation measures have been incorporated into the Scheme design. Note there are no relevant measures for the operational and maintenance phase of the Scheme.

Construction

- Depth of trenching of the Grid Connection Cables to be no more than approximately 2m (refer to maximum parameters in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1])** below the surface within Monks Park Mine;
- The majority of the area within of the Oolitic limestone MSA will be trenched to be no more than approximately 2m with the exception of one crossing location east of Corsham (north eastern part of the MSA);
- Construction methods including the use of smaller excavators, low ground pressure plant and long reach excavators to reduce the point load at the excavation location in areas where mining activities are taking place;
- Prior to any excavations, the owners/current operators of Monks Park Mine to be informed to ensure appropriate safety precautions are in place within the Mine during the construction works; and
- These measures are provided for in the **Outline Construction Environmental Management Plan (CEMP) [EN010168/APP/7.12]** which is secured in the **Draft DCO [EN010168/APP/3.1].**

Decommissioning

- Above ground plant and structures associated with the Scheme would be decommissioned and removed during the decommissioning phase. Such measures will restore the baseline condition of identified mineral resources; and

- Decommissioning and removal of all surface plant and structures to restore the baseline condition for the identified mineral resources. (Infrastructure is only left in the ground such as cable ducts after decommissioning where these do not present any significant constraint to future mineral extraction). Works relating to the decommissioning phase of the Scheme are set out in the **Outline Decommissioning Strategy [EN010168/APP/7.14]** which forms part of this Application. The removal of plant and structures at the end of the design life of the Scheme will be secured by this document as a DCO requirement.

Assessment of Likely Impacts and Effects

20.2.50 This section considers the potential impacts outlined in Section 20.2.46 and, taking into account the embedded mitigation measures as detailed in 20.2.48, assesses the potential for the Scheme to generate effects using the methodology as detailed in Section 20.2.22.

20.2.51 The impact of the Scheme is limited to two MSAs identified in the Wiltshire and Swindon Minerals Local Plan (Ref 20-6; Ref 20-7; Ref 20-8) and located within the Cable Route Corridor between Lime Down B, C and D and the Existing National Grid Melksham Substation. There are no other impacts expected to other identified mineral resources.

Oolitic Limestone Mineral Safeguarding Area

20.2.52 The Oolitic Limestone MSA is impacted by the Cable Route Corridor to the southeast of Corsham towards Whitley (**ES Volume 2, Figure 20-1: Minerals Constraints [EN010168/APP/6.2]**). This section of the Cable Route Corridor also crosses the permitted area of Monks Park Mine.

20.2.53 The identified mineral resource in this area of the Cable Route Corridor is building stone which is currently mined at a depth of approximately 20 to 30m below the surface. On the basis that the Grid Connection Cables are installed by way of open cut trenches, apart from one location east of Corsham on the north eastern edge of the MSA, no more than 2 metres deep, the installation of cables within the Cable Route Corridor would have minimal impact on the identified mineral resource. The Minerals Core Strategy (Ref 20-8) reports that the combined effect of low production rates and the scale of permitted reserves in the Corsham/Gastard area, the building stone 'landbank' should be sufficient to last for hundreds of years.

20.2.54 Monks Park Mine has been mothballed since 2017 and although some stone was removed in 2016/2017 the mine had, prior to that, been closed since 2006. The approved surface access to Monks Park Mine and associated yard are outside Cable Route Corridor and would be unaffected by the Scheme. The Mine workings, including the most recent

workings, extend under the Cable Route Corridor. The Mining Risk Assessment (**ES Volume 3, Appendix 19-11: Mining Risk Assessment [EN010168/APP/6.3]**) identifies a potential risk to mining operations, if any were being undertaken during the construction phase, as the excavation of trenches for the cable route and tracking of plant may impact the underground workings due to loading changes and vibrations and this could impose short term constraints on working the permitted mineral resource. The embedded mitigation for construction phase, to be delivered in the **Outline CEMP [EN010168/APP/7.12]** reduces these risks to a minimum.

20.2.55 Park Lane Quarry lies outside the Cable Route Corridor. At its closest, the southeastern corner of Park Lane Quarry is approximately 200m from the western edge of Cable Route Corridor. The installation of Grid Connection Cables within the Cable Route Corridor would have no impact on the identified mineral resource within Park Lane Quarry.

20.2.56 The sensitivity of Oolitic Limestone MSA and associated Monks Park Mine is considered to be high as the Scheme potentially affects a permitted mineral working. However, the magnitude of the impact is considered to be negligible as it is not anticipated that the Scheme would have long term impact on the permitted mineral workings nor have any significant impact on the ability to work the identified mineral resource within the MSA in the future. Therefore, the significance of effect is moderate/minor and not significant for the purposes of the assessment.

Bristol Avon Mineral Resource Zone and Mineral Safeguarding Area

20.2.57 The Cable Route Corridor affects a small area (3.7 ha) of the Bristol Avon MRZ and MSA as it approaches the Existing National Grid Melksham Substation.

20.2.58 The Cable Route Corridor has the potential to affect the future sand and gravel supply through the installation of Grid Connection Cables, potentially restricting the future exploitation of this resource for the life of the Scheme.

20.2.59 Wiltshire County Council has expressed the view that the Mineral Resource Assessment should consider the potential impact of a loss of access to mineral resources during the lifetime of the Scheme. The area of MRZ affected lies to the southwest and southeast of the Existing National Grid Melksham Substation (**ES Volume 2, Figure 20-1: Minerals Constraints [EN010168/APP/6.2]**).

20.2.60 The Scheme affects two peripheral areas of the MRZ where the mineral resource is likely to be at its thinnest. Wiltshire and Swindon Aggregate

Minerals Site Allocations Local Plan (Ref 20-8) already acknowledges that the sand and gravel deposits in the Bristol Avon MRZ are typically shallow and of poorer quality than elsewhere within Wiltshire. It adds that the minerals industry has indicated they are not keen to move to this area in the foreseeable future unless market conditions dictate otherwise.

20.2.61 To southwest of the Existing National Grid Melksham Substation, approximately 1.7ha of the Bristol Avon MRZ and MSA would be impacted by the Scheme. Potential mineral extraction in this area is already heavily constrained by existing surface development including the Existing National Grid Melksham Substation to the north and east a recently developed BESS Area to the south west and the Whitley Golf Course to the south. It is a relatively isolated piece of land with no apparent suitable access for mineral related traffic. It is considered that owing to the proximity and presence of adjoining surface development extraction of the underlying mineral is already so constrained that it is impractical to work and not available to meet Wiltshire's aggregate needs.

20.2.62 To the southeast of the Existing National Grid Melksham Substation, approximately a further 2ha of the Bristol Avon MRZ and MSA would be impacted by the Cable Route Corridor. Although this land is in agricultural use potential mineral extraction in this area is also already heavily constrained by existing surface development including the Existing National Grid Melksham Substation to the north and west and the railway between Melksham and Chippenham which forms the eastern boundary. To the south of this area is the Shurnhold Fields Country Park. Again, it is a relatively isolated piece of land with no apparent suitable access for mineral related traffic. It is considered that owing to the proximity and presence of adjoining surface development extraction of the underlying mineral is already so constrained that it is impractical to work and not available to meet Wiltshire's aggregate needs.

20.2.63 MRZs are identified to contribute towards Wiltshire's future aggregate needs and, as such, the sensitivity of Bristol Avon MRZ is considered to be medium. The magnitude of the impact is considered to be negligible as the area of MRZ affected consists of two small peripheral areas already highly constrained by existing surface development therefore, the effect is minor and not significant.

Additional Mitigation

20.2.64 As no likely significant effects have been identified in this Mineral assessment, no additional mitigation or monitoring is proposed.

Monitoring

20.2.65 As no likely significant effects have been identified for Minerals, no monitoring of significant effects is proposed.

Residual Effects and Conclusions

20.2.66 This section summarises the residual significant effects of the Scheme on Minerals following the implementation of embedded and additional mitigation. Significant residual effects are defined as moderate or major.

20.2.67 The impact of the Scheme on identified and protected mineral resources is limited to the Cable Route Corridor which crosses two identified mineral deposits, comprising building stone and sand and gravel deposits. The building stone deposit is worked by mining at depth and would be unaffected by the installation of Grid Connection Cables. The installation of cables would introduce a further constraint to working the sand and gravel deposits for the life of the Scheme, the area affected is however of limited extent, on the periphery of the deposit and already highly constrained by existing land uses to the extent that the mineral is not considered to be available to be worked.

20.2.68 On completion of the decommissioning phase, all surface development associated with the Scheme would have been removed. Potentially the Interconnecting Cables and Grid Connection Cables would be left in the ground after decommissioning. However, any below ground infrastructure that is decommissioned in situ is not anticipated to present any significant constraint to future mineral extraction as it could be removed as part of any future mineral working. This would be no different to removing other redundant subterranean infrastructure encountered during mineral extraction.

20.2.69 Overall, following the implementation of embedded mitigation, no significant residual effects have been identified.

20.2.70 See **ES Volume 1, Chapter 22: Summary of Significant Effects [EN010168/APP/6.1]** for a summary of significant effects.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.2.71 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects. This assessment has considered other plans and projects that lie within the Oolitic Limestone MSA and the Bristol Avon MRZ and MSA on the basis that these could have a cumulative effect in terms of sterilising

safeguarded mineral resources or impose constraints in terms of being able to contribute to Wiltshire's future aggregate needs.

20.2.72 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and shortlist of cumulative plans and projects identified in **ES Volume 1, Appendix 21-1: Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3]**.

20.2.73 For individual receptors, this cumulative effect assessment identifies where the assessed effects of the Scheme could interact with effects arising from other plans and/or projects on a spatial and/or temporal basis.

20.2.74 Plans and projects identified from **ES Volume 1, Appendix 21-1: Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3]** which have the potential to result in cumulative effects on minerals are set out in **Table 20-3** and considered below. The remaining plans and projects were reviewed in relation to minerals receptors identified in this assessment and no further potential for cumulative effects are identified.

Table 20-3 Plans and projects relevant to minerals cumulative effects assessment

ID	Reference and Description	Distance from the Scheme	Potential Cumulative Effects
Oolitic Limestone MSA			
310	Land at Chapel Knapp farm, Chapel Knapp, Gastard, Corsham, SN13 9PS	104m from Cable Route Corridor	6 ha of the Oolitic Limestone MSA. As described below in Sections 20.2.75 to 20.2.78 no significant cumulative effects are identified.
Bristol Avon Mineral Resource Zone and MSA			
101	PL/2024/02998 Land East of Patterdown Road, Rowden, Chippenham	0.5km from Cable Route Search Corridor	Sterilisation of 1.94ha of the Bristol Avon MRZ and MSA. As described below in Sections 20.2.75 to 20.2.78 no significant cumulative effects are identified.
256	CH1 - South West Chippeham (Rowden Park Site and Smaller Extension Sites)	Adjacent to Cable Route Search Corridor	Sterilisation of 29ha of the Bristol Avon M RZ and MSA. As described below in Sections 20.2.75 to 20.2.78 no significant cumulative effects are identified.

20.2.75 The cumulative developments identified in **Table 20-3** could sterilise safeguarded mineral resources and impact on the availability of minerals within Wiltshire.

20.2.76 Any proposals for development that sterilise safeguarded sand and gravel resources could have an impact on the availability of sand and gravel in Wiltshire. The cumulative developments identified in **Table 20-3** sterilise safeguarded sand and gravel mineral resources.

20.2.77 The Scheme has been assessed to have no significant effect on mineral resources and the cumulative effect is not considered significant as the Scheme affects a negligible additional area (amounting to approximately 0.1%) of the identified Bristol Avon MRZ and MRA for a temporary period during the operational lifetime of the Scheme.

20.2.78 In terms of the Oolitic Limestone MSA and associated Monks Park Mine it is considered that although the Cable Route Corridor crosses the MSA it will have no significant impact on the permitted mineral workings nor have any significant impact on the ability to work the identified mineral resource within the MSA in the future. Therefore, no significant cumulative effects are identified.

In-Combination Cumulative Effects

20.2.79 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.2.80 No in-combination effects alongside minerals have been identified as a result of the Scheme.

20.3 Materials and Waste

Introduction

20.3.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects on materials and waste which are relevant to the Scheme.

20.3.2 This section is supported by the following appendices in **ES Volume 3 [EN010168/APP/6.3]**:

- **Appendix 20-2: Materials and Waste Legislation, Policy and Guidance**; and
- **Appendix 20-3: Materials and Waste Methodology and Baseline.**

20.3.3 An **Outline Site Waste Management Plan (SWMP) [EN010168/APP/7.16]** has also been submitted with the DCO Application.

Consultation

20.3.4 A request for an Environmental Impact Assessment (EIA) Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3, Appendix 1-2: Scoping Opinion Response Table [EN010168/APP/6.3]**, which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-4** below.

Table 20-4: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
21.11	The ES should include a description of the nature and quantity of materials and natural resources used in the Proposed Development, including expected quantities and types of any waste that would be generated during construction, operation and decommissioning. The ES should describe the assumptions made in the assessment with regards to likely exportation of waste. The Inspectorate notes Section 21.5.4 of the Scoping Report, which confirms that no separate waste aspect chapter is to be produced but that a Site Waste Management Plan (SWMP) would detail quantities of waste and management as an appendix to the ES. Although the Inspectorate is content with this approach, an assessment of effects relating to waste should be provided in the relevant aspect chapters where significant effects are likely to occur, including in relation to transport effects arising from the movement of waste.	**ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]** provides a description of materials and natural resources used in the construction of the Scheme. This Materials and Waste section provides an assessment of effects relating to waste and sets out the quantity of wastes assumed for that assessment. **ES Volume 1, Chapter 13: Transport and Access [EN010168/APP/6.1]** provides an assessment of transport effects arising from the movement of waste. An **Outline SWMP [EN010168/APP/7.16]** has also been submitted with the DCO Application.

20.3.5 Engagement has been undertaken with Wiltshire County Council. The matters raised are summarised in **Table 20-5** below.

Table 20-5: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Wiltshire County Council 24 March 2025	Meeting to discuss scoping opinion and statutory responses. Wiltshire content with assessment approach and next steps.	Not applicable.

20.3.6 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to materials and waste are presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.3.7 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1]**.

Legislation and Planning Policy

20.3.8 A summary of applicable legislation, planning policy and other guidance documents relating to materials and waste pertinent to the Scheme is provided below.

20.3.9 Full details of the legislation, policy, and guidance of relevance to the assessment of materials and waste is provided in full in **ES Volume 1, Chapter 5: Energy Need, Legislative Context and Energy Policy [EN010168/APP/6.1]**.

Legislation

20.3.10 Legislation relevant to the Scheme and materials and waste assessment include:

- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 20-12);
- Waste Framework Directive 2008 (2008/98/EC) (Ref 20-13), transposed into national law by The Waste (England and Wales) Regulations 2011 (Ref 20-14);
- The Waste (Miscellaneous Amendments) (EU Exit) Regulations 2019 (Ref 20-15);

- The Environmental Permitting (England and Wales) Regulations 2016 (Ref 20-16);
- Environmental Protection Act 1990 (Ref 20-17);
- Environment Act 2021 (Ref 20-18);
- The Hazardous Waste Regulations (England and Wales) 2005 (Ref 20-19);
- The Waste Electrical and Electronic Equipment (WEEE) Regulations (Ref 20-20); and
- The Waste Batteries and Accumulators (Amendment) Regulations 2015 (Ref 20-21).

National Planning Policy

20.3.11 The National Policy Statement (NPS) relevant to the Scheme is:

- Overarching National Policy Statement for Energy (EN-1) (Ref 20-22).

20.3.12 The NPSs for Renewable Energy Infrastructure (EN-3) (Ref 20-23) and Electricity Networks Infrastructure (EN-5) (Ref 20-24) do not contain specific requirements relevant to the materials and waste assessment for the Scheme.

20.3.13 The NPSs noted above came into effect on 17 January 2024. These NPSs set out the government's energy policy for the delivery of nationally significant energy infrastructure, the need for new energy infrastructure, and guidance for the determination of an application for a Development Consent Order (DCO).

20.3.14 The relevant NPS requirements, together with an indication of where in the ES the information is provided to address these requirements, are included in **ES Volume 3, Appendix 5-1: National Policy Statement Requirements [EN010168/APP/6.3].**

20.3.15 The National Planning Policy Framework (NPPF) (Ref 20-25) does not contain specific waste policies. These policies are detailed within the revised Waste Management Plan for England (Ref 20-26) and the National Planning Policy Guidance (NPPG) documents for Waste (Ref 20-27) and Minerals (Ref 20-28). However, the two overarching policies are relevant to materials and waste and are provided in full in **ES Volume 3, Appendix 20-2: Materials and Waste Legislation, Policy and Guidance [EN010168/APP/6.3]**.

20.3.16 Additional national policy relevant to the Scheme and materials and waste assessment include:

- The Waste Management Plan for England 2021 (Ref 20-26);
- A Green Future: Our 25 Year Plan to Improve the Environment 2018 (Ref 20-29);
- Our Waste, Our Resources: A Strategy for England 2018 (Resources and Waste Strategy for England) (Ref 20-30);
- Environmental Improvement Plan 2023 (Ref 20-31); and
- The Waste Prevention Programme for England: Maximising Resources, Minimising Waste 2023 (Ref 20-32).

Local Planning Policy

20.3.17 Local planning policies that are relevant to the Scheme and materials and waste are:

- Wiltshire Core Strategy (Ref 20-33);
- Wiltshire and Swindon Minerals and Waste Development Framework (Ref 20-34);
- Wiltshire and Swindon Waste Core Strategy 2006-2026 (Ref 20-35);
- Wiltshire and Swindon Minerals Core Strategy 2006-2026 (Ref 20-36);
- Wiltshire and Swindon Aggregate Minerals Site Allocations Local Plan (Ref 20-37);
- Wiltshire and Swindon Aggregate Waste Site Allocations Local Plan (Ref 20-38);
- Wiltshire and Swindon Local Aggregate Assessment (Ref 20-39); and
- Wiltshire and Swindon Minerals and Waste Development Framework: Policies Map (Ref 20-40).

Other Guidance

20.3.18 Other guidance documents relevant to the assessment of the impacts of the Scheme on materials and waste include:

- NPPG for Waste (Ref 20-27);
- NPPG for Minerals (Ref 20-28);
- the Institute of Sustainability and Environmental Professionalst (ISEP) Guide to: Materials and Waste in Environmental Impact Assessment, Guidance for a Proportionate Approach (herein referred to as the ‘ ISEP Guidance’) (Ref 20-41);

- Waste and Resources Action Programme (WRAP) Designing Out Waste: A Design Team Guide for Civil Engineering (Ref 20-42);
- Contaminated Land: Applications in Real Environments (CL:AIRE) Definition of Waste: Development Industry Code of Practice (DoW CoP) (Ref 20-43);
- Waste Duty of Care Code of Practice (Ref 20-44);
- Defra Guidance on Applying the Waste Hierarchy (Ref 20-45);
- Solar Power Europe Lifecycle Quality Best Practice Guidelines (Ref 20-46);
- Department for Business and Trade UK Battery Strategy (Ref 20-47Ref 20-47); and
- Solar Energy UK Briefing Solar Supply Chains: Sustainability Issues and Action (Ref 20-48).

Assessment Assumptions and Limitations

20.3.19 The Materials and Waste Assessment has been undertaken on the basis of information available at the time of the assessment. Any assumptions made for the assessment, and the limitations this presents, are reported below:

- The future baseline is assumed to be the same as the current baseline, as outlined in **ES Volume 3, Appendix 20-2: Materials and Waste Legislation, Policy and Guidance [EN010168/APP/6.3]**;
- Materials and waste estimates are based upon project-specific information and other similar Nationally Significant Infrastructure Project (NSIP) solar developments;
- The solar Photo Voltaic (PV) panels, Battery Energy Storage System (BESS) battery containers and supporting infrastructure, would be manufactured off-site to specified sizes, as described within **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**; and
- As outlined in Paragraph 1.4.10 (Waste Targets) of **ES Volume 3, Appendix 20-2: Materials and Waste Legislation, Policy and Guidance [EN010168/APP/6.3]**, the national waste recovery target is 70% and was exceeded in 2022 in England at 94.3% (most recent year for which data is available). Whilst, a recovery rate of at least 70% is assumed be achievable for the Scheme, the construction, operational and decommissioning waste assessment assumes all waste goes to landfill as a worst case. The cumulative waste

assessment outlines two scenarios, 70% waste recovery and all waste goes to landfill as a worse case.

Study Areas

20.3.20 The Study Areas for the assessment have been defined in line with the ISEP Guidance (Ref 20-41). These are outline below.

Scheme Study Area

20.3.21 The Study Area comprises the Site (i.e. the Order of Limits which contains all elements of the Scheme which comprises a Solar PV Sites, the Cable Route Corridor, Existing National Grid Melksham Substation, and Highways Improvements Areas, together with any temporary land requirements during permitted preliminary works and construction). This is shown further in **ES Volume 2, Figure 1-2: The Order Limits [EN010168/APP/6.2]** and described further in **ES Volume 1, Chapter 2: The Order Limits [EN010168/APP/6.1]**).

Expansive Study Area

20.3.22 The Expansive Study Area for non-hazardous and inert waste management is the South West region of England. The Expansive Study Area includes the following sub-regions, as outlined in the Environment Agency's 2023 Waste Summary Tables for England - Version 1 (Ref 20-49):

- Wiltshire;
- West of England Unitaries (i.e., Bristol, Bath and North East Somerset, and South Gloucestershire);
- Somerset;
- Gloucestershire;
- Dorset;
- Devon; and
- Cornwall.

20.3.23 The Expansive Study Area for hazardous waste management is England. The Expansive Study Area for hazardous waste management is informed by consideration of the proximity principle and that planning for hazardous waste management is undertaken at a national level. This is described in Section 1.2.5 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.24 The Expansive Study Area for the availability of steel is national (United Kingdom (UK).

20.3.25 The Expansive Study Area for aggregates, asphalt and concrete is , the South West region.

Assessment Methodology

Scope

20.3.26 A summary of the outline scope for this Materials and Waste Assessment is provided in Section 1.3 and Table 1 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Sources of Information

20.3.27 In the preparation of this chapter, the following sources of published information have been used:

- Environment Agency's 2023 Waste Summary Tables for England - Version 1 (Ref 20-49) - remaining land capacity;
- Environment Agency's 2023 Waste Data Interrogator (Ref 20-50);
- Environment Agency's Permitted Waste Sites - Authorised Landfill Site Boundaries (Ref 20-51);
- Environment Agency's Historic Landfill Sites (Ref 20-52);
- Environment Agency's Environmental Permitting Regulations - Waste Sites (Ref 20-53);
- Steel UK's Key Statistics Guide May 2023, 2022 data (Ref 20-54);
- Mineral Products Association's Profile of the UK Mineral Products Industry, UK production of minerals and mineral products, 2021 and estimated production/sales in Great Britain, 2022 data (Ref 20-55);

Impact Assessment Methodology

Receptor Sensitivity

20.3.28 The sensitive receptors for the Materials and Waste Assessment have been defined in line with the ISEP Guidance (Ref 20-41):

- Materials: National and regional availability of key construction materials; and
- Waste: Landfill void capacity in the Expansive Study Area of the South West of England for non-hazardous and inert landfill void capacity and England for hazardous waste.

Materials

20.3.29 The sensitivity of materials relates to the availability and type of construction materials to be used by the Scheme. For this assessment, material receptor sensitivity is determined as 'low' for all key construction materials. The ISEP Guidance (Ref 20-41) criteria described within Table 2 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]** is used to determine the sensitivity of materials.

20.3.30 Potential recycled content for the main construction materials is outlined in Table 12 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Waste

20.3.31 The sensitivity of waste relates to availability of landfill capacity in the absence of the Scheme. For this assessment, waste receptor sensitivity is determined to be '*very high'*. The ISEP Guidance (Ref 20-41) criteria used to determine the sensitivity of landfill capacity is described within Table 3 and Table 4 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Magnitude of Impacts

20.3.32 The general criteria used to assess the magnitude of impact (i.e. the magnitude of change from the baseline condition) for materials are and waste provided in Table 5 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.33 The ISEP Guidance (Ref 20-41) offers two methods to assess waste effects, 'Method W1 – Void Capacity' and 'Method W2 – Landfill Diversion'. For this assessment, Method W1 has been applied which is a more detailed methodology, more appropriate for larger and more complex development and recommended for statutory Environmental Impact Assessments. The criteria used to assess the magnitude of impact for materials for Method W1 can be found within Table 6 and 7 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Significance Criteria

20.3.34 The effect thresholds and the associated significance of effects are described within Table 8 and Table 9 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]** respectively.

20.3.35 Criteria specific to materials and waste, taken from the ISEP Guidance (Ref 20-41), has been used for assessment. Therefore, this assessment

does not use the general criteria outlined in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]**.

Point of Significance

Materials

20.3.36 Material receptor sensitivity is determined as '*low*' (see Paragraph 20.3.29). At '*low*' material receptor sensitivity, the point of significance is a major magnitude of impact. This point of significance is defined within Table 3 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]** as the "*consumption of one or more materials is >10% by volume of the baseline availability*" (Ref 20-41).

Waste

20.3.37 Waste receptor sensitivity is determined as '*very high*' (see Paragraph 20.3.31). At a waste receptor sensitivity of '*very high*', the point of significance is a minor magnitude of impact.

20.3.38 For inert and non-hazardous waste, a minor magnitude is a >1% reduction of the regional inert and non-hazardous landfill capacity (Table 6 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**).

20.3.39 For hazardous waste, a minor magnitude is a >0.1% reduction of the national hazardous waste landfill capacity (Table 7 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**).

Baseline Conditions

20.3.40 This section describes the existing and anticipated future baseline conditions for the Materials and Waste assessment.

Existing Baseline

20.3.41 Section 1.4 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]** summarises the existing baseline against which the Scheme's impact on materials and waste has been assessed. This consists of existing baselines for the following:

- Safeguarded mineral and waste sites (Table 1);
- National and regional availability of key construction materials (Table 10 and Table 11);

- Potential recycled content (Table 12);
- Landfill capacity (Table 13);
- Waste management infrastructure (Table 14);
- Historic and authorised landfills (Section 1.4.9); and
- Waste targets (Table 15).

The above table and section references refer to those found within **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.42 In summary, the existing baseline for national annual steel availability is 15 million tonnes, and the regional annual availability of aggregates, concrete, and asphalt is 28.6 million tonnes, 2.6 million tonnes, and 2.1 million tonnes, respectively (Table 10 and Table 11 of **ES Volume 3, Appendix 20-3: Materials and Waste Legislation, Policy and Guidance [EN010168/APP/6.3]**). These baseline numbers are used in the materials assessment.

20.3.43 In summary, the existing baseline for landfill capacity is approximately 9.7 million m^3 for hazardous waste and a total of 16.6 million m^3 for non-hazardous and inert waste.

Future Baseline

20.3.44 This section considers those changes to the baseline conditions, described above, that might occur in the absence of the Scheme and during the time period over which the Scheme would have been in place.

20.3.45 A future baseline is not set for this Materials and Waste assessment as outlined in **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.46 The future availability of materials is assumed to remain the same as the existing baseline (see Tables 8 and 9 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3])**.The future non-hazardous, inert and hazardous landfill capacity is assumed to remain the same as the existing baseline (see Table 11 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**).

Potential Impacts

20.3.47 Embedded mitigation measures being incorporated into the design and construction of the proposed Scheme are set out in the section below. Prior to the implementation of any mitigation (embedded), the proposed Scheme has the potential to affect materials and waste (positively or

negatively), during construction, operation and decommissioning, in the following ways:

- Changes in demand for materials; and
- Changes in available landfill void capacity.

Embedded Mitigation

20.3.48 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on materials and waste through the process of embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices). As set out below, in accordance with the waste hierarchy, the Scheme will prioritise waste prevention, followed by preparation for reuse, recycling, and recovery, with landfill disposal as the last resort.

20.3.49 The following embedded mitigation measures have been incorporated into the Scheme design.

Construction, Operation and Decommissioning

20.3.50 The Scheme will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy, illustrated in **Plate 20-1**.

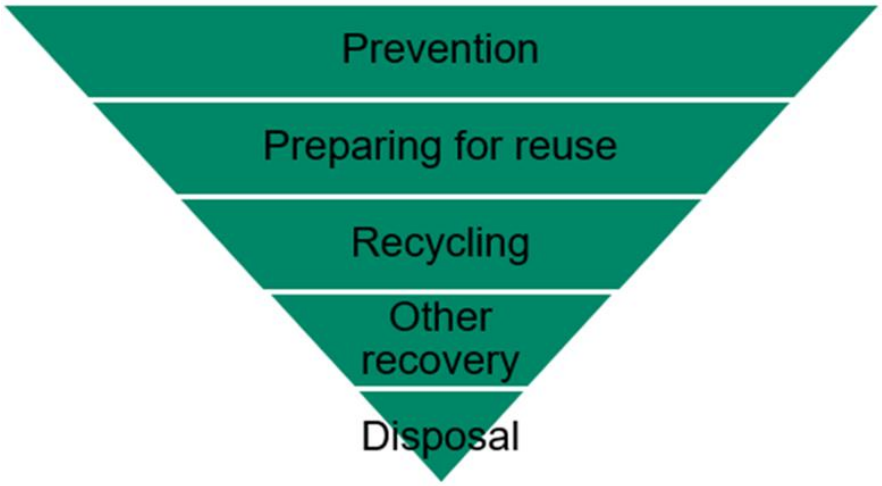

Plate 20-1: The Waste Hierarchy, from Defra's Guidance on Applying the Waste Hierarchy, recreated by AECOM (Ref 20-45).

20.3.51 The construction of the Scheme will be controlled by the measures defined within the **Outline CEMP [EN010168/APP/7.12]** and **Outline**

SWMP [EN010168/APP/7.16], which will be developed post-DCO. The construction contractor will use the **Outline CEMP [EN010168/APP/7.12]** and **Outline SWMP [EN010168/APP/7.16]** to produce the detailed CEMP(s) and SWMP(s), respectively, prior to works commencing on-site.

20.3.52 The operation and maintenance of the Scheme will be subject to measures and procedures defined within the **Outline Operational Environmental Management Plan (OEMP**) **[EN010168/APP/7.13]**, which has been prepared to support the DCO Application. The Applicant (Lime Down Solar Park Limited) will use the **Outline OEMP [EN010168/APP/7.13]** to produce the detailed OEMP prior to operation commencement.

20.3.53 The decommissioning of the Scheme will be subject to measures and procedures defined within a Decommissioning Strategy secured by a Requirement in the DCO. An **Outline Decommissioning Strategy (DS) [EN10168/APP/7.14]** is submitted as part of the DCO application which includes the approach for materials and waste management on-site. The decommissioning contractor will use the **Outline DS [EN10168/APP/7.14]** to produce a detailed Decommissioning Strategy prior to decommissioning of the Scheme.

20.3.54 Excavated material reuse would be via a Materials Management Plan (MMP) in accordance with the CL:AIRE DoW CoP (Ref 20-43), exemption or environmental permit confirmed and developed consent.

20.3.55 Key measures in the environmental management plans include:

- The contractor will consider the objectives of sustainable resource and waste management and seek to use material resources efficiently, reduce waste at source, reduce waste that requires final disposal to landfill and apply the principles of the waste hierarchy. This would include, where reasonably practical, segregation of decommissioning materials on-site for appropriate reuse, recycling and recovery with landfill as a last resort.
- All waste management will be undertaken in accordance with the relevant regulations (as outlined in **ES Volume 3, Appendix 20-2: Materials and Waste Legislation, Policy and Guidance [EN010168/APP/6.3]**) and waste would be transported by licensed waste hauliers to waste management sites which hold the necessary regulatory authorisation and/or permits for those wastes consigned to them.
- Waste would be segregated to be reused and recycled where reasonably practicable.

Assessment of Likely Impacts and Effects

20.3.56 This section considers the potential impacts outlined in Paragraph 20.3.47 and, taking into account the embedded mitigation measures as detailed between Paragraphs 20.3.50 and 20.3.53, assesses the potential for the Scheme to generate effects using the methodology detailed above and Section 1.3 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Construction Phase

Construction Materials

20.3.57 The estimated main construction material types and their associated quantities to be used for the Scheme's construction are shown within **Table 20-6** below.

20.3.58 For each material receptor the sensitivity is "*low*", as outlined in Paragraph 20.3.36 above. At a "*low*" material receptor sensitivity, the point of significance is a major magnitude of impact; this is defined within Table 5 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]** *as the* "*consumption of one or more materials is >10% by volume of the baseline availability*" (Ref 20-41).

20.3.59 For steel, concrete and aggregates the magnitude of impact is considered to be 'negligible', given the Scheme's estimated construction material requirements (<1% of national and regional availability respectively) (see **Table 20-6**). Therefore, the magnitude of impact is negligible, and the effect is slight, which is considered to be not significant.

Table 20-6 Estimated construction materials

Material type	Quantity (tonnes)	National material availability (tonnes)	% of national material availability	Regional material availability (tonnes)	% of regional material availability	Sensitivity	Magnitude	Effect	Significance
Steel (e.g., PV mounting structures)	20,000	15,000,000	0.14	Not applicable, assessed at a national level only		*Low*	Negligible	Slight	Not Significant
Concrete (e.g., feet for solar PV mounting structures)	1,570	Not applicable, assessed at regional level only		2,640,000	0.06	*Low*	Negligible	Slight	Not Significant
Aggregate (e.g., internal tracks and substation and BESS bases)	123,676			28,600,00	0.43	*Low*	Negligible	Slight	Not Significant

Construction Waste

20.3.60 The type of waste generated at the Site during the Scheme's construction is 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 (e.g. cardboard, wood and plastic); and
- Other waste from the construction of fencing, internal tracks, substations, construction compounds and installation other supporting infrastructure.

20.3.61 The solar PV panels, BESS, and other supporting infrastructure (such as solar PV mounting structures) would be manufactured off-site to specified design sizes and with no modifications generating waste would be required. Given this, wastage during installation is expected to be minimal.

20.3.62 Anticipated waste streams and quantities are based on Scheme-specific information provided by the Applicant's design team and other similar NSIP solar schemes (**Table 20-7**).

Table 20-7 Estimated Construction Waste

Waste Type	Estimated Waste Quantity	Recyclable/Recoverable
General waste from site offices and welfare facilities	Minimal	Yes
Waste from the maintenance of construction vehicles	Minimal	Yes
Hazardous waste (e.g. chemicals, batteries, solvents, oils, oily rags aerosols etc.)	Minimal	Yes
Wood (e.g. pallets and cable drums)	9,407 m^3	Yes
Plastic (e.g. packaging and protective foam layers)	5,587 m^3	Yes
Paper and cardboard (e.g. packaging)	8,537 m^3	Yes
Excavated soil (e.g. that deemed to be unsuitable for refill and compaction)	139,666 m^3	Yes

Waste Type	Estimated Waste Quantity	Recyclable/Recoverable
Construction material wastage	Assumed as a 5% wastage rate for non-assembled components including concrete and aggregates. 6,217 m^3	Yes
Total hazardous waste	**Minimal**	
National hazardous landfill capacity (m^3)	**9,679,683**	
% of hazardous landfill capacity	**Anticipated to be <0.1%**	
Total inert and non-hazardous waste	**169,413 m^3** (excluding minimal wastes)	
Regional inert and non-hazardous landfill capacity (m^3)	**16,584,599**	
% of inert and non-hazardous landfill capacity	**0.01%, assuming all waste goes to landfill.**	

20.3.63 Sewage waste generated during construction has been estimated at 8,485 m^3. Any wastewater generated from welfare facilities will be removed by tanker to an approved wastewater and sewage treatment centre. Sewage is not included in the assessment because it will not be sent to landfill and the assessment focusses on the impact on landfill void capacity.

20.3.64 With embedded mitigation measures in place, the quantities of waste to be disposed of to landfill are anticipated to be below 1% (0.01% as shown in **Table 20-7**) of regional inert and non-hazardous landfill void capacity and less than 0.1% of national hazardous landfill void capacity (as shown in **Table 20-7**). This is a negligible magnitude of impact (see Table 6 and Table 7 **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**).

20.3.65 Waste receptor sensitivity is determined as 'very high' (as outlined in Paragraph 20.3.31), whilst the magnitude of impact is negligible (as outlined in Paragraph 20.3.64 above), resulting in a slight adverse effect (see Table 8 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**, which is considered to be not significant (see **Table 9 of ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.66 Considering the above, it is concluded that there will be no significant waste effects during construction of the Scheme.

Operation and maintenance Phase

Operational Waste (Day-to-Day)

20.3.67 During the Scheme operation, it is expected that there will be no permanent on-site staff, with staff/visitors (e.g. maintenance workers) attending the Site when necessary.

20.3.68 Waste arisings from this day-to-day operation would include:

- Welfare facility waste (e.g., sewage, food, packaging, etc); and
- Packaging waste from maintenance(paper, cardboard, wood etc).

20.3.69 All management of waste will be in accordance with the relevant regulations and waste will be transported by licensed waste hauliers to waste management sites which hold the necessary regulatory authorisation and/or permits for those wastes consigned to them.

20.3.70 During operation, waste generation activity within the solar PV Sites would be restricted principally to vegetation management, equipment maintenance and servicing, replacement of any components (i.e. that fail or reach the end of their lifespan), periodic fence inspections, and monitoring activity to ensure the continued effective operation and maintenance of the Scheme.

20.3.71 During operation, waste generation e.g. from welfare facilities and maintenance is expected to be minimal, as solar PV panels do not generate any direct waste as part of the energy production process. The quantities of waste to be disposed of to landfill are anticipated to be below 1% of regional inert and non-hazardous landfill void capacity and less than 0.1% of national hazardous landfill void capacity. This is a negligible magnitude of impact (see Table 6 and Table 7 **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3])**.

20.3.72 Waste receptor sensitivity is determined as ‘very high’ (as outlined in Paragraph 20.3.31), whilst the magnitude of impact is negligible (as outlined in Paragraph 20.3.71 above), resulting in a slight adverse effect (see Table 8 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**, which is considered to be not significant (see Table 9 of ES Volume 3, **Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

Component Replacement Waste

20.3.73 During the anticipated 60-year design life of the Scheme, it is expected that there will be a need for the periodic replacement of some or all of the electrical infrastructure. Details regarding the replacement of solar PV

panels and BESS Area within the Scheme is presented in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**. The following assumptions have been made for the programme of replacement activities:

- Ad hoc replacement of solar PV panels based on a failure rate of 0.05%, which equates to 294 solar PV panels per year (31 m^3) and 8.4 m^3 of associated wood pallets, plastic and cardboard packaging waste;
- It is expected all the solar PV panels will be replaced once during the Scheme's operational life, which would equate to 62,695 m^3 of solar panel waste and 17,802 m^3 of wood pallets and packaging waste;
- It is expected that the batteries within the BESS Area could be replaced up to five times during the Scheme's operational life; this would equate to 11,548 m^3 of BESS Area waste at each replacement; and
- Scheme components such as the PV mounting structures, cabling, the substation, and the BESS Area buildings are not anticipated to be replaced during the Scheme's operational life. No intrusive ground works are anticipated to replace solar PV panels or BESS Area.

20.3.74 Sewage waste generated during all solar panel replacement has been estimated at 3,813 m^3. Any wastewater generated from welfare facilities will be removed by tanker to an approved wastewater and sewage treatment centre. Sewage is not included in the assessment because it will not be sent to landfill and the assessment focusses on the impact on landfill void capacity.

20.3.75 Recycling routes are generally available for component replacement waste at present, and it is likely that there will be even greater opportunities for recycling in the future, not least because the recycling market will have expanded to meet demand as solar PV installations increase.

20.3.76 It is likely that the solar PV panels and battery waste generated by the Scheme, during operation and maintenance and decommissioning phases, would be managed by specialist regional or national facilities; these facilities would be developed over the operation and maintenance phase of the Scheme in response to demand generated by the UK-wide solar energy industry. The capacity of such facilities is not expected to be influenced by other non-solar farm projects in the surrounding area; this is because the facilities will only be managing specific solar PV panel waste.

20.3.77 In addition, private sector waste companies will develop these facilities to respond to market demands. At present, solar PV panel waste generation is low, therefore there is a limited demand for facilities and their

associated limited available capacity. It is therefore expected that the facilities which reuse, recycle, or recover end of-life solar PV panels will be developed as the quantities of this waste stream increase. The Waste Electrical and Electronic Equipment (WEEE) Regulations (Ref 20-20) and The Waste Batteries and Accumulators (Amendment) Regulations (Ref 20-21) place obligations on companies who place solar PV panels and batteries on the market to finance the costs of collection, treatment, recovery and environmentally sound disposal; and the landfill tax strongly incentivise reuse, recycling and recovery.

20.3.78 The company 'Recycle Solar', reports that 90% of the glass and 95% of the semiconductor materials in end-of-life solar PV panels can be extracted for use in new solar PV panels (Ref 20-46).

20.3.79 The UK market for lithium-ion battery recycling is under development, as the fleet of electric vehicles and other lithium-ion battery users rapidly increases. Several new investments have been announced, and an 80% recovery rate is reported (Ref 20-46).

20.3.80 Due to the market and policy trends described above, it is assumed that specialist regional or national facilities would be in place at the time of component replacement e.g. solar panels and batteries and decommissioning, and these would be developed in response to demand generated by the UK-wide solar PV panel industry would be reused, recycled, or recovered and not disposed of to landfill.

20.3.81 The **Outline OEMP [EN010168/APP/7.12]**, secured within the draft DCO, sets out the commitment of the Applicant to maximise recycling and reuse of the Scheme components at the end of their life.

20.3.82 With the embedded mitigation measures in place, the overall quantities of operational waste to be disposed of to landfill are anticipated to be below 1% of regional inert and non-hazardous landfill capacity, and less than 0.1% of national hazardous landfill capacity. This is a negligible magnitude of impact.

20.3.83 Waste receptor sensitivity is determined as 'very high', whilst the magnitude of impact is negligible, resulting in a slight adverse effect, which is considered to be not significant.

20.3.84 Considering the above, it is concluded that waste effects during operation of the Scheme will not be significant.

Decommissioning Phase

Decommissioning Waste

20.3.85 As outlined in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**, decommissioning is expected to take 12 to 24

months and undertaken in phases. For the purposes of the assessment, it is expected to occur after 60-year design life of the Scheme.

20.3.86 At the end of the Scheme's operation and maintenance phase, the Scheme will be decommissioned and the associated land would be restored to its original use and condition, as far as practicable, and returned to the landowner. During this time, the Solar PV Sites, including mounting structure, cabling, conversion units as well as the BESS, and substations would be removed from within the Order Limits. Subsequently, these Scheme components will be recycled and/or disposed of in accordance with industry good practice and the market conditions at that time of decommissioning. The mode of the Interconnecting Cables and Grid Connection Cables decommissioning would be dependent upon government policy and good practice at that time. Currently, the most environmentally acceptable option is considered to be leaving the cables in situ, as this avoids disturbance to overlying land and habitats and to neighbouring communities. Alternatively, the cables can be removed by opening up the ground at regular intervals and pulling the cable through to the extraction point, leaving the ducting and jointing bays in place, avoiding the need to open up the entire length of the Grid Connection Cables.

20.3.87 The anticipated Scheme decommissioning waste streams, and their associated quantities, are based on Scheme-specific information provided by the design team and other similar NSIP solar schemes (**Table 20-8**).

Table 20-8 Estimated Decommissioning Waste

Waste Type	Estimated Waste Quantity	Recyclable/Recoverable
General waste from site offices and welfare facilities	Minimal	Yes
Waste from the maintenance of construction vehicles	Minimal	Yes
Hazardous waste (e.g. chemicals, batteries, solvents, oils, oily rags aerosols etc.)	Minimal	Yes
Concrete and aggregates	124,330 m^3	Yes
Steel	2,564 m^3	Yes
Solar PV panels	62,695 m^3	Yes
BESS	11,548 m^3	Yes
Total hazardous waste	**Minimal**	

Waste Type	Estimated Waste Quantity	Recyclable/Recoverable
National hazardous landfill capacity (m^3)	**9,679,683**	
% of hazardous landfill capacity	**Anticipated to be <0.1%**	
Total inert and non-hazardous waste	**201,138 m^3 (excluding minimal wastes)**	
Regional inert and non-hazardous landfill capacity (m^3)	**16,584,599**	
% of inert and non-hazardous landfill capacity	**0.01%, assuming all waste goes to landfill.**	

20.3.88 Sewage generated during decommissioning is assumed to be similar to that of construction (8,485 m^3) as a worse case. Sewage is not included in the assessment because it will not be sent to landfill and the assessment focusses on the impact on landfill void capacity.

20.3.89 Recycling routes are generally available for component replacement waste at present, and it is likely that there will be even greater opportunities for recycling in the future, not least because the market will have expanded to meet demand as solar PV installations increase. The assumptions outlined in Paragraphs 20.3.60 to 20.3.61 will also apply to decommissioning.

20.3.90 With the embedded mitigation measures in place, the overall quantities of decommissioning waste to be disposed of to landfill are anticipated to be below 1% (0.01% as outlined in **Table 20-8**) of regional inert and non-hazardous landfill capacity and less than 0.1% of national hazardous landfill capacity (as shown in **Table 20-8**).

20.3.91 This is a negligible magnitude of impact (see Table 6 and Table 7 ES Volume 3, **Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**).

20.3.92 Waste receptor sensitivity is determined as ‘very high’ (as outlined in Paragraph 20.3.31), whilst the magnitude of impact is negligible (as outlined in Paragraph 20.3.64 above), resulting in a slight adverse effect (see Table 8 of **ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**, which is considered to be not significant (see **Table 9 of ES Volume 3, Appendix 20-3: Materials and Waste Methodology and Baseline [EN010168/APP/6.3]**.

20.3.93 The **Outline DS [EN10168/APP/7.14]** submitted with the DCO Application sets out the commitment of the Applicant to maximise reuse and recycling of Scheme components at the end of their life.

20.3.94 Considering the above, it is concluded that significant waste effects are not likely during decommissioning of the Scheme.

Additional Mitigation

20.3.95 As no potential significant effects have been identified in this Materials and Waste assessment, no additional mitigation is proposed.

Monitoring

20.3.96 As no potential significant effects have been identified for materials and waste, no monitoring of significant effects is proposed.

20.3.97 Specific monitoring (reporting and auditing) requirements for materials and waste will be outlined in the CEMP and SWMP, OEMP, DS. The Contractor will appoint an Environmental Manager with responsibility for monitoring requirements.

Residual Effects and Conclusions

20.3.98 No residual significant effects have been identified for materials and waste.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.3.99 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects (referred to as ‘cumulative schemes’) within the surrounding area.

20.3.100 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and construction, operational and decommissioning waste assessment section above. This considers all solar PV schemes in Wiltshire above 10 MW threshold with applications occurring in the last five years.

Study areas

20.3.101 The Southwest region is used for the non-hazardous waste study area (rather than Wiltshire alone) recognising the fact that waste may not always be managed within the Waste Planning Authority area where it is generated and may instead be managed at the regional level.

20.3.102 England is used for the hazardous waste Study Area (see Section 20.3.23 for more detail).

20.3.103 The cumulative schemes to be considered in combination with the Scheme for waste are solar PV schemes in Wiltshire.

Recovery Assumptions

20.3.104 Two scenarios have been used in the cumulative assessment, with different assumptions around recovery rates:

- A "realistic worst case" of a 70% recovery rate, based on current and likely future recovery rates. Recovery is defined as reuse, recycling and recovery e.g. (energy from waste); and
- An "absolute worst case" based on the assumption that all construction and demolition (C and D) waste goes to landfill.

20.3.105 The "absolute worst case" is considered to be extremely unlikely to occur, and the "realistic worst case" considered appropriately conservative for the following reasons:

- The 2020 C and D recovery rate for the UK was approximately 92.6% (Ref 20-56), exceeding the national target of 70% recovery and has remained at a similar level since 2010. A 70% recovery rate is therefore considerably lower than this rate; and
- Waste generated by the Scheme comprises readily recyclable materials, with existing high recovery rates:
  - Concrete and aggregates are widely recycled for use in construction;
  - Metals have a very high recovery rate with a well-developed market, historically driven by economics but increasingly also by the need for decarbonisation of the metal production sector;
  - Solar PV panels are recyclable and there are numerous examples of companies recycling them. Capacity for solar PV panel recycling in the UK is relatively low at present, due to small volumes of waste being generated (since most solar PV panels that have been installed are still operating). There are strong economic and regulatory drivers for recycling, and it is technically proven, and hence it is realistic to expect a high recovery rate; and
  - Primary legislation (The Waste Electrical and Electronic Equipment Regulations 2013 (Ref 20-20) and The Waste Batteries and Accumulators (Amendment) Regulations 2015 (Ref 20-21)) place an obligation on producers (manufacturers and importers) of

electrical and electronic equipment (which includes solar PV panels) and batteries to finance the collection and recycling of their products. Producers of solar PV panels and batteries are obligated to join a Producer Compliance Scheme (PCS), which then ensures their legal obligations are met.

20.3.106 The assessment assumes the realistic worst case that all current policy, regulatory and fiscal incentives for recycling and otherwise diverting waste from landfill will be maintained across the Scheme's operational life. The Applicant considers this to be a realistic worst case for this cumulative assessment since:

- Any move away from the current policy framework would be inconsistent with the underlying principles of waste management that have been progressively implemented over the past 20+ years, as well as being inconsistent with the UK's policy objectives to achieve net zero (i.e., since recycling and recovery have a significant role to play in achieving net zero); and
- If, at any point, the policy framework were to move away from favouring recycling and recovery, then there would need to be a large expansion in landfill capacity to accommodate the waste that was no longer recovered or recycled; in which case landfill void capacity would no longer be considered a sensitive receptor. A move away from favouring recycling recovery without an associated increase in landfill void capacity would not be a tenable policy.

Cumulative Impacts

20.3.107 The cumulative assessment follows the same approach as the assessment of the Scheme presented above, and considers the waste generated from the following other solar PV schemes in Wiltshire, as outlined in **Table 20-9**.

20.3.108 For individual receptors, this cumulative effects assessment identifies where the assessed effects of the Scheme could interact with effects arising from other plans and/or projects on a spatial and/or temporal basis. Waste estimates are not available for all of these projects, and hence estimates have been generated specifically for this cumulative assessment by:

- Estimating PV module waste based on a nominal module capacity of 0.72 kW and weight of 33.4 kg, this information is used to convert MW for each solar farm into number of solar panels, then total weight of solar panels, which is then converted to m^3; and

- Assuming that the ratio of 'other waste' to 'PV module waste' for schemes is the average of five similar sized schemes for which decommissioning waste estimates are available (Lime Down, Tillbridge Solar Project, Gate Burton Energy Park, Longfield Solar Farm, and East Yorkshire Solar Farm) of which 34% of the total waste by mass comprises PV modules, and the remaining 66% is other waste.

20.3.109 This approach has been taken across all cumulative developments including this Scheme (i.e. Lime Down Solar Park) (rather than using the estimates provided for individual projects) to enable a clear and consistent approach for the purpose of this assessment.

20.3.110 This assessment focuses on decommissioning waste due to the following:

- The peak of waste generation would be during decommissioning, and this is therefore the worst case in terms of waste generation – the decommissioning scenario would also cover any large-scale interim replacement of PV modules and other components; and
- Operational waste generation is not expected to be concurrent for all projects, given that their solar PV panels and other components would have different operating periods, and it is very unlikely that all facilities would replace their equipment at the same time.

20.3.111 For the purposes of this cumulative assessment, it is assumed that all schemes are decommissioned over a single five-year period and that all waste is non-hazardous (although in practice a proportion may be hazardous – this is considered further below).

20.3.112 For the following cumulative developments, it is assumed these have a size of 49.9MW as a worst-case scenario (i.e., the current maximum size of a solar project that is able to apply for planning permission under the Town and Country Planning Act 1990):

- Larkhill Garrison Glover Road (PL/2023/01992);
- Land Adjacent to Lambdown Terrance (PL/2025/01089);
- Sloperton Fram (PL/2024/06048);
- Westbury Sewage Treatment Works (PL/2022/06569); and
- Land West of Ganbrook Farm (20/06517/SCR).

20.3.113 For the purposes of this cumulative assessment, planning applications for schemes prior to 2020 have been discounted; this is due to the assumption that all scheme applications between 2020-present will be eventually decommissioned within a similar 5-year period.

20.3.114 The cumulative impact assessment is presented in **Table 20-9** below.

Table 20-9 Waste estimations from cumulative solar farm developments

Solar PV scheme	Planning application reference	Size (MW)	Solar PV panel waste (tonnes)	Other waste (tonnes)	Total waste (tonnes)
Lime Down		500	23,194	44,528	67,722
Sloperton Farm, 146 Westbrook, Bromham, Chippenham, Wilts, SN15 2ED	PL/2024/06048	49.9	2,315	4,444	6,759
Land near Minety Substation, Minety, SN16 9DX	PL/2023/03501/PL/2024/07438	49.9	2,315	4,444	6,759
Larkhill Garrison Glover Road - Solar Photovoltaic Array	PL/2023/01992	49.9	2,315	4,444	6,759
Land North of Melksham Substation Near Melksham Wiltshire	20/06840/FUL	49.9	2,315	4,444	6,759
Land Near Minety Substation Minety Wiltshire SN16 9DX	20/03528/FUL	49.9	2,315	4,444	6,759
Land west of A429 (Crudwell Road) North of Malmesbury Wiltshire	20/08618/FUL	49.9	2,315	4,444	6,759
Agricultural fields west of Whaddon Farm, Whaddon Lane, Hilperton , Trowbridge , BA14 6NR	PL/2021/03061	25	1,160	2,226	3,386
Land at Forest Gate, Pewsham, Chippenham, SN15 3RS	PL/2021/06112	49.9	2,315	4,444	6,759
Land to the south of the M4 at Leigh Delamere, to the west of Leigh Delamere Motorway Services, Chippenham	PL/2021/06100	49.9	2,315	4,444	6,759
Agricultural land to the northwest of Kemble Wick village approximately 900 m southwest of Kemble	PL/2021/06919 - extends 53.03Ha into Cotswold DC	49.9	2,315	4,444	6,759
Land at Studley Farm, Atworth, Melksham, Wiltshire.	PL/2021/08690	49.9	2,315	4,444	6,759
WINDMILL FARM, COMMON HILL, CRICKLADE, SWINDON, SN6 6HA	PL/2021/09153	13	603	1,158	1,761
Land on the west side of Storridge Road, Westbury	PL/2021/10592	29	1,345	2,583	3,928
Land Northwest of Crossing Lane, Lower Moor, Minety	PL/2022/08634	8	371	712	1,084
Whistle Mead Solar Farm, Little Chalfield, Melksham, SN12 8NP	PL/2023/01914	24.14	1,120	2,150	3,270
H M Prison Erlestoke, Erlestoke, Devizes, Wilts, SN10 5TU	20/11600/FUL	0.212	10	19	29

Solar PV scheme	Planning application reference	Size (MW)	Solar PV panel waste (tonnes)	Other waste (tonnes)	Total waste (tonnes)
East Farm 1, Codford	19/03576/FUL /19/11700/FUL	49.9	2,315	4,444	6,759
East Farm 2, Codford	PL/2023/03024	18	835	1,603	2,438
Land Adjacent Chemring Countermeasures Ltd, Netton, SP4 6AS	PL/2023/04203	49.9	2,315	4,444	6,759
Land adjacent to the Sewage Works, Petersfinger Farm, Southampton Road, Salisbury	PL/2023/06905	2	93	178	271
Land at Ashley Garage, Bath Road, Box	PL/2023/07741	1.5	70	134	203
Land at Red Barn 1, East of Kington St Michael, Chippenham	PL/2023/08481	40	1,856	3,562	5,418
Land West of Lyneham Substation, West of Dauntsey Lock, Wiltshire	PL/2023/10077	23	1,067	2,048	3,115
Land South of Salisbury Road, nr Homington, Coombe Bissett, Salisbury	PL/2023/10394	30	1,392	2,672	4,063
Land South of Potterne Park Farm, nr Potterne, Devizes, Wilts, SN10 5QT	PL/2023/10332	49.9	2,315	4,444	6,759
Sands Farm Quarry, Low Lane, Calne, Wiltshire, SN11 8TE	PL/2024/01599	5	232	445	677
Land East Of Blounts Court Farm, Potterne, Devizes, Wilts, SN10 5PH	PL/2024/04926	15	696	1,336	2,032
Land at Bentham House Farm, Mopes Lane, Swindon, SN5 4HS	PL/2024/08441	12	557	1,069	1,625
Hills Minerals and Waste Ltd, Mopes Lane, Purton, SN5 4HG	PL/2021/10405	20	928	1,781	2,709
Westbury Sewage Treatment Works, Slag Lane - Solar Panels	PL/2022/06569	49.9	2,315	4,444	6,759
Land West of Ganbrook Farm, Little Chalfield, Wiltshire	20/06517/SCR	12	557	1,069	1,625
The Barn south east of 8 Tiddlywink, South From Yatton Keynell To Crossroads, Yatton Keynell, SN14 7BY	PL/2022/01695	20	928	1,781	2,709

Solar PV scheme	Planning application reference	Size (MW)	Solar PV panel waste (tonnes)	Other waste (tonnes)	Total waste (tonnes)
Land at Bishoper Farm, Wiltshire	20/05893/SCO	49.9	2,315	4,444	6,759
Land East of Battens Farm, Allington, Chippenham, SN14 6LT	PL/2024/09410	10	464	891	1,354
Townsend Farm, Townsend, Poulshot, Devizes, SN10 1SD	PL/2024/11631	13.5	626	1,202	1,828
Land Adjacent to Lambdown Terrace, Swinton Barracks, Perham Down, Wiltshire, SP11 9JN	PL/2025/01089	49.9	2,315	4,444	6,759
Land 850m South of the A342, Wilsford Hill, Pewsey, Wilsford, SN9 6HA	PL/2024/06091	49.9	2,315	4,444	6,759
Land at Studley Farm, Atworth, Melksham, Wiltshire	PL/2021/08690	49.9	2,315	4,444	6,759
Land Adj Goldens, Teffont, Salisbury, Wiltshire, SP3 5RP	PL/2023/08481	40	1,856	3,562	5,418
Land at Red Barn 2, East of Kington St Michael, Chippenham	PL/2024/01599	5	232	445	677
TOTAL:		**1,765**	**81,856**	**157,143**	**238,999**
Cumulative Waste (assuming all schemes decommissioned within 5 yr window)					
Total waste from cumulative schemes (tonnes) per year			16,371	31,429	**47,800**
Total waste from cumulative schemes (m^3) (assuming density of 0.31 t/m3 for solar PV panels and 1.6 t/m3 for other waste)			52,810	50,286	**103,096**
Waste to landfill, m^3 (70% landfill diversion rate, realistic worst-case estimate)			15,843	15,086	**30,929**
Waste to landfill, m^3 (assuming zero recycling/recovery)			52,810	50,286	**103,096**
Baseline					
Regional landfill capacity (m^3)					16,584,599
Comparison against baseline					
% of regional landfill capacity required for Scheme (realistic worst-case estimate)			0.1%	0.1%	**0.2%**

Solar PV scheme	Planning application reference	Size (MW)	Solar PV panel waste (tonnes)	Other waste (tonnes)	Total waste (tonnes)
% of regional landfill capacity required for Scheme (assuming zero recycling/recovery)			0.3%	0.3%	**0.6%**
Assessment					
Receptor Sensitivity					Very High
Realistic Worst Case					
Magnitude of Impact					Negligible
Effect					Slight adverse
Significance					Not significant
Absolute Worst Case					
Magnitude of Impact					Negligible
Effect					Slight adverse
Significance					Not Significant

20.3.115 The assessment shows that under the realistic worst case and absolute worst case; cumulative impacts would not be significant.

20.3.116 The threshold of significance for an effect on hazardous landfill capacity is 0.1% of national capacity, equivalent to 9,680 m^3. If it is assumed that the hazardous fractions of waste solar PV panels are sent to hazardous landfill, then a significant effect would occur if the hazardous fraction represents more than 18% of the mass of solar PV panels. However, the majority of solar panel components would not be considered hazardous waste, as approximately 76-89% is glass, 4-10% is plastic and 6-8% is aluminium frame (Ref 20-57). Therefore the quantity of hazardous waste to be disposed of to landfill is anticipated to be less than 9,680 m^3. The magnitude of impact is negligible, and the effect is slight, which is considered to be not significant.

In-Combination Cumulative Effects

20.3.117 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.3.118 No in-combination effects alongside materials and waste have been identified as a result of the Scheme.

20.4 Telecommunications, Utilities and Television

Introduction

20.4.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects on Telecommunications, Utilities and Television which are relevant to the Scheme.

20.4.2 The construction, operation and maintenance, and decommissioning of the Scheme has the potential to affect existing below ground utility infrastructure, for example, through 'cable strike' when piling the Solar PV Mounting Structures or excavating the cable trenches. The Scheme may also impact telecommunications and television services through accidental damage to fibre optic or coaxial cables, interference with signal transmission infrastructure, or disruption to service access points. These impacts could lead to temporary service interruptions or degradation in quality for local residents and businesses if not properly managed.

Consultation

20.4.3 A request for an EIA Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3, Appendix 1-2: Scoping Opinion Responses [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-10** below.

Table 20-10: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.16.2	The Inspectorate has considered the approach set out in the Scoping Report and agrees that a standalone chapter for telecommunications, utilities and television is not necessary for these matters.	This comment is noted.

20.4.4 Engagement has been undertaken with stakeholders relevant to Telecommunications, Utilities and Television. The matters raised are summarised in **Table 20-11** below.

Table 20-11: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Engagement with relevant utilities providers - 29 Jan 2025 to 19 March 2025.	All relevant Telecommunications, Utilities and Television providers were contacted during statutory consultation.	The Applicant undertook checks to ensure all assets recorded by these providers were accounted for within the design considerations and assessment. Moreover, all the relevant protective provisions requested by these providers have been included within the **Draft DCO [EN010168/APP/3.1].**
National Grid Transmission (NGT) - 07 March 2025 and 09 April 2025.	As per the recommendation of the Health and Safety Executive (HSE) in their S42 response two virtual meetings were undertaken between the Applicant and NGT on 07 March 2025 and 09 April 2025. These meetings covered the presence of the Feeder Pipeline under NGTs management located within the Order Limits and ensuring Protective Provisions will be adequately implemented by the Applicant.	NGT and the Applicant agreed the only gas asset within the Scheme Boundary was 14 Feeder Wormington/Pucklechurch; Transco ref.: 1497. The Applicant confirmed that the relevant Protective Provisions will be implemented prior to the commencement of the DCO. The Applicant also confirmed all relevant guidance regarding works near pipelines would be adhered to as part of the final Detailed Design for the Scheme.

20.4.5 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to Telecommunications, Utilities and Television are presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.4.6 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1]**.

Legislation and Planning Policy

20.4.7 Effects relating to existing infrastructure are not environmental effects and there is no requirement to include an assessment of these effects under the EIA Regulations (Ref 20-1). However, given the nature of the Scheme,

there is potential to affect existing utility infrastructure above and/or below ground. This is considered further via the measures outlined below.

20.4.8 There is no other legislation, policy or guidance specifically related to the Telecommunications and Utilities assessment.

Assessment Assumptions and Limitations

20.4.9 The assessment of effects on Telecommunications, Utilities and Television is based on the maximum parameters set out in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1].** This includes the anticipated maximum depth of construction activities and infrastructure, the maximum area allowed to be disturbed during construction and developed by the Scheme, and the maximum heights and massing allowed by the application.

20.4.10 The Applicant has assumed that the assets disclosed by these providers along with any assumed buried utilities identified by **ES Volume 3, Appendix 12-4: Archaeological Geophysical Survey Reports [EN010168/APP/6.3]** represent the worst-case scenario in terms of assessment.

Study Area

20.4.11 The Study Area for Telecommunications, Utilities and Television comprises the Order Limits, as potential interactions with existing infrastructure are considered to be limited to this area.

Assessment Methodology

20.4.12 To identify any existing infrastructure constraints, both consultation and a desk-based study has been undertaken. Consultation with relevant telecommunication and utilities providers is a routine part of development and consultees include water, gas and electricity utilities providers and telecommunication providers, as appropriate. Information obtained from consultation has been used to inform the Scheme design and appropriate Protective Provisions are included within the **Draft DCO [EN010168/APP/3.1]** to ensure the protection of apparatus wherever any existing infrastructure has the potential to be affected by the Scheme and to mitigate against any identified risks, such as utilities failure.

20.4.13 A desk-based search has been undertaken for the presence of Telecommunications, Utilities and Television infrastructure within the Order Limits and within the vicinity. A qualitative approach was used to assess the likelihood of significant effects on Telecommunications, Utilities and Television.

Impact Assessment Methodology

20.4.14 The assessment methodology for Telecommunications, Utilities and Television has followed the same approach as laid out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1].**

Baseline Conditions

20.4.15 There are multiple cables, pylons, and pipelines crossing the Order Limits which are owned and operated by a number of different utilities providers. Information provided by the utilities' providers on the number of assets within the Order Limits is provided in **Table 20-12** below:

Table 20-12 Information provided by Utilities Providers for assets within the Order Limits

Category	Number of Assets
Electric (Overhead Line) – NGET and Scottish and Southern Electricity	11 kV: 22 33 kV: 11 132 kV: 2 Unspecified: 23 **Total: 58**
Electric (Underground Line) – NGED, NGET and Scottish and Southern Electricity	11 kV: 19 33 kV: 43 132 kV: 6 Unspecified: 51 **Total: 118**
Mast - Mobile Broadband Network Ltd and unspecified provider	3
Telecom – British Telecommunications, Zayo and Lumen	49
Gas (below 2 bar) – Wales and West Utilities	12
High Pressure Gas Pipeline (above 2 bar) – Exolum	1
Sewage – Wessex Water	28
Water – Bristol Water and Wessex Water	103

Telecommunications

20.4.16 Three mobile phone masts are present within the Order Limits, which are all contained within Lime Down C. There are 49 telecoms assets within

the Order Limits, 44 of which are owned by British Telecommunications, four by Zayo and one by Lumen.

Utilities

20.4.17 Consultation has been and will continue to be undertaken with the following organisations:

- Exolum Pipeline System Ltd;
- National Grid Electricity Distribution (South West) PLC;
- National Grid Electricity Transmission PLC;
- National Gas Transmission (NGT);
- Vodaphone;
- South West Water (Bristol Water);
- Scottish and Southern Electric; and
- Wessex Water.

20.4.18 On-site utilities could include water, sewers, gas or oil pipelines and electrical cables. Knowledge of the utilities during design and construction allows any effects to be negated by avoiding them or by use of suitable structures, such as pipe bridges.

20.4.19 **Table 20-12** provides a summary of the utilities and infrastructure that have the potential to be affected by the Scheme. Notably this includes the NGT asset 14 Feeder Wormington/Pucklechurch high pressure gas pipeline which runs through the centre of Lime Down C and the west of Lime Down B. There are multiple other assets including water pipelines, sewage, low pressure gas pipelines and both overhead and underground electric lines. The majority of the high voltage (132 kV) electricity lines are those feeding into and associated with the Existing National Grid Melksham Substation.

Television Reception

20.4.20 The area surrounding the Scheme receives television signals that were made exclusively digital after the digital switchover was completed in the West region in 2010.

20.4.21 The area service is provided by the Mendip transmitter group. The area is predominantly served by the Corsham Vertical Polarisation (VP), Corsham Horizontal Polarisation.(HP), Calne and Box transmitters (Ref 20-58). None of these transmitters sit within the Order Limits; the closest are

Corsham VP and HP which are located approximately 1.3 km from the Order Limits.

Future Baseline

20.4.22 It is not known what new Telecommunications, Utilities and Television infrastructure will be implemented in the lifetime of the Scheme beyond what has already been identified in this ES. For the purposes of assessment, the future baseline is not expected to represent a substantively different scenario to the existing infrastructure and is considered to be the same as current baseline conditions.

Potential Impacts

20.4.23 Prior to the implementation of any mitigation (embedded or additional), the Scheme has the potential to affect Telecommunications, Utilities and Television, during the construction, operation and maintenance, and decommissioning phases, in the following ways:

- Potential to cause damage to existing infrastructure (i.e., utilities failure); and
- Potential to cause localised disruption to Telecommunications, Utilities and Television.

Embedded Mitigation

20.4.24 The following embedded mitigation measures have been incorporated into the Scheme design to identify and manage utilities interactions. These include precautionary measures that will be captured via the **Outline CEMP [EN010168/APP/7.12]** such as:

- Locating the Scheme outside of utilities protected zones, where practicable;
- Above-ground infrastructure located with adequate offsets (developed in consultation with third parties) from existing telecommunications and utility infrastructure to provide clear access and to minimise potential conflicts, such as damage from piling, excavation, or compaction;
- Use of topographical data alongside mapping provided by telecommunication and utilities providers to ensure underground and overground utilities are adequately offset;
- Use of ground penetrating radar before excavation to identify any unknown utilities;

- Use of Trenching and horizontal directional drilling activities to lay cabling where crossings are required; and
- Consultation and agreement of construction/demobilisation methods prior to the works commencing (this would be covered by protective provisions in the DCO).

20.4.25 During all phases of the Scheme there will be safe working beneath any overhead lines in line with National Grid's technical guidance note 287 (Ref 20-6), including, for example, ensuring adequate clearances are in place when plant and equipment are being moved beneath overhead lines, and limiting any planting beneath overhead lines to low growing species. In advance of construction, the Applicant will liaise will all utility providers with assets in the area in regard to construction timelines, construction activities, proximity to assets and construction management measures that will be in place to ensure no impact to utilities.

20.4.26 Similarly, measures in relation to safe working near buried utilities, particularly gas pipelines, will be in place at all phases of the Scheme. For example safety measures set out in HSE's, National Grid and Northern Gas Networks guidance documents for third parties working in the vicinity of high pressure gas pipelines and associated installations (Ref 20-59; Ref 20-60; Ref 20-61; Ref 20-62).

20.4.27 The measures set out in 20.4.23 to 20.4.26 have been further refined within the **Outline CEMP [EN010168/APP/7.12], Outline OEMP [EN010168/APP/7.13]** and **Outline Decommissioning Strategy [EN010168/APP/7.14],** with the production of these management plans secured through the requirements of the DCO.

20.4.28 The **Draft DCO [EN010168/APP/3.1]** includes Protective Provisions for the protection of electricity, gas, water and sewerage undertakers, for the protection of electronic communications code networks, and for the protection of National Grid Electricity Transmission Plc as electricity undertaker. Engagement with relevant statutory undertakers in this respect is ongoing and will continue into detailed design.

Assessment of Likely Impacts and Effects

20.4.29 This section considers the potential impacts outlined in Section 20.4.23 and, taking into account the committed mitigation measures as detailed in Section 20.4.24, assesses the potential for the Scheme to generate effects using the methodology as detailed in Section 20.4.12.

Telecommunications

20.4.30 The Scheme is unlikely to interfere with telecommunications infrastructure due to the relatively low height of the Solar PV Panels (4.5 m above ground level at maximum tilt for tracker panels and a maximum of 3.5m above ground level for fixed panels) and other Scheme infrastructure (up to a maximum of 13m to the top of the substation busbars), which would not provide an obstacle for telecommunication waves given they tend to operate at approximately 25m (Ref 20-63). Therefore, no effects are anticipated during the Scheme construction, operation and maintenance, and decommissioning phases. The **Draft DCO [EN010168/APP/3.1]** includes Protective Provisions for the protection of telecommunications.

Television Reception

20.4.31 The Scheme consists of low-lying infrastructure and is therefore unlikely to interfere with digital television signals. This is because digital TV signals primarily travel in 'line-of-sight paths' from broadcast towers or satellites to receivers. Given a standard two-storey property is approximately 7m tall and the substations (i.e., the tallest infrastructure) are located over 400m from residential properties, no interference is anticipated. Therefore, no effects are anticipated during the Scheme construction, operation and maintenance, and decommissioning phases.

Utilities

Construction

20.4.32 The design of the Scheme has been informed by topographical and geophysical survey data, alongside mapping provided by telecommunication and utilities providers to ensure underground and overground utilities are adequately offset from. This will ensure safe working procedures can be maintained, access can be provided for utility maintenance, and crucially, construction impacts can be mitigated against. The measures set out in the final CEMP, to be secured as a requirement of the DCO, will aim to ensure impacts on telecommunication and utilities can be minimised. In addition, protective provisions for the benefit of statutory undertakers and electronic communications network code operators will be included in the **Draft DCO [EN010168/APP/3.1].**

20.4.33 Where infrastructure is connected by low or mid voltage cabling (up to 33kV), the routing will minimize the number of crossings of existing services. Installation of cabling up to 33kV will follow the mitigation measures outlined in the **Outline CEMP [EN010168/APP/7.12].**

20.4.34 The Cable Route Corridor will involve the installation of a 400kV grid connection to the Existing National Grid Melksham Substation. Trenching

and horizontal directional drilling activities to lay these cables will need to consider the significant number of existing utility services that interact with the Cable Route Corridor. When crossing existing buried utilities or apparatus, the maximum depth of the dug cable trench is 2m below the level of the existing apparatus.

20.4.35 Furthermore, where the Cable Route Corridor crosses utilities, the cables will be laid so that the utilities are crossed at 90° where practicable and will be suitably offset where running parallel. This will reduce operational impacts to the existing utility cables.

20.4.36 In summary, the survey and agreed offset distance information will be incorporated into the **Outline CEMP [EN010168/APP/7.12]** and the resultant detailed CEMP to ensure construction work minimises impacts on services. Where direct interaction is anticipated, particularly along the Scheme's Cable Route Corridor, utility crossings will be carried out in direct collaboration with the relevant utilities provider.

20.4.37 The application of embedded mitigation as set out in Paragraphs 20.4.24 to 20.4.28 secured in the **Outline CEMP [EN010168/APP/7.12]** would reduce the likelihood of effects on utilities during the construction phase. With the implementation of such measures, as described in Paragraphs 20.4.24 to 20.4.28, no significant adverse effects are expected during Scheme construction.

Operation and Maintenance

20.4.38 No groundworks are proposed during the operational and maintenance phase of the Scheme. Therefore, no effects on utilities are predicted. Any works associated with replacement activities will be carried out in accordance with the embedded mitigation outlined in Paragraphs 20.4.25 and 20.4.26 secured in the **Outline OEMP [EN010168/APP/7.13]**.

Decommissioning

20.4.39 Upon decommissioning all Solar PV Panels, mounting piles, cabling, Conversion Units, BESS, substations and On-Site Cables would be removed from within the Solar PV Sites. Given most of this infrastructure is above ground or low lying (up to 1.2m beneath ground level in the case of On-Site Cables) this is unlikely to interfere with utilities.

20.4.40 The decommissioning of the Interconnecting Cables and Grid Connection Cables would be dependent upon government policy and good practice at the time. Currently, the most environmentally acceptable option is considered to be leaving the cables in situ. This option would have no impact upon utilities.

20.4.41 Alternatively, the cable can be removed by opening up the ground at regular intervals and pulling the cables through to the extraction point, avoiding the need to open up the entire length of the cable route. In this case, the works would be undertaken within the footprint excavated during construction. Additionally, the embedded mitigation used during construction would also apply during decommissioning with measures presented within the **Outline Decommissioning Strategy [EN010168/APP/7.14].** With the implementation of such measures, no significant adverse effects on utilities are predicted during Scheme decommissioning.

20.4.42 The **Draft DCO [EN010168/APP/3.1]** includes Protective Provisions for the protection of electronic communication networks and statutory undertakers. Engagement with relevant statutory undertakers is currently ongoing.

Additional Mitigation

20.4.43 As no potential significant effects have been identified in this mineral assessment, no additional mitigation or monitoring is proposed.

Monitoring

20.4.44 As no likely significant effects have been identified for Telecommunications, Utilities and Television, no monitoring of significant effects is proposed.

Residual Effects and Conclusions

20.4.45 This section summarises the residual significant effects of the Scheme on Telecommunications, Utilities and Television following the implementation of embedded and additional mitigation. Significant residual effects are defined as moderate or major.

20.4.46 No residual effects on telecommunications, utilities, and television are anticipated as no significant effects have been identified.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.4.47 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects.

20.4.48 The Scheme has been assessed to have no cumulative effect on Telecommunications, Utilities and Television. It is expected that all other developments included within the cumulative developments shortlist, as set out in **ES Volume 1, Chapter 21: Cumulative and In-Combination**

Effects [EN010168/APP/6.1] are unlikely to have a significant effect on Telecommunications, Utilities and Television as they would adhere to the same mitigation measures as set out above to reduce the risk of damaging utilities. It is assumed that all other developments will conform to good practice measures and their environmental impacts will be managed through a CEMP (or similar) and would include mitigation measures to reduce the risk of damaging utilities during construction. Therefore, no cumulative effects are expected on Telecommunications, Utilities and Television.

In-Combination Cumulative Effects

20.4.49 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.4.50 No in-combination effects alongside telecommunications, utilities and television have been identified as a result of the Scheme.

20.5 Glint and Glare

Introduction

20.5.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects on Glint and Glare which are relevant to the Scheme.

20.5.2 This section is supported by the following appendices in **ES Volume 3 [EN010168/APP/6.3.]**:

- **Appendix 20-4: Solar Photovoltaic Glint and Glare Study.**

Consultation

20.5.3 A request for an Environmental Impact Assessment (EIA) Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3, Appendix 1-2: Scoping Opinion Response Table [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-13** below.

Table 20-13: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.10.1	The Scoping Report proposes to scope out an assessment of glint and glare effects to aviation, railway, road and residential receptors from the Land at Melksham Substation and Cable Route Search Corridor as no Solar PV Panels will be sited within these areas. Considering the nature of the Proposed Development the Inspectorate is content to scope this matter out of further assessment.	Comment noted.
3.10.2	The Scoping Report proposes that the assessment of glint and glare effects will be set out in full in a Technical Appendix to the ES and summarised within the 'Other Environmental Matters' chapter of the ES. The Inspectorate is content with this approach.	Comment noted. The assessment of Glint and Glare is presented within **ES Volume 3, Appendix 20-4: Glint and Glare Assessment [EN010168/APP/6.3]** and summarised within this chapter of the ES. Other ES chapters refer to the Glint and Glare assessment as relevant.

ID	Summary of Matter	Response
	The 'Other Environmental Matters' chapter of the ES should identify any significant effects resulting from glint and glare. ES aspect chapters (such as LVIA and Cultural Heritage) should cross refer to the Glint and Glare assessment where relevant.	
3.10.3	The Scoping Report considers the potential for glint and glare impacts on road and residential receptors but there is no consideration of recreational users of PRoW. The Glint and Glare assessment should include an assessment of the potential impact of the Proposed Development on receptors located on PRoW. The Applicant's attention is drawn to the comments from the Cotswolds National Landscape Board (Appendix 2 of this Opinion) regarding the assessment of potential glint and glare impacts of the Proposed Development upon receptors located on PRoW within the Cotswolds National Landscape (CNL) or with views back towards the CNL.	**ES Volume 3, Appendix 20-4: Glint and Glare Assessment [EN010168/APP/6.3]** includes an assessment of the potential impact of the Scheme on receptors located on PRoW. **ES Volume 1, Chapter 8: Landscape and Visual Impact Statement [EN010168/APP/6.1]** also considers the conclusions of the Glint and Glare Assessment in association within the assessment of the magnitude of Landscape and Visual impacts on PRoW within the scheme and the surrounding landscape (including the CNL).

20.5.4 Engagement has been undertaken with stakeholders comprising Wiltshire Council. The matters raised are summarised in **Table 20-14** below.

Table 20-14: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Wiltshire Council 04/03/2025	Glint and Glare	Wiltshire Council stated that a meeting to discuss Glint and Glare was not necessary at this stage.

20.5.5 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to Glint and Glare are presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.5.6 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary

area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1]**.

Legislation and Planning Policy

20.5.7 A summary of applicable legislation, planning policy and other guidance documents relating to Glint and Glare pertinent to the Scheme is provided below.

20.5.8 Full details of the legislation, policy, and guidance of relevance to the assessment of Glint and Glare is provided in full in **ES Volume 1, Chapter 5: Energy Need Legislative Context and Energy Policy [EN010168/APP/6.1]**.

National Planning Policy

20.5.9 The National Policy Statements (NPSs) that are relevant to Glint and Glare are:

- National Policy Statement for Renewable Energy Infrastructure (EN-3) (January 2024) (Ref 20-64).

20.5.10 EN-3 (January 2024) refers to Glint and Glare from Paragraph 2.10.102 to 2.10.106, 2.10.134 to 2.10.136, and 2.10.158 to 2.10.159. The relevant excerpts are presented in Annex A of **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3].**

Local Planning Policy

20.5.11 No local planning policies have been identified that are relevant to the Scheme and Glint and Glare.

Other Guidance

20.5.12 Other guidance documents relevant to the assessment of the impacts of the Scheme on Glint and Glare include:

- Pager Power's Glint and Glare Guidance (Fourth Edition) (Ref 20-65);
- National Planning Practice Guidance – Renewable and Low Carbon Energy (Ref 20-66);
- Interim Civil Aviation Authority (CAA) guidance – Solar Photovoltaic Systems (Ref 20-67);
- CAA – CAP738: Safeguarding Aerodromes 3rd Edition (Ref 20-68);
- CAA – Aerodromes Safeguarding Advice Note (Ref 20-69)

- US Federal Aviation Authority (FAA) Administration Policy (Ref 20-70);
- FAA Policy: Review of Solar Energy Systems Projects on Federally Obligated Airports (Ref 20-71);
- Overview of Rail Safety and Standards Board Guidance (RSSB) (Ref 20-72); and
- BRE (2014). Planning guidance for the development of large scale ground mounted solar PV systems (Ref 20-73).

Assessment Assumptions and Limitations

20.5.13 Pager Power's Glint and Glare model considers 100% sunlight during daylight hours which is highly conservative (i.e., likely to overestimate real world conditions where cloudy conditions exist) to provide a worst-case.

20.5.14 The model also conservatively assumes that a receptor can view the face of every panel within the Site whilst in reality this, in the majority of cases, will not occur due to local obstacles and the obstruction of panels by other panels in front.

20.5.15 The model does not account for terrain between the reflecting Solar PV Panels and the assessed receptor where a solar reflection is geometrically possible. This has been considered manually where relevant and is therefore not considered to be a limitation of the assessment.

Study Area

20.5.16 A 1km Study Area is used when identifying the following receptors (roads, dwellings and Public Rights of Way (PRoW)) surrounding the Scheme. From a technical perspective, there is no maximum distance for potential reflections. The significance of a reflection however decreases with distance because the proportion of an observer's field of vision that is taken up by the reflecting area diminishes as the separation distance increases. Terrain and shielding by vegetation are also more likely to obstruct an observer's view at longer distances. Beyond 1km the reflections would not be considered significant due to the separation distance.

20.5.17 A 500m Study Area is used when identifying railway receptors surrounding the Scheme. This Study Area is based on previous consultation with Network Rail where they confirmed reflections may be possible beyond this range but would not be considered significant due to the separation distance.

20.5.18 A 5km Study Area for aviation receptors was used for detailed modelling, while those between 5km and 10km were assessed at a high-level. These Study Areas were determined as this is the typical assessment range based on previous experience; aerodromes outside of this range would only be considered for assessment upon request from the relevant aerodrome.

Assessment Methodology

Impact Assessment Methodology

20.5.19 The Glint and Glare Assessment methodology is based on Pager Power's Glint and Glare Guidance (Fourth Edition), which was developed in line with information provided to Pager Power through consultation with stakeholders and by reviewing the available studies. This methodology has been used for other solar consented DCOs such as Sunnica Energy Farm, Cottam Solar Project and West Burton Solar Project. The methodology for a Glint and Glare Assessment is as follows:

- Identification of relevant receptors based on their type and range from the Solar PV Sites;
- Technical modelling of the sun path throughout the year to calculate the times and duration of predicted glare for the Solar PV Panel configuration (this modelling considers bare earth terrain and makes a worst-case assumption that there are never cloudy conditions and therefore direct sunlight is present during all daylight hours);
- Evaluation of impact significance based on the criteria for the receptor type in accordance with Pager Power's guidance (the main considerations are duration, field of view and intensity but this varies per receptor type);
  - For aviation receptors the key considerations are field of view and intensity (see **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]** for full details regarding impact significance determination for aviation receptors);
  - For road and railway receptors, the key consideration is field of view (see **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]** for full details regarding impact significance determination for road and railway receptors);
  - For dwelling receptors, the key consideration is duration and whether a reflection is predicted to be experienced in practice (see **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and**

Glare Study [EN010168/APP/6.3] for full details regarding impact significance determination for dwelling receptors);

- For PRoW and Cotswolds National Landscape viewpoint receptors, the key consideration is whether a reflection is predicted to be experienced in practice.

- Identification of areas that require mitigation, if any; and
- Mitigation strategy if required.

20.5.20 As not all of the Solar PV Panels will be present simultaneously during the construction or decommissioning phase, it is considered that the length and intensity of any glare will be less than or equal to the operation and maintenance phase. The worst-case scenario for Glint and Glare effects is therefore the operation and maintenance phase and as such the construction and decommissioning phases have not been considered further.

Baseline Conditions

20.5.21 This section describes the existing and anticipated future baseline conditions for the Glint and Glare Assessment.

Existing Baseline

20.5.22 The location of the Scheme is rural, surrounded by roads, dwellings, PRoW, railway, and local airfields. A description of the Scheme and its wider context is set out in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1].**

20.5.23 The following airfields in the surrounding area have been identified for assessment. Airfields within 5km were assessed through detailed modelling, while those between 5km and 10km were assessed at a high-level (without detailed modelling). There is no technical limit (distance) within which a solar reflection is possible towards pilots, however the significance decreases with distance. This is because the proportion of an observer's field of vision that is taken up by the reflecting area diminishes as the separation distance increases. Moreover, the Civil Aviation Authorities (CAA) 'Aerodrome Safeguarding Advice Note' sets out that a 5km Study Area for aerodromes is in most cases 'the distance of choice' in terms of detailed assessment (Ref 20-69).

20.5.24 Full details of the aviation receptors are presented in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**:

- Hullavington Airfield, approximately 1.1km west;

  - This airfield is understood not to be currently operational, as flying activities ceased in 2016 and are not aware of any plans to reopen. The airfield has been assessed for reference only.

- Badminton Airfield, approximately 4.6km west;
- Langley House Airfield, approximately 5.2km south;
- Charlton Park Airfield, approximately 5.8km northeast; and
- Bowldown Farm Airfield, approximately 7.0km northwest.

20.5.25 Road receptors have been identified for assessment along the A429 and the road called Bradfield Cottages. All other roads in the assessment area are local roads as per the classifications in **ES Volume 3, Appendix 13-1: Transport Assessment [EN010168/APP/6.3].** Technical modelling is not recommended for local roads, where traffic densities are likely to be relatively low. 66 receptors were identified, at intervals of approximately 100 m along these roads. Full details of the road receptors are presented in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**.

20.5.26 249 dwelling receptors have been identified within the assessment area. Some receptors are used to represent a small number of separate addresses and results are considered representative for the adjacent observer locations. Full details of the dwelling receptors are presented in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3].**

20.5.27 Railway receptors have been identified along the adjacent railway line. In total, 94 receptors were identified, at intervals of approximately 100m along the railway. Full details of the railway receptors are presented in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**.

20.5.28 Several kilometres of footpaths and bridleways are located within the Study Area. This includes the Cotswold National Landscape, which is located to the north and west of the Scheme. 15 sensitive viewpoints have been identified for geometric modelling. Full details of the viewpoint receptors are presented in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3].**

20.5.29 PRoW and permissive paths have been considered more widely at a high-level and without detailed modelling, as it is considered that effects would be considered a ‘low impact’ in the worst-case, as impacts would be short term and transitory.

20.5.30 Only Lime Down A-E (the 'Solar PV Sites') are relevant for Glint and Glare, as Solar PV Panels will be sited within these areas. The Cable Route Search Corridor and Highway Improvement Areas are not relevant for Glint and Glare, due to no panels being sited within these areas, and have therefore not been considered.

Future Baseline

20.5.31 Existing vegetation that is under the control of the Applicant will be allowed to mature at a rate of 0.4m of additional height per year (to a maximum height of 4.5m) therefore this growth rate has been applied to any existing vegetation where considering screening.

Potential Impacts

20.5.32 Embedded mitigation measures being incorporated into the design and construction of the proposed Scheme are set out in the section below. Prior to the implementation of any mitigation (embedded or additional), the proposed Scheme has the potential to affect Glint and Glare (positively or negatively) during operation in the following ways:

- Solar PV Panels can reflect sunlight causing Glint and Glare towards residential dwellings, potentially negatively affecting residential amenity;
- Solar PV Panels can reflect sunlight causing Glint and Glare towards roads and railway lines, potentially disrupting visibility for road users and train drivers, posing safety risks;
- Solar PV Panels can reflect sunlight causing Glint and Glare towards Air Traffic Control (ATC) towers and aircraft on approach to nearby airfields, potentially disrupting visibility for ATC personnel and pilots, posing safety risks; and
- Solar PV Panels can reflect sunlight causing Glint and Glare towards users of PRoW, potentially negatively affecting amenity.

Embedded Mitigation

20.5.33 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on Glint and Glare through the process of embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

20.5.34 The following embedded mitigation measures have been incorporated into the Scheme design.

Operation

- The Scheme design has incorporated setbacks from dwelling receptors where practicable;
- Committing to use of single axis tracking Solar PV Panels where required and implementing a resting angle of 5° (field C14); and
- Committing to use of 2.5m 1P fixed south facing panels where required (field B11).

20.5.35 These measures are secured within the **Outline CEMP [EN010168/APP/7.12]** and the **Outline OEMP [EN010168/APP/7.13].**

20.5.36 Planting has been proposed across the Scheme to screen views from sensitive receptors, as shown within the **Outline Landscape and Ecological Management Plan [EN010168/APP/7.18].** This proposed planting has not been considered within the Glint and Glare Assessment, as this is considered to present a reasonable worst-case scenario. This ensures that any temporary impacts that would occur until planting sufficiently matures are considered within this chapter.

Assessment of Likely Impacts and Effects

20.5.37 This section considers the potential impacts outlined in Section 20.5.32 and, taking into account the committed mitigation measures as detailed in Section 20.5.34, assesses the potential for the Scheme to generate effects using the methodology as detailed in Section 20.5.19

Operation

Aviation Receptors

20.5.38 Solar reflections are predicted towards the approach paths and visual circuits (specified paths to be flown by aircraft operating in the vicinity of an aerodrome) at Hullavington Airfield however it is understood that flying activity ceased at this airfield in 2016, and it is now permanently closed. Results are presented for reference but the impact is not considered to be significant.

20.5.39 Solar reflections with ‘potential for temporary after-image’ are predicted towards receptors on the visual circuits (specified paths to be flown by aircraft operating in the vicinity of an aerodrome) at Badminton Airfield. The effects have been considered in an operational context and are

considered to be operationally accommodatable. The impact is therefore not considered to be significant and no mitigation is required.

20.5.40 A low impact is also predicted towards aviation receptors associated with Langley House Airfield, Charlton Park Airfield and Bowldown Airfield, which are all beyond 5km from the Scheme. Detailed modelling has not been undertaken as it is considered that due to the distance between the Scheme and these airfields, and the runway configurations, effects are predicted to be a low impact.

Road Receptors

20.5.41 For a 0.7km section of Bradfield Cottages road, existing vegetation (approximately 2.2m in 2025) is not currently at a sufficient height to screen views for a typical road user. This vegetation will be allowed to mature at a rate of 0.4m of additional height per year (to a maximum of 4.5m) and will therefore reach a height of at least 3m by the operation and maintenance phase, when panels will be in situ. The proposed vegetation will reach a height to sufficiently screen views of the panels from a typical road user. Brief, infrequent views may be possible for elevated road users (i.e., HGV drivers); however, the nature and duration of these views are not considered to result in significant effects. A low impact is predicted, and mitigation is not proposed.

20.5.42 A low impact is predicted towards road safety associated with a separate 0.3km of the Bradfield Cottages road. Existing vegetation is predicted to partially obstruct views of the reflecting Solar PV Panels and remaining reflections would occur from outside a road user's primary field-of-view or in the presence of significant mitigating factors. These impacts are considered to be not significant.

20.5.43 No impact is predicted towards the remaining road receptors, as it is predicted that no solar reflections will be experienced.

Dwelling Receptors

20.5.44 For fixed south facing panels, solar reflections are predicted to occur for more than three months per year but less than 60 minutes in any given day and the existing vegetation is not currently at a sufficient height to screen views from the ground floor of the dwelling of receptor 24. Existing vegetation is not currently at a sufficient height (approximately 2m in 2025) to screen views from this property. This vegetation will reach approximately 3.2m by the operation and maintenance phase when panels will be in situ, therefore the Applicant has committed to use of 2.5m fixed panels in field B11 to prevent any significant impacts. No impact is predicted, and no mitigation is proposed.

20.5.45 A low impact on residential amenity is predicted for the following receptors due to reflections from the Solar PV Panels, with all impacts considered not significant:

- Nine dwellings (fixed south facing panels): Reflections occur for over 3 months/year but under 60 minutes/day due to vegetation and terrain screening;
- Four dwellings (fixed south facing panels): Reflections reduced to under 3 months/year due to vegetation and terrain screening;
- Four dwellings (single-axis tracking panels): Reflections occur for over 3 months/year but under 60 minutes/day, due to vegetation and terrain screening;
- Eight dwellings (single-axis tracking panels): Reflections reduced to under 3 months/year due to vegetation and terrain screening; and
- Five dwellings (single-axis tracking panels): Reflections possible for under 3 months/year and under 60 minutes/day.

20.5.46 No impact is predicted towards the remaining dwelling receptors, as it is predicted that no solar reflections will be experienced in these locations.

Railway Receptors

20.5.47 For a 0.3km section of railway, solar reflections are predicted to occur within a train driver's primary field-of-view for fixed south facing panels and single axis tracking panels. The Applicant has committed not to implement fixed south facing panels in the affected area in field C14 (as shown in **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**) and implementing a resting angle of 5° to the single-axis tracking panels, which would be sufficient to mitigate any impacts. These impacts are considered to be not significant.

20.5.48 A low impact is predicted towards railway operations associated with a further 0.1km section of railway, where reflections are predicted to occur within a train driver's primary field-of-view in the presence of significant mitigating factors. These impacts are considered to be not significant.

20.5.49 No impact is predicted towards the remaining railway receptors, as it is predicted that no solar reflections will be experienced in these locations.

Cotswolds National Landscape Viewpoint Receptors and PRoW

20.5.50 A low impact is predicted towards five of the 15 viewpoint receptors, where partial screening has been identified in the form of intervening terrain and existing vegetation. These impacts are considered to be not significant.

20.5.51 No impact is predicted towards the remaining viewpoint receptors, as it is predicted that no solar reflections will be experienced in these locations.

20.5.52 A low impact is predicted towards users of PRoW in the vicinity of the Scheme. It is considered that solar reflections towards PRoW would constitute a low impact in the worst-case as there are no significant safety implications and any negative impact upon amenity will be fleeting for users travelling on PRoW, including equestrian and cyclist users. Impacts are considered to be not significant.

Additional Mitigation

20.5.53 No additional mitigation measures are required for Glint and Glare on the basis that the existing vegetation will have grown sufficiently prior to operation.

Residual Effects and Conclusions

20.5.54 This section summarises the residual significant effects of the Scheme on Glint and Glare following the implementation of embedded and additional mitigation. Significant residual effects are defined as moderate or major.

20.5.55 No significant residual effects are predicted following the implementation of embedded and additional mitigation.

20.5.56 See **ES Volume 1, Chapter 22: Summary of Residual Effects [EN010168/APP/6.1]** for a summary of significant effects.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.5.57 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects.

20.5.58 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and the shortlist of cumulative plans and projects identified in **ES Volume 3, Appendix 21-1: Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3]**.

20.5.59 For individual receptors, this cumulative effect assessment identifies where the assessed effects of the Scheme could interact with effects arising from other plans and/or projects on a spatial and/or temporal basis.

20.5.60 Significant cumulative impacts are only possible for aviation receptors where solar developments are directly adjacent, as the primary consideration is glare intensity and solar panel areas which are not directly adjacent would appear as two distinct sources of glare rather than increasing glare intensity.

20.5.61 No plans or projects identified in **ES Volume 3, Figure 21-2: Location of Cumulative Solar Infrastructure [EN010168/APP/6.2]** are located directly adjacent to the Scheme. No significant cumulative effects are identified for aviation receptors.

20.5.62 For solar developments to cause significant cumulative impacts towards other receptors, two solar developments must be located within 2km of each other (such that their 1km assessment areas overlap). The only solar project which is proposed within 2km of the Scheme is Lawn Farm, Malmesbury.

20.5.63 All receptors within 1km of the Lawn Farm boundary are sufficiently screened from the Scheme, such that no impacts are predicted. Therefore, no significant cumulative impacts are identified.

In-Combination Cumulative Effects

20.5.64 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.5.65 No in-combination effects alongside glint and glare have been identified as a result of the Scheme during the construction and decommissioning phases.

20.5.66 In-combination effects at residential receptors as a result of landscape and visual, noise and vibration, and glint and glare impacts have been identified during the operation and maintenance phase, however, these have been assessed as not significant.

20.6 Electromagnetic Fields

Introduction

20.6.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects on Electromagnetic Fields (EMF) which are relevant to the Scheme.

20.6.2 EMF refers to electric and magnetic radiation which is emitted by electrical equipment. The movement of electric charge causes electric and magnetic fields to be produced in the space surrounding the charge. Human exposure to such fields can cause health problems if persistent and/or they are of high strength. The magnitude of the effects is dependent on both the field strength and the exposure time.

20.6.3 This section is supported by the following appendices in **Volume 3 [EN010168/APP/6.3]**:

- **Appendix 20-5: High-Level Electromagnetic Field Assessment.**

Consultation

20.6.4 A request for an EIA Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **Appendix 1-2: Scoping Opinion Response Table [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-15** below.

Table 20-15: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.11.1	The Scoping Report proposes to scope out an assessment of EMF from the BESS, substations, transformers, and PV inverters as these will be housed in protective enclosures, and the substations and BESS will be situated at least 100m from residences and workplaces. It is therefore considered in the Scoping Report that there would be no significant EMF impacts. On this basis and through **ES Volume 3, Appendix 20-5: High Level Electromagnetic Field Assessment [EN010168/APP/6.3]** it has been demonstrated that the design standards have been met. The Inspectorate is content to scope out consideration of EMF from the BESS, substations, transformers and PV inverters.	A full assessment of EMF from the BESS Area, substations, transformers and PV inverters has not been included in this chapter as per agreement to scope this out with the Planning Inspectorate. A high-level assessment is provided for information in **ES Volume 3, Appendix 20-5: High Level Electromagnetic Field Assessment [EN010168/APP/6.3]** which confirms these elements will not result in any significant effects.

ID	Summary of Matter	Response
3.11.2	The Scoping Report proposes that the assessment of EMF associated with the Cable Route Corridor will be summarised within the 'Other Environmental Matters' chapter of the ES. The Inspectorate is content with this approach. The 'Other Environmental Matters' chapter of the ES should identify any significant effects resulting from EMF. ES aspect chapters (such as Human Health) should cross refer to the EMF assessment where relevant. The Scoping Report proposes that the assessment of EMF impacts associated with the Cable Route Corridor on fish will be addressed in Chapter 8. The Inspectorate is content with this approach.	Noted. The assessment of Electromagnetic Fields is presented within **ES Volume 3, Appendix 20-5: High Level Electromagnetic Field Assessment [EN010168/APP/6.3]** and summarised within this 'Other Environmental Matters' chapter of the ES. The potential impacts of EMF on fish have been addressed in **ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]**.

20.6.5 Engagement has been undertaken with stakeholders comprising Wilshire Council. The matters raised are summarised in **Table 20-16** below.

Table 20-16: Summary of Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Wiltshire Council 04/03/2025	Electromagnetic Fields	Wiltshire Council stated that a meeting to discuss Electromagnetic Fields was not necessary.
Ministry Of Defence (MOD) 24/07/2025	Requested to be consulted on any development or change of land use within the Statutory Central Wide Area Multilateration (WAM) Network technical safeguarding zone to ensure the cable routing is compatible with MOD's safeguarding requirements.	Consultation will be held with the MOD on any changes within the Central WAM Network.

20.6.6 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to Electromagnetic Fields are presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.6.7 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1]**.

Legislation and Planning Policy

20.6.8 A summary of applicable legislation, planning policy and other guidance documents relating to Electromagnetic Fields pertinent to the Scheme is provided below.

Legislation

- Electromagnetic Compatibility Directive 2014/30/EU. (Ref 20-74)

20.6.9 This directive relates to CE marking (Conformité Européene) which signifies that a product meets EU safety, health, and environmental standards, ensuring electrical and electronic equipment does not generate or is not affected by electromagnetic disturbances.

- UKCA (UK Conformity Assessed) mark requirements from 1 January 2021. (Ref 20-75)

20.6.10 From 1 January 2021, the UKCA mark replaced the CE mark for goods sold in Great Britain. The CE mark is still required for goods sold in Northern Ireland and accepted in Great Britain. Businesses have the flexibility to use either the UKCA or CE marking to sell products in Great Britain. All proposed cables will be 'UKCA' and/or 'CE' marked.

- Electromagnetic Compatibility Regulations 2016. (Ref 20-75)

20.6.11 This legislation ensures that electrical and electronic equipment should not generate or be affected by electromagnetic disturbance.

National Planning Policy

20.6.12 The National Policy Statements (NPSs) that are relevant to the EMF are:

- National Policy Statement for Electricity Networks Infrastructure (EN-5) (January 2024) (Ref 20-76).

20.6.13 Paragraphs 2.9.44 – 2.9.58, 2.10.11 – 2.10.13, and 2.11.9 – 2.11.16 of EN-5 are specifically related to EMF and have been considered within this chapter.

Other Guidance

20.6.14 Other guidance documents relevant to the assessment of the impacts of the Scheme on Electromagnetic Fields include:

- UK Government advice (Ref 20-77) on exposure to EMF in the everyday environment, including electrical appliances in the home and mobile phones;
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines published in 1998 (Ref 20-78), including reference limits for electric and magnetic fields;
- ICNIRP Guidelines published in 2020 (Ref 20-79). Guidelines for limiting exposure to EMF (100 kHz to 300 GHz); and
- Guidance on EMF from a collective of companies responsible for operating the energy networks in the United Kingdom and Ireland (Ref 20-80).

Assessment Assumptions and Limitations

20.6.15 The locations of the substations, BESS, and Cable Route Corridor are within the outlined areas (see Figures 1 and 4 in **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.2]**). A worst-case scenario has been assessed so that the substations, BESS, and Cables can be placed anywhere within these allocated locations.

20.6.16 The potential impacts of EMF on fish have been addressed in **ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]** and have not been considered further within this section of the assessment.

Study Area

20.6.17 The Study Area for the EMF chapter comprises the Cable Route Corridor and the 1km surrounding area as per the agreement with the Planning Inspectorate to scope out a full assessment of BESS, substations, Conversion Units. The Order Limits have been assessed at a high level within **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]).**

Assessment Methodology

20.6.18 The methodology described in the following section has been developed in line with the appropriate policy and industry guidance for assessing potential effects for EMF from the 400kV Grid Connection Cable proposed

as part of the Scheme. The 400kV cables represent the worst case in terms of Scheme Cabling.

20.6.19 Other cables, including the On-Site and Interconnecting Cables are of a lower voltage and will therefore produce lower levels of EMFs that are negligible compared to 400kV cables and have not been considered within this chapter.

20.6.20 It was agreed with the Planning Inspectorate that a full assessment of EMF from the BESS, substations, Conversion Units and PV could be scoped out as these will be housed in protective enclosures, and the substations and BESS Area will be situated at least 100m from residences and workplaces A high level assessment it presented within **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]** which confirms this infrastructure can be placed anywhere within the designated areas without exceeding applicable exposure limits. The results of this are not reported further within this chapter.

Impact Assessment Methodology

20.6.21 The locations of existing residential properties, PRoW, and places of work within the Study Area have been considered as receptors.

20.6.22 A worst-case scenario has been assessed for both the specifications and potential locations of the 400kV Grid Connection Cables. This approach allows for flexibility in cable placement anywhere within the defined Cable Route Corridor. The precise alignment of the cables will be confirmed during the detailed design stage. The assessment ensures that the final design will remain within the parameters of the worst-case scenario

20.6.23 Within **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]** reference values for EMF have been provided to determine whether setback distances from these receptors are required for the 400kV Grid Connection Cables and Interconnecting Cables.

20.6.24 Only direct effects on these receptors have been assessed as there are no known significant indirect effects from EMF from underground cable routes on human health.

Baseline Conditions

20.6.25 This section describes the existing and anticipated future baseline conditions for the EMF assessment.

Existing Baseline

20.6.26 The existing baseline conditions are derived from a desk-based review of the available aerial and street view imagery of the Scheme undertaken as a part of the **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3].**

20.6.27 The Scheme will be located predominantly on agricultural land. There are existing cable routes and electrical infrastructure within the Study Area and surrounding areas. These will have associated EMF. Further details of existing electrical infrastructure are presented within **ES Volume 1, Chapter 20: Other Environmental Matters [EN010168/APP/6.1].**

20.6.28 The Cable Route Corridor includes a single 400kV Grid Connection Cable circuit made up of three cables, and the total length of the Cable Route Corridor is approximately 22km. The Cable Route Corridor is typically 50m wide, however it does widen in parts up to 665m.

20.6.29 The Earth's natural EMF are static, whereas power systems generate alternating fields. Various international bodies, including the ICNIRP, provide guidelines on safe exposure levels to time-varying EMF. UK policy on public exposure limits follows the 1998 ICNIRP guidelines under the 1999 EU Recommendation, with reference levels established for electric and magnetic fields. These reference levels are subject to further investigation if exceeded in significantly occupied spaces.

20.6.30 Domestic appliances with motors and Conversion Units generate some of the highest magnetic fields that most people are exposed to. The World Health Organisation publishes typical EMF levels for household equipment. For example, at a distance of one metre, magnetic field strengths can range from 0.01–7 microteslas for a hair dryer, 2–20 microteslas for a vacuum cleaner, and 0.01–0.25 microteslas for a refrigerator. Electric field strengths vary, with appliances like irons and refrigerators emitting up to 120 Volts per metre (V/m) at this distance. EMF exposure decreases significantly with distance from these devices.

20.6.31 Therefore, the focus of the assessment will be primarily on the Scheme's proposed electrical infrastructure, rather than any existing electrical infrastructure.

Future Baseline

20.6.32 In the absence of the Scheme, it is considered there will be no change to the future baseline for EMF. The baseline details as presented above (including existing cable routes and other associated electrical infrastructure) are not anticipated to change in the absence of the Scheme.

Potential Impacts

20.6.33 Embedded mitigation measures being incorporated into the design and construction of the proposed Scheme are set out in the section below. Prior to the implementation of any mitigation (embedded or additional), the proposed Scheme has the potential to affect Electromagnetic Fields during operation, in the following ways:

- Buried cables, particularly those used for transmitting electricity, can generate EMF due to the flow of electric current. Elevated EMF levels may exist directly above or near the cables, especially for high-voltage cabling. This could potentially breach ICNIRP reference levels during operation and negatively affect human health.

Embedded Mitigation

20.6.34 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on EMFs through the embedding measures into the Scheme design. In addition, how the Scheme is constructed and operated and maintained, would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

20.6.35 The following embedded mitigation measures have been incorporated into the Scheme design. These details are discussed further in **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]**.

Construction

- Electrical fields from the underground power cables will be shielded by the surrounding jacket and the conducting soil; and
- The 400kV Grid Connection Cables will be installed in trenches up to 2m deep.

Operation

- The Scheme will be designed so that the maximum levels of electromagnetic radiation received at existing residential properties, places of work, and PRoWs, from the 400kV Grid Connection Cables during operation will be below ICNIRP reference levels, due to the distance from the receptors and minimum trench depths (Ref 20-77). This is explained in more detail in **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]**;

- There are no overhead cables planned as part of the Scheme. This is material as underground cables significantly reduce the risk of significant EMF impacts upon human health. There are no electric fields above ground associated with underground cables;
- All proposed cables will be 'UKCA' and/or 'CE' marked (see legislation outlined in Paragraphs 20.6.8 to 20.6.14 for further information);
- A minimum 10m setback has been imposed between high sensitivity receptors (residential dwellings and places of work) and 400kV Grid Connection cables; and
- As the Scheme has been designed to ensure that electromagnetic radiation is below ICNIRP reference levels (Ref 20-77), no further EMF mitigation measures are considered necessary.

Assessment of Likely Impacts and Effects

20.6.36 This section considers the potential impacts outlined in Section 20.6.33 and, taking into account the embedded mitigation measures as detailed in Section 20.6.35, assesses the potential for the Scheme to generate effects using the methodology as detailed in Section 20.6.18

20.6.37 Effects are considered during the operational and maintenance phase only, as electrical infrastructure will be operating at full capacity only during this phase, which is when the most significant EMFs would be produced. Grid cables will not be energised during construction and decommissioning.

Construction and decommissioning

20.6.38 Because operational EMFs are below the ICNIRP reference levels during this phase (as explained further below), they would be no worse during construction or decommissioning, as the Scheme would not be operating at this time. These stages have not been assessed further within the report.

Operation

20.6.39 The latest electrical design for the Scheme (outlined in **ES Volume 1, Chapter 3: The Scheme [EN010168/APP/6.1]**) has been considered below and in **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3].**

20.6.40 It is understood from information obtained from the Electricity Networks Association (Ref 20-80) that the maximum magnetic field level at 1 metre above ground, for a direct buried single circuit underground cable 0.9m below ground level, is below ICNIRP reference levels (Ref 20-77). The

estimated maximum magnetic field is 96.17 micro-Teslas, and the reference level is 100 micro-Teslas. This is considering a 400kV Grid Connection Cable, which represents the maximum assumed voltage for underground cables in the Scheme and also represents the maximum possible voltage (and worst-case scenario) for underground cables. No setback distances are required for any direct buried single circuit cables at 0.9m below ground level or lower in accordance with the policy. However, EMFs will be further reduced with the minimum 10m setback distance from residential dwellings and places of work that has been imposed as embedded mitigation for these cables.

20.6.41 The identified receptors (i.e. residential dwellings and places of work), are designated as Medium sensitivity because people experience EMFs from a man-made environment regularly. Levels of EMF exposure are usually controlled by legislative limits placed on the design and manufacture of electrical products and infrastructure (see CE and UKCA marking legislation outlined in Section 20.6.33 of this chapter).

20.6.42 There are PRoW and permissive paths (low sensitivity) which pass over the cable route and may experience magnetic fields. The magnetic fields will not breach ICNIRP reference levels even directly above the 400kV Grid Connection Cables. This is deemed to be a low impact, as magnetic fields will be below the ICNIRP reference levels and any exposure will be brief, whilst the user of a PRoW or permissive path passes over the 400kV Grid Connection Cables.

20.6.43 Electromagnetic fields below the ICNIRP reference levels are considered to be a low magnitude of impact. These reference levels were set as appropriate values that would not significantly affect human health from long-term exposure.

20.6.44 Considering the medium and low sensitivity of dwelling, places of work, and PRoW receptors and the low magnitude of EMF impacts, the overall significance of the effect would be minor, and therefore not significant in EIA terms. A configuration of a single 400kV Grid Connection Cable circuit, comprised of three buried cables, fibre optics, and low voltage control cable, in a trench at a minimum depth of 1.2m has been considered. No setback is required beyond the 10m offset from residential dwellings and places of work as outlined in Section 20.6.33 and 400kV Grid Connection Cables, as magnetic fields will be below the 100 micro-Tesla reference level at any receptors (Ref 20-77).

Additional Mitigation

20.6.45 As no potential significant effects have been identified in this EMFs assessment, no additional mitigation or monitoring is proposed.

Residual Effects and Conclusions

20.6.46 This section summarises the residual significant effects of the Scheme on Electromagnetic Fields following the implementation of embedded and additional mitigation. Significant residual effects are defined as moderate or major.

20.6.47 It is anticipated that through the use of the embedded mitigation measures and the implementation of well-established good industry practices, the Scheme will result in no significant residual adverse EMF effects on human health.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.6.48 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects.

20.6.49 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 6: Environmental Impact Assessment Methodology [EN010168/APP/6.1]** and shortlist of cumulative plans and projects identified in **ES Volume 3, Appendix 21-1: Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3].** This is explained in more detail in **ES Volume 3, Appendix 20-5: High-Level Electromagnetic Field Assessment [EN010168/APP/6.3]**.

20.6.50 For individual receptors, this cumulative effect assessment identifies where the assessed effects of the Scheme could interact with effects arising from other plans and/or projects on a spatial and/or temporal basis.

20.6.51 The significance of EMF associated with the 400kV Grid Connection Cables is determined to be low. It is expected that the EMF associated with other developments included within the cumulative developments shortlisted would also have no significant effect on receptors and would adhere to the same relevant Government policy as set out above to ensure all EMF is below the relevant exposure limits. The distance between the developments, and the expectation that the other developments would not have been built if there were significant EMF effects mean no cumulative effects are expected due to EMFs.

In-Combination Cumulative Effects

20.6.52 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or

different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.6.53 No in-combination effects alongside electromagnetic fields have been identified as a result of the Scheme.

20.7 Major Accidents and Disasters

Introduction

20.7.1 This section of the Other Environmental Matters chapter presents the findings of an assessment of the likely effects related to Major Accidents and Disasters which are relevant to the Scheme.

20.7.2 As set out in the Institute for Environmental Management and Assessment (ISEP) guidance document 'Major Accidents and Disasters in EIA: A Primer' (Ref 20-81), an assessment should consider 'accidents' and 'disasters', whereby:

- 'Accidents' are an occurrence resulting from uncontrolled developments in the course of construction, operation, maintenance and decommissioning (e.g. a major emission, fire or explosion); and
- 'Disasters' are events such as extreme weather or ground related hazards (e.g. subsidence, landslide, earthquake).

20.7.3 This section is supported by the following appendices in **ES Volume 3 [EN010168/APP/6.3]**:

- **Appendix 20-6 Long List of Major Accidents and Disasters.**

20.7.4 This chapter should be read in conjunction with the documents outlined in **Table 20-19.**

Consultation

20.7.5 A request for an EIA Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in July 2024. The issues raised in the Scoping Opinion are summarised and responded to within **ES Volume 3, Appendix 1-2: Scoping Opinion Response Table [EN010168/APP/6.3],** which demonstrates how the matters raised in the Scoping Opinion are addressed in this ES. Matters where the scope of the assessment has been raised by the Planning Inspectorate are summarised in **Table 20-17** below.

Table 20-17: Planning Inspectorate Scoping Opinion Responses

ID	Summary of Matter	Response
3.16.2	The Inspectorate has considered the approach set out in the Scoping Report and agrees that a standalone chapter for Major Accidents and Disasters is not necessary for these matters.	This comment is noted

20.7.6 Statutory consultation was held between 29 January 2025 and 19 March 2025. A full list of consultation responses in relation to Major Accidents and Disasters is presented in the **Consultation Report [EN010168/APP/5.1]** submitted as part of the Application.

20.7.7 A further round of targeted consultation was undertaken between 3 June 2025 and 11 July 2025 following changes to the development boundary area of the Scheme presented in the PEIR and at Stage Two Statutory Consultation. Further detail regarding the targeted consultation is provided in **ES Volume 1, Chapter 1: Introduction [EN010168/APP/6.1]**.

20.7.8 A summary of key engagement during Statutory Consultation has been provided below in **Table 20-18.**

Table 20-18: Summary of Key Engagement Undertaken

Consultee and Date	Issue/Topic	Response
Dorset and Wiltshire Fire and Rescue Service	Dorset and Wiltshire Fire and Rescue Service have provided detailed guidance on BESS design and installation in accordance with the National Fire Chiefs Council (NFCC) recommendations.	The Dorset and Wiltshire Fire and Rescue Service feedback has informed the BESS Area design, including site access, drainage, and water supply layout. The Emergency Response Plan will be finalised with the local fire service at the detailed design stage and will reflect any updated NFCC guidance.
Health and Safety Executive (HSE)	HSE requested clarification as to whether any hazardous chemicals would be stored on site that would require hazardous planning consent. HSE highlighted the positioning of the Scheme inside the consultation zone of a major accident hazard pipeline (14 Feeder Wormington/Pucklechurch; HSE ref. number 7227, Transco ref.: 1497) and recommended contacting National Gas Transmission (NGT) to discuss relevant protective provisions. They also requested a clearer risk assessment of this asset within the ES.	Hazardous Substance Consent will not be required for the Scheme because there are no in-scope hazardous substances as per Schedule 1 of The Planning (Hazardous Substances) Regulations 2015 on site (Ref 20-82). Two virtual meetings were undertaken between the Applicant and NGT on 07 March 2025 and 09 April 2025. The meetings discussed the presence of Feeder 14 Wormington/Pucklechurch pipeline within the Order Limits, its positioning with regard to the Indicative Site Layouts at the time of meeting and ensuring Protective Provisions will be adequately implemented by the Applicant. The 14 Feeder Wormington/Pucklechurch pipeline has been assessed further within Section 20.7.39.

Consultee and Date	Issue/Topic	Response
	HSE re-clarified the Scheme is not within vicinity of any licensed explosive sites.	
Engagement with relevant utilities providers.	All relevant utilities providers were contacted during statutory consultation to ensure no risk of Major Accidents or Disasters associated with utility breach.	The Applicant undertook checks to ensure all assets recorded by these providers were accounted for within the design considerations and assessment. Moreover, all the relevant Protective Provisions requested by these providers have been included within the **Draft DCO [EN010168/APP/3.1]**.

20.7.9 No additional consultation has been undertaken in relation to Major Accidents and Disasters.

Legislation and Planning Policy

20.7.10 A summary of applicable legislation, planning policy and other guidance documents relating to Major Accidents and Disasters pertinent to the Scheme is provided below.

Legislation

20.7.11 The EIA Regulations (Ref 20-1) contain text relevant to Major Accidents and Disasters.

20.7.12 Schedule 4, Paragraph 5(d) of the EIA Regulations requires that the EIA provides a description of the likely significant effects of the development on the environment resulting from the "*risks to human health, cultural heritage or the environment (for example due to accidents or disasters*)" and Schedule 4, Paragraph 8 requires that the EIA provides "*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*".

20.7.13 Whilst the Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005 (Ref 20-83) does not make any reference to EIA nor directly influences the EIA methodology followed when considering major accidents and disasters, it is noted that the Civil Contingency Act 2004 (Ref 20-84) establish a statutory framework of roles and responsibilities for those involved in emergency preparation and response at the local level. This includes emergency powers that might be necessary to deal

with the effects of serious emergencies and consequently informs the context within which major accidents and disasters should be considered. The Civil Contingency Act 2004 places a duty on local responders to have an accurate understanding of the risks they face in light of local circumstances and priorities through a risk assessment and emergency planning process. These local responders may therefore be informed by EIA consideration of major accidents and disasters.

20.7.14 Whilst other domestic legislation exists that is relevant to Major Accidents and Disasters, a comprehensive list of these or detailed descriptions is not justified, primarily because their pertinence relates to defining relevant mitigation measures rather than influencing the assessment methodology. References are made throughout this assessment to other legislation where it is applicable. This assessment assumes all legislative obligations are met in full and does not seek to duplicate, amend nor form a substitute for any such legislation.

National Planning Policy

20.7.15 There are no specific clauses of National Planning Statements (NPSs) relevant to the Major Accidents and Disasters assessment. NPS EN-1 (January 2024) (Ref 20-85) sets out matters relating to safety; however, this mainly applies to schemes that are subject to the Control of Major Accidents hazards (COMAH) Regulations. The Scheme is not subject to the COMAH Regulations (2015) (Ref 20-86) but the Scheme has considered Section 4.13 of NPS EN-1 (January 2024).

20.7.16 There are no specific clauses of National Planning Policy Framework (NPPF) (December 2024) (Ref 20-87) relevant to the Scheme and the Major Accidents and Disasters assessment. Although not directly relevant to energy developments, the NPPF does refer, at Paragraph 101, to the fact that "*planning policies and decisions should promote public safety and take into account wider security and defence requirements".*

Local Planning Policy

20.7.17 There is no local policy relevant to the Scheme and the Major Accidents and Disasters assessment.

Other Guidance

20.7.18 Other guidance documents relevant to the assessment of the impacts and effects of the Scheme on Major Accidents and Disasters include:

- ISEP guidance document 'Major Accidents and Disasters in EIA: A Primer' (Ref 20-88).

20.7.19 The ISEP guidance document provides a structured methodology for assessing major accidents and disasters within EIA. It outlines key terminology and offers a proportionate approach to screening, scoping and assessment. The primer emphasises the importance of considering the potential significant adverse effects of a development on the environment due to its vulnerability to major accidents and disasters.

Assessment Assumptions and Limitations

20.7.20 The assumptions and limitations for Major Accidents and Disasters are as follows:

- No surveys beyond those undertaken to inform other EIA topics have been completed to establish the baseline for the Major Accident and Disasters assessment;
- **ES Volume 3, Appendix 15-2: BESS Fire Emissions Methodology and Assessment [EN010168/APP/6.3]** undertakes a plume analysis which concludes that there would be no significant air quality effects as a result of a BESS Area fire incident. With this in mind and given that the nearest PRoW receptor is over 350m and residential receptor over 600m, no further modelling or detailed calculations have been undertaken to support this Major Accidents and Disaster assessment. A qualitative assessment approach has been adopted;
- Where information is not available (such as historical evidence on the likelihood and the environmental consequence of an event), professional judgement has been used to reach a conclusion; and
- This assessment is based on the construction, design and decommissioning information that is currently available.

Study Area

20.7.21 The Study Area for the assessment of Major Accidents and Disasters is the area within 5 km from the Site. This distance has selected based on professional experience, approach followed on similar developments and because it is likely to capture all relevant risks, hazards and receptors relevant to the Major Accident and Disasters assessment.

Assessment Methodology

20.7.22 This section sets out the scope and methodology for the Major Accidents and Disasters assessment.

Impact Assessment Methodology

20.7.23 In general, Major Accidents and Disasters, as they relate to the Scheme, fall into three categories:

- Events that are not reasonably expected to occur, due to the nature of the Scheme or its location;
- Events that are not reasonably expected to occur, but for which the Scheme, and associated receptors, are no more vulnerable than any other development and to which project level impact avoidance measures cannot reasonably be applied; and
- Events that could occur, and to which the Scheme is particularly vulnerable, or which the Scheme has a particular capacity to exacerbate.

20.7.24 An initial exercise was undertaken and presented in the Scoping Report (Ref 20-89) to identify relevant major accidents and disasters risk events that could be relevant to the Scheme. This long list was developed from several sources, including the UK Government's National Risk Register (Ref 20-90) and the Wiltshire and Swindon Prepared Registered Risks[1] (Ref 20-91). The long list has since been updated and is presented in **ES Volume 3, Appendix 20-6: Long List of Major Accidents and Disasters [EN010168/APP/6.3]**.

20.7.25 The long list has been screened to form the short list of risk events which have been taken forward for further consideration. The short list of risk events and the list of relevant chapters and assessments in which they have been scoped in are summarised in **Table 20-19.**

20.7.26 Although the majority of the major accident or disaster risk events within the short list are already considered under other legislative or design requirements, this is not considered to be a sufficient reason to automatically eliminate the major accident or disaster from further consideration. Where the assessment concludes there is merit in highlighting particular legislative requirements, these have been included.

20.7.27 Likewise, it is considered reasonable and proportionate to exclude certain receptor groups from the outset. Construction workers, as a receptor, can be excluded from the assessment because existing legal protection is considered to be sufficient to minimise any risk from major accidents or disasters as far as reasonably practicable. Therefore, in the context of this

[1] At the time of writing the full Wiltshire and Swindon Prepared Community Risk Register was not available to review.

assessment, all risks to construction workers would be not significant. Legislation to ensure the protection of workers in the workplace includes:

- Health and Safety at Work etc. Act 1974 (Ref 20-92);
- The Management of Health and Safety at Work Regulations 1999 (Ref 20-93);
- The Workplace (Health, Safety and Welfare) Regulations 1992 (Ref 20-94); and
- Construction (Design and Management) (CDM) 2015 Regulations (Ref 20-95).

Baseline Conditions

20.7.28 The Scheme is not located within a safeguarding zone of an explosives site licensed under the Explosives Regulations 2014 (Ref 20-96) or the Dangerous Goods in Harbour Areas Regulations 2016 (Ref 20-97). The Scheme is also not located within HSE's hazardous substances consented sites. There are no sites that are covered by the COMAH Regulations 2015 (Ref 20-86) within 5km of the Scheme.

20.7.29 Hazardous Substance Consent is not required for the Scheme because currently there are no hazardous substances (as per Schedule 1 of The Planning (Hazardous Substances) Regulations 2015) anticipated to be stored on site during construction or operation and maintenance (Ref 20-84).

20.7.30 The Scheme is located within HSE's land use planning consultation zones for major accident hazard pipelines for the following asset:

- 14 Feeder Wormington/Pucklechurch; HSE ref. number 7227, Transco ref.: 1497.

20.7.31 The 14 Feeder Wormington/Pucklechurch has also been assessed within Section 20.4 with regard to potential for utilities failure.

20.7.32 As identified in **ES Volume 1, Chapter 2: The Order Limits [EN010168/APP/6.1]** there are several sensitive receptors present in the vicinity of the Scheme that could be vulnerable to major accidents or disasters, including towns, villages, farms and residential homes, roads, railways, designated ecological sites, designated heritage sites and underground utilities/ services. Key receptors are shown on **ES Volume 2, Figure 2-3: Environmental and Planning Constraints [EN010168/APP/6.2]**.

20.7.33 The future baseline (in the absence of the Scheme) is anticipated to be comparable to that of the existing baseline and in any event not materially

different when considering the potential for, vulnerability to and consequences from major accidents and disasters.

Potential Impacts

20.7.34 Embedded mitigation measures incorporated into the design and construction of the Scheme are set out in the section below. Prior to the implementation of any mitigation (embedded or additional), the Scheme has the potential to affect (positively or negatively) the following major accident and disaster risk events, during construction, operation and maintenance, and decommissioning as identified in **ES Volume 3, Appendix 20-6: Long List of Major Accidents and Disasters [EN010168/APP/6.3]:**

- Flooding;
- Building failure, fire and associated explosions;
- Air quality events;
- Rail accidents;
- Road accidents;
- Aviation incidents;
- Damage to/cut off of utilities;
- Unstable ground conditions; and
- Plant disease.

Embedded Mitigation

20.7.35 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on Major Accidents and Disasters through the process embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

20.7.36 The following embedded mitigation measures have been incorporated into the Scheme design:

- The Scheme layout seeks to avoid greatest areas of flood risk and avoids existing utilities to reduce risk of damage or severance;
- Fire suppression will be embedded into the design of the battery energy storage containers as outlined in **Table 20-18; and**

- Embedded mitigation measures to be applied during construction, operation and maintenance, and decommissioning are set out in the following documents:
  - **Outline CEMP [EN010168/APP/7.12];**
  - **Outline OEMP [EN010168/APP/7.13];**
  - **Outline Decommissioning Strategy [EN010168/APP/7.14];**
  - **Outline Battery Safety Management Plan (BSMP) [EN010168/APP/7.21];**
  - **Outline Construction Traffic Management Plan (CTMP) [EN010168/APP/7.22];** and
  - **ES Volume 3, Appendices 11-1 to 11-10: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3].**

20.7.37 **Table 20-6** identifies how each of these Embedded Mitigation measures apply to identified Major Accidents and Disasters shortlisted for consideration in the assessment.

20.7.38 These measures include, but are not limited to, minimising spills, applying relevant offsets from sensitive receptors/utilities and preparation of relevant risk assessments prior to construction. The implementation of these plans will be secured via a requirement to the DCO.

Assessment of Likely Impacts and Effects

20.7.39 This section considers the potential impacts outlined in Section 20.7.34 and, taking into account the embedded mitigation measures as detailed in Section 20.7.36, assesses the potential for the Scheme impacts to result in environmental effects using the methodology as detailed in Section 20.7.22.

20.7.40 **Table 20-19** presents the short list of major accident and disaster risk events that have been considered as part of the EIA process.

Table 20-19 Major Accidents and Disasters Shortlisted for Assessment

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
Flooding	Properties and people in areas of increased flood risk.	Construction, Operation and Decommissioning	The majority of the Scheme is within Flood Zone 1. Parts of the Scheme are located within Flood Zones 2 and 3. Flood events can result in damage to property, pollution to land or water and impact communities through displacement. Both the vulnerability of the Scheme to flooding and the potential for the Scheme to exacerbate flooding are covered in **Appendices 11-1 to 11-8: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3]**. Mitigation has been considered and, where necessary, incorporated into the Scheme design to minimise any effects associated with flood risk. The assessment of effects presented in **ES Volume 3, Appendices 11-1 to 11-8: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3]** and reported in **ES Volume 1, Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/ APP/6.1]** assesses the impact of flooding and flood risk from all sources (to the Scheme to other developments outside of the Order limits) and concludes that the effects are not significant. An **Outline CEMP [EN010168/APP/7.12]** has been prepared that identifies measures to prevent an increase in flood risk during the construction phase and also provide details of the response to an impending flood. These include measures such as sequentially locating associated electrical infrastructure to areas with a 'Low' probability of flooding (less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)), where practicable and locating panels and sensitive equipment on legs so that it is no less than 0.6 metres above the surrounding peak flood level.	**ES Volume 1, Chapter 7: Climate Change [EN010168/APP/6.1]**. **ES Volume 1, Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/ APP/6.1]**. **ES Volume 3, Appendices 11-1 to 11-8: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3]**. **Outline CEMP [EN010168/APP/7.12]**.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			The assessment reported in **Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/APP/6.1]** is not replicated within the chapter and effects associated with flooding are considered not significant.	
Building Failure, Fire and Associated Explosions	Local residents, heritage features, controlled waters and habitats and species	Construction, Operation and Decommissioning	There is potential for fire due to the BESS Area element of the Scheme. However, the BESS Containers proposed for the Scheme have built in safety features including cooling systems, fire resistant construction, fire detection, suppression systems, emergency stop functions and isolation monitoring, which are designed to regulate temperatures to within safe conditions to minimise the risk of fire. In addition, the Scheme design includes adequate separation between battery containers to ensure an isolated fire would not become widespread and lead to a major incident. As **per ES Volume 2, Figure 3-1: Indicative Site Layout Plan [EN010168/APP/6.2]** the battery containers will be located more than 350m from the nearest PRoW and more than 600m from any residential receptors. The requirements for battery safety will be secured in the DCO through the implementation of measures included within the **Outline BSMP [EN010168/APP/7.21]**. The development of the **Outline BSMP [EN010168/APP/7.21]** has been considered during the iterative design of the Scheme ensuring that design requirements to ensure fire safety (such as ensuring adequate provision of land for water storage, the location of the BESS Area away from trees and hedgerows to minimise risk of fire spreading and the management of any firewater runoff) have been appropriately identified and addressed. The **Outline BSMP [EN010168/APP/7.21]** has been developed using the guidance provided by Dorset and Wiltshire Fire and Rescue Service,	**ES Volume 1, Chapter 15: Air Quality [EN010168/APP/6.1]**. **ES Volume 1, Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/APP/6.1].** **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1].** **Outline BSMP [EN010168/APP/7.21]**.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			which fully incorporates the recommendations of the National Fire Chiefs Council (NFCC). The **Outline BSMP [EN010168/APP/7.21]** also covers the life safety, welfare and property protection fire safety requirements of the battery banks and demonstrate that their location does not give rise to a significant increase in fire risk and that any risk that does exist is managed by constructing, operating and maintaining, and decommissioning the Scheme in accordance with the approved detailed BSMP. Moreover, **ES Volume 1, Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/APP/6.1]** outlines the risk of diffuse pollution resulting from BESS Area fire. The chapter concludes that with the mitigation including bunding around the BESS Area, use of automatically self-actuating valves and storage of fire water provision on site the residual effect is not significant. **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1]** outlines the risk of explosions from unexploded ordinance (UXO). It concludes that with the implementation of detailed UXO studies prior to construction no significant effects are likely. Following the implementation of the **Outline BSMP [EN010168/APP/7.21]** and mitigation set out in **ES Volume 1, Chapter 19: Ground Conditions** and **Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/APP/6.1]** risks associated with fires and explosions are considered to be not significant.	

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
Air Quality events	Local residents, controlled waters and habitats and species	Construction, Operation and Decommissioning	If the battery cells associated with the BESS Area become damaged by heat or are burnt within a fire affecting a single module, a rack of modules or multiple racks, then the combustible materials consumed in the fire could give rise to a range of organic and inorganic air pollutants. An assessment of how these fumes could impact residential properties and species is provided in **ES Volume 1, Chapter 15: Air Quality [EN010168/ APP/6.1]** which concludes that no significant effects are predicted should a fire event occur. The proximity of the BESS Area to sensitive receptors (more than 350m from the nearest PRoW and more than 600m from any residential receptors) provides adequate attenuation through the dispersion of airborne pollutants. The **Outline BSMP [EN010168/APP/7.21]** sets out the emergency procedure to be followed in the event of a fire including advising local residents to close their windows and stay inside until advised otherwise by the local Fire and Rescue Department. This will be secured via the Emergency Response Plan provided in the **Outline CEMP [EN010168/APP/7.12].** Following the implementation of the above mitigation measures risks associated with Air Quality events are considered to not be significant.	**ES Volume 1, Chapter 15: Air Quality [EN010168/APP/6.1].**
Rail Accidents	Rail Users	Construction, Operation and Decommissioning	The Great Western Main Line (between London to Swansea) passes through the centre of the Scheme (through Lime Down E, south of Lime Down D and through Lime Down C). The potential for glint and glare to affect trains is considered within Section 20.5 of this chapter and **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]** which concludes with the implementation of embedded and additional mitigation, there are no significant effects from glint and glare on rail users.	Section 20.5 of this chapter. **ES Volume 1, Chapter 13: Transport and Access [EN010168/ APP/6.1].**

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			The Grid Connection and On-Site Cables need to be routed beneath the railway. The detailed design for the HDD will be informed by geotechnical site investigation and assessment (to be undertaken post-consent). The Applicant is in discussions with Network Rail and has requested a copy of their standard set of protective provisions, with the aim of seeking agreement on a set that will be included within the DCO. Once agreed, these will be included in the **Draft DCO [EN010168/APP/3.1].** This is likely to include that the methodology for the HDD works will be agreed with Network Rail prior to the works being undertaken. Following the implementation of the mitigation measures outlined above, risks associated with rail infrastructure are considered not significant.	**ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**.
Road accidents	Road Users and the terrestrial and aquatic environment	Construction, Operation and Decommissioning	An assessment of road accidents and road safety has been undertaken and is presented within **ES Volume 1, Chapter 13: Transport and Access [EN010168/APP/6.1].** The assessment concludes that there will be no significant effects on road safety during construction, operation and maintenance and decommissioning phases of the Scheme. An **Outline CTMP [EN010168/APP/7.22]** has been prepared which identifies measures to prevent risk of road accidents during the construction phase i.e., keeping accesses clear throughout construction and use of traffic marshals to ensure safe passage of construction vehicles. The assessment of the risks posed by road accidents involving chemical spillage during construction and decommissioning is presented within **ES Volume 1, Chapter 9: Ecology and Biodiversity** and **Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/ APP/6.1].** These conclude that, with the implementation of the detailed CEMP, the Scheme would result in no significant effects.	**ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/ APP/6.1]**. **ES Volume 1, Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/ APP/6.1]**. **ES Volume 1, Chapter 13: Transport and Access [EN010168/ APP/6.1]**.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			Chapter 11: Hydrology, Flood Risk and Drainage [EN010168/APP/6.1] also includes a description of measures proposed to reduce pollutant runoff to nearby watercourses, which are captured in the **Outline CEMP [EN010168/APP/7.12], Appendices 11-1 to 11-8: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3], Outline OEMP [EN010168/APP/7.13]** and **Outline Decommissioning Strategy [EN010168/APP/7.14].** These include measures such as development of a drainage system to prevent silt-laden runoff, where practicable undertaking earthworks and excavations in drier months and seeding stockpiles as soon as possible. As assessed **Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]** with the implementation of embedded mitigation there will not be any significant effects from glint and glare to any receptors (including road users). It is therefore assessed that glint and glare effects will be negligible on road receptors and not significant in EIA terms. Following the implementation of the mitigation measures outlined above, risks associated with road accidents are considered not significant.	**ES Volume 3, Appendix 11-1-11-8: Flood Risk Assessment and Drainage Strategy [EN010168/APP/6.3]**. **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**. **Outline CEMP [EN010168/APP/7.12]**.
Aircraft Incidents	Aircraft users	Operation	There are two airfields located within 5 km of the Scheme – Hullavington Airfield: approximately 1.0 km to the south and Badminton Airfield: approximately 4.6 km to the west. Hullavington Airfield was a RAF aerodrome that closed in 1993. The site continued to be used for general aviation flying, with one operational runway, until 2016 when the site was permanently closed. Consequently, it not considered further in terms of aviation activity. Badminton Airfield is an	**ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3]**.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			unlicensed General Aviation aerodrome[2] and is understood not to have an Air Traffic Control Tower. It has one operational runway. The potential for glint and glare to affect aircraft is considered within **ES Volume 3, Appendix 20-4: Solar Photovoltaic Glint and Glare Study [EN010168/APP/6.3].** This assessment concluded whilst solar reflections with 'potential for temporary after-image' are predicted towards Badminton Airfield the effects have been considered to be operationally accommodatable, which is considered not significant. There are no other pathways for the Scheme to effect aircraft users. It is therefore considered that there would be no risks associated with an increased prevalence and/or severity of aviation incidents as a result of the Scheme and the effects are not significant.	
Damage to/cut off of utilities (gas, electricity, water, sewage, oil, communications)	Employees, controlled waters and local residents	Construction, Decommissioning	Section 20.4 of this ES assesses the risk of utilities damage/failure in detail (including the 14 Feeder Wormington/Pucklechurch high-pressure gas pipeline). This assessment concludes that with the use of embedded detailed in Section 20.4.24 to 20.4.28 such as locating the Scheme outside of utilities protected zones where practicable which will be secured by the **Outline CEMP [EN010168/APP/7.12], Outline OEMP [EN010168/APP/7.13]** and **Outline DS [EN010168/APP/7.14],** no significant effects are anticipated on employees, controlled waters and local residents. The **Draft DCO [EN010168/APP/3.1]** includes protective provisions for the protection of electronic communication networks and statutory undertakers.	**Section 20.2 Telecommunications, Utilities and Television** of this chapter. **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1].** **Outline CEMP [EN010168/APP/7.12].**

[2] Badminton Airfield does not hold a safety licence from the Civil Aviation Authority.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1] outlines the risk associated with unexpected contamination leading to adverse impacts on water supplies. It concludes with the implementation of a hydrogeological risk assessment to be undertaken prior to construction and appropriate actions taken if contamination is identified (i.e., removing the material) there would be no significant effects on utilities. Following the implementation of the mitigation measures outlined above, risks associated with utilities failure are considered not significant.	**Outline OEMP [EN010168/APP/7.13].** **Outline Decommissioning Strategy [EN010168/APP/7.14].**
Mining/Extractive Industry (Unstable ground conditions)	Employees and local residents	Construction, Decommissioning	There is the potential for current or past quarrying activity in the vicinity to lead to unstable ground conditions due to nearby active quarries. **ES Volume 3, Appendix 19-11: Mining Risk Assessment [EN010168/APP/6.3]** has been prepared as part of the ES which outlines risks from unstable ground within the Order Limits. Any risks identified in **ES Volume 3, Appendix 19-11: Mining Risk Assessment [EN010168/APP/6.3]** will be considered as part of the geotechnical design at detailed design, ensuring that the risk is designed out. The assessment reported in **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1]** is not replicated within the chapter and effects associated with unstable ground conditions are considered not significant subject to the additional measures outlined in Section 20.7.44.	**ES Volume 3, Appendix 19-11: Mining Risk Assessment [EN010168/APP/6.3].** **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1]**.
Plant disease	Habitats and species	Construction	New planting may be susceptible to biosecurity issues, such as the increased prevalence of pests and diseases due to climate change. Phytophthora species (which cause the decay of living plant material) need water to infect and their spread is limited by low temperatures. The predicted wetter warmer winters could therefore increase their prevalence.	**ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]**.

Major Accident or Disaster	Potential Receptor	Scheme Phase	Embedded Mitigation Measures and resultant significance	Relevant ES Chapter or Appendix
			The planting design would take account of biosecurity risks through a wider mix of species and the omission of any species for which there is a known increased risk of disease or pathogen – for example the use of ash (*Fraxinus excelsior*) will likely be avoided due to the current outbreak of the fungal pathogen Ash Dieback (*Hymenoscyphus fraxineus*). The **Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]** sets out appropriate measures to minimise risk of biosecurity risks. There is the potential for disease and pathogen transfer (including undesirable weed species) between different areas of agricultural land due to cross contamination from machinery used on different soils. The Soil Resources Management Plan (SRMP) to be prepared prior to construction (and secured through the DCO) will set out appropriate measures to minimise soil loss and hence biosecurity risk. An **Outline SRMP [EN010168/APP/7.15]** has been prepared for this ES. A Biosecurity Plan will also be prepared prior to construction, secured through the CEMP. This may include measures such as appropriate cleaning and/or disinfection of machinery and equipment in areas considered to be at high risk. The UK Government's website (Ref 20-98) advertising current occurrences and imposed restrictions with regards to animal and plant diseases would be checked both pre-construction and at regular intervals throughout construction. Following the implementation of the mitigation measures outlined above, effects associated with plant disease are considered not significant.	**Outline CEMP [EN010168/APP/7.12]**. **Outline SRMP [EN010168/APP/7.15]**. **Outline LEMP [EN010168/APP/7.18]**.

20.7.41 Notwithstanding the fact that the topic of major accidents and disasters naturally focusses upon low-probability high-impact events, it can be concluded from the detail in **Table 20-19** and consideration of the mitigation measures discussed above that the risk of an accident or disaster arising during the lifetime of the Scheme and the vulnerability of the Scheme to such an event are considered to be low.

20.7.42 Whilst the focus of this assessment has been on avoiding/preventing a major accident or disaster from occurring (or otherwise reducing the vulnerability of the scheme to major accidents and disasters) as far as reasonably practicable, it has also considered how the severity of a major accident or disaster might be minimised and how any environmental consequences that might result from such an event might be mitigated. In the event that an accident or disaster should be experienced, the mitigation measures described above aim to manage the significance of any resulting effects upon environmental receptors as far as reasonably practicable.

20.7.43 The significance of effects that might result from a major accident and disaster event are expected to correlate to the scale of the major accident and disaster event. The embedded mitigation measures described above aim to minimise the risks and hazards associated with major accidents and disasters, specifically including the vulnerability of the Scheme to these and impacts on environmental receptors. Consequently, no significant effects associated with major accidents and disasters (as defined within this assessment) are predicted.

Additional Mitigation

20.7.44 Additional mitigation has been proposed in **ES Volume 1, Chapter 19: Ground Conditions [EN010168/APP/6.1]** of relevance to Major Accidents and Disasters. This includes:

- Where unexpected contamination is encountered, consideration will be given to the impacts of its disturbance on sensitive receptors; particularly water supplies and surface water features. This would initially include a hydrogeological risk assessment to determine whether an increased risk to the receptor exists due to the disturbance. If necessary, material would be removed in line with the Discovery and Inspection Strategy and the CEMP; and
- Additional ground investigation will be deployed to identify the presence of any unrecorded mine workings, shafts, etc which are within the final cable alignment in Cable Corridor Southwest. This information may indicate that additional precautions need to be made

in terms of the selection of techniques such as HDD to advance cables and plant used in trenching, i.e. long-reach excavators.

20.7.45 With the implementation of embedded mitigation measures described in **Table 20-19** and additional mitigation described in 20.7.44, no significant effects are expected for Major Accidents and Disasters.

Residual Effects and Conclusions

20.7.46 This section summarises the residual significant effects of the Scheme on Major Accidents and Disasters following the implementation of embedded and additional mitigation. Significant residual effects are defined as moderate or major.

20.7.47 It is considered that all Major Accident and Disaster risk events associated with the construction, operation and maintenance, and decommissioning phases of the Scheme can be appropriately mitigated through design, measures described in 20.7.44 and the application of management plans submitted as part of the DCO Application. With the implementation of this mitigation, the likelihood of an accident is negligible, and the very nature of a disaster means it is not likely. In the unlikely event that an accident or disaster should occur, the impact would be minimised and controlled through the embedded mitigation and additional mitigation outlined above.

20.7.48 No likely significant major accident and disaster effects are predicted to arise. See **ES Volume 1, Chapter 22: Summary of Residual Effects [EN010168/APP/6.1]** for a summary of significant effects.

Cumulative Effects Assessment

Inter-Project Cumulative Effects

20.7.49 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects.

20.7.50 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 21: Cumulative and In-Combination Effects [EN010168/APP/6.1]** and **ES Volume 3, Appendix 21-1: Long List of In-Combination Effects and Cumulative Developments [EN010168/APP/6.3].**

20.7.51 With the mitigation measures listed in **Table 20-19** to reduce the risk of fire and other shortlisted events for the Scheme, it is not expected that any cumulative developments would increase the risk or severity of the residual effects associated with major accidents and disasters affecting the Scheme.

In-Combination Cumulative Effects

20.7.52 In-combination cumulative effects are those where impacts from two or more environmental disciplines are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. The identified in-combination effects are set out within **ES Volume 1, Chapter 21 Cumulative and In-Combination Effects [EN010168/APP/6.1]**.

20.7.53 The major accident and disasters assessment has inherently considered inter-relationship effects with other topics, including hydrology, flood risk and drainage, climate change, and ground conditions, which have the potential to lead to a risk event or to affect identified receptors. However, as major accidents and disasters are extreme and rare events, they are even more unlikely to combine with the normal effects of the construction or operation and maintenance phases of the Scheme.

20.7.54 No in-combination effects alongside major accidents and disasters have been identified as a result of the Scheme.

20.8 References

Ref 20-1 Lime Down Solar Park Limited (2024) Lime Down Solar Park Scoping Report. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010168/EN010168-000007-EN010168_LDSP_Scoping%20Main%20Report.pdf. [Accessed 8 April 2025].

Ref 20-2 Department for Energy Security and Net Zero (January 2024) Overarching National Policy Statement for Energy. Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1. [Accessed August 2025]

Ref 20-3 Department for Energy Security and Net Zero (January 2024) National Policy Statement for Renewable Energy Infrastructure. Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3. [Accessed August 2025]

Ref 20-4 Department for Energy Security and Net Zero (January 2024) National Policy Statement for Electricity Networks Infrastructure. Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5. [Accessed August 2025]

Ref 20-5 Ministry of Housing, Communities and Local Government (December 2023) National Planning Policy Framework. Available at: https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf. [Accessed August 2025]

Ref 20-6 Wiltshire Council and Swindon Borough Council (2009) Wiltshire & Swindon Minerals Core Strategy Development Plan Document 2006 – 2026. Available at: https://www.wiltshire.gov.uk/media/8546/minerals-core-strategy-june-2009/pdf/minerals-core-strategy-june-2009.pdf?m=1644847319550. [Accessed August 2025]

Ref 20-7 Wiltshire Council and Swindon Borough Council (2009) Wiltshire and Swindon Minerals Development Control Policies Development Plan. Available at: https://www.wiltshire.gov.uk/media/8551/minerals-development-control-policies-dpd-September-2009/pdf/adopted-minerals-development-control-policies-dpd-2009-september.pdf?m=164. [Accessed August 2025]

Ref 20-8 Wiltshire Council and Swindon Borough Council (2013) Wiltshire and Swindon Aggregate Minerals Site Allocations Local Plan. Available at: https://www.wiltshire.gov.uk/media/8558/Aggregate-Minerals-Site-Allocations-Local-Plan-May-2013/pdf/minerals-adopted-sites-local-plan-may-13.pdf?m=1644848312187. [Accessed August 2025]

Ref 20-9 British Geological Survey (2011) Mineral Safeguarding in England Good Practice Advice. Available at: https://nora.nerc.ac.uk/id/eprint/17446/1/OR11046.pdf. [Accessed August 2025]

Ref 20-10 Mineral Products Association and Planning Officers Society (2019) Mineral Safeguarding Practice Guidance. Available at: https://www.mineralproducts.org/MPA/media/root/Publications/2019/MPA_POS_Minerals_Safeguarding_Guidance_Document.pdf. [Accessed August 2025]

Ref 20-11 Wiltshire Council and Swindon Borough Council (2023) Wiltshire and Swindon Local Aggregate Assessment 2022. Available at: https://www.wiltshire.gov.uk/media/12581/Wiltshire-and-Swindon-Local-Aggregate-Assessment-2022/pdf/Wiltshire_and_Swindon_Local_Aggregate_Assessment_2022.pdf?m=1704880287023. [Accessed August 2025]

Ref 20-12 His Majesty's (HM) Government (2017). The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents [Accessed May 2025].

Ref 20-13 European Commission (2008). Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and repealing certain Directives (Waste Framework Directive). Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02008L0098-20180705 [Accessed May 2025].

Ref 20-14 HM Government (2011). The Waste (England and Wales) Regulations 2011 (as amended). Available at: https://www.legislation.gov.uk/uksi/2011/988/contents/made [Accessed May 2025].

Ref 20-15 HM Government (2019) The Waste (Miscellaneous Amendments) (EU Exit) Regulations 2019. Available at: https://www.legislation.gov.uk/uksi/2019/620/made. [Accessed May 2025].

Ref 20-16 HM Government (2016). The Environmental Permitting (England and Wales) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents [Accessed May 2025].

Ref 20-17 HM Government (1990). Environmental Protection Act 1990 (as amended). Available at:

https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed May 2025].

Ref 20-18 HM Government (2021). Environment Act 2021. Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted [Accessed May 2025].

Ref 20-19 HM Government (2005). The Hazardous Waste (England and Wales) Regulations 2005 (as amended). Available at: https://www.legislation.gov.uk/uksi/2005/894/contents/made [Accessed May 2025].

Ref 20-20 HM Government (2013). The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013. Available at: https://www.gov.uk/guidance/regulations-waste-electrical-and-electronic-equipment [Accessed May 2025].

Ref 20-21 HM Government (2009). The Waste Batteries and Accumulators Regulations 2009. Available at: https://www.legislation.gov.uk/uksi/2009/890/contents [Accessed May 2025].

Ref 20-22 Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities (2014) National Planning Practice Guidance Minerals. Available at: https://www.gov.uk/guidance/minerals#minerals-overview. [Accessed August 2025]

Ref 20-23 DESNZ (2024) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3 [Accessed May 2025].

Ref 20-24 DESNZ (2024) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5 [Accessed May 2025].

Ref 20-25 Ministry of Housing, Communities and Local Government (MHCLG) (2025) National Planning Policy Framework (NPPF). Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed May 2025].

Ref 20-26 Department for the Environment, Food and Rural Affairs (Defra) (2021). The Waste Management Plan for England [online]. Available at: https://www.gov.uk/government/publications/waste-management-plan-for-england-2021 [Accessed May 2025].

Ref 20-27 MHCLG (2015). National Planning Policy Guidance (NPPG) for Waste. Available at: https://www.gov.uk/guidance/waste [Accessed May 2025].

Ref 20-28 MHCLG (2014). National Planning Policy Guidance (NPPG) for Minerals. Available at: https://www.gov.uk/guidance/minerals [Accessed May 2025].

Ref 20-29 Defra (2018). A Green Future: Our 25 Year Plan to Improve the Environment. Available at: https://www.gov.uk/government/publications/25-year-environment-plan [Accessed May 2025].

Ref 20-30 Defra (2018). Our Waste, Our Resources: A Strategy for England. Available at: https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england [Accessed May 2025].

Ref 20-31 Defra (2023). Environmental Improvement Plan. Available at: https://www.gov.uk/government/publications/environmental-improvement-plan [Accessed May 2025].

Ref 20-32 Defra (2023). The waste prevention programme for England: Maximising Resources, Minimising Waste. Available at: https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste/the-waste-prevention-programme-for-england-maximising-resources-minimising-waste [Accessed May 2025].

Ref 20-33 Wiltshire Council (2015). Wiltshire Core Strategy. Available at: https://www.wiltshire.gov.uk/media/372/Wiltshire-Core-Strategy-adopted-2015/pdf/Wcs.pdf?m=1574343137353 [Accessed May 2025].

Ref 20-34 Wiltshire Council (undated). Wiltshire and Swindon Minerals and Waste Development Framework. Available at: https://www.wiltshire.gov.uk/planning-policy-minerals-waste [Accessed May 2025].

Ref 20-35 Swindon Borough Council and Wiltshire Council (2009). Wiltshire and Swindon Waste Core Strategy 2006-2026. Available at: https://www.wiltshire.gov.uk/media/8548/waste-core-strategy-july-2009/pdf/waste-core-strategy-2009-july.pdf?m=1644847623427 [Accessed May 2025].

Ref 20-36 Swindon Borough Council and Wiltshire Council (2009). Wiltshire and Swindon Minerals Core Strategy 2006-2026. Available at: https://www.wiltshire.gov.uk/media/8546/minerals-core-strategy-june-2009/pdf/minerals-core-strategy-june-2009.pdf?m=1644847319550 [Accessed May 2025].

Ref 20-37 Wiltshire Council and Swindon Borough Council (2013). Wiltshire and Swindon Aggregate Minerals Site Allocations Local Plan Adopted May 2013. Available at: https://www.wiltshire.gov.uk/media/8558/Aggregate-Minerals-Site-Allocations-Local-Plan-May-2013/pdf/minerals-adopted-sites-local-plan-may-13.pdf?m=1644848312187 [Accessed May 2025].

Ref 20-38 Swindon Borough Council and Wiltshire Council (2013). Wiltshire and Swindon Aggregate Waste Site Allocations Local Plan. Available at: https://www.wiltshire.gov.uk/media/8561/waste-site-allocations-local-plan-february-2013/pdf/waste-site-allocations-local-plan-feb-20131.pdf?m=1644848543520 [Accessed May 2025].

Ref 20-39 Swindon Borough Council and Wiltshire Council (2023). Wiltshire and Swindon Local Aggregate Assessment 2022. Available at: https://www.wiltshire.gov.uk/media/12581/Wiltshire-and-Swindon-Local-Aggregate-Assessment-2022/pdf/Wiltshire_and_Swindon_Local_Aggregate_Assessment_2022.pdf?m=1704880287023 [Accessed May 2025].

Ref 20-40 Swindon Borough Council and Wiltshire Council (2013). Wiltshire and Swindon Minerals and Waste Development Framework: Policies Map. Available at: https://www.wiltshire.gov.uk/media/8558/Aggregate-Minerals-Site-Allocations-Local-Plan-May-2013/pdf/minerals-adopted-sites-local-plan-may-13.pdf?m=1644848312187 [Accessed May 2025].

Ref 20-41 the Institute of Sustainability and Environmental Professionals (ISEP) (2020). ISEP Guide to: Materials and Waste in Environmental Impact Assessment, Guidance for a Proportionate Approach. Available at: https://www. ISEP.net/resources/reading-room/2020/03/30/materials-and-waste-in-environmental-impact-assessment [Accessed May 2025].

Ref 20-42 Waste and Resources Action Programme (WRAP) (undated). Designing Out Waste: A Design Team Guide for Civil Engineering. No longer available online. [Accessed August 2025]

Ref 20-43 Contaminated Land: Applications in Real Environments (CL:AIRE) (2011). Definition of Waste: Development Industry Code of Practice (DoW CoP). Available at: https://www.claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document [Accessed May 2025].

Ref 20-44 Defra and Environment Agency (2018). Waste Duty of Care Code of Practice. Available at: https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice [Accessed May 2025].

Ref 20-45 Defra (2011). Guidance on Applying the Waste Hierarchy. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uplo

ads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf [Accessed May 2025].

Ref 20-46 Solar Power Europe (2015). Lifecycle Quality: Best Practice Guidelines Version 1.0. Available at: https://www.solarpowereurope.org/insights/thematic-reports/lifecycle-quality-best-practice-guidelines-version-1-0 [Accessed May 2025].

Ref 20-47 Department for Business and Trade (2023). UK Battery Strategy. Available at: https://www.gov.uk/government/publications/uk-battery-strategy [Accessed May 2025].

Ref 20-48 Solar Energy UK (2025). Solar Supply Chains: Sustainability Issues and Action. Available at: https://solarenergyuk.org/wp-content/uploads/2025/03/Supply-Chain-Briefing-2.pdf[Accessed May 2025].

Ref 20-49 Environment Agency (2024). 2023 Waste Summary Tables for England – Version 1. Available at: https://www.data.gov.uk/dataset/59ab8448-3905-49c6-9122-ae762f96f66b/2023-waste-data-interrogator#:~:text=Three%20resources%20are%20available%20on%20this%20record%20for%202023:%20- [Accessed May 2025].

Ref 20-50 Environment Agency (2024). 2023 Waste Data Interrogator – Waste Received (Excel) – Version 1. Available at: https://environment.data.gov.uk/api/file/download?fileDataSetId=4f93894b-bac5-4ce1-9475-10f09c185a2a&fileName=2023%20Waste%20Data%20Interrogator%20-%20Wastes%20Received%20(Excel)%20-%20Version%201.zip. [Accessed May 2025].

Ref 20-51 Environment Agency (2024). Permitted Waste Sites - Authorised Landfill Site Boundaries. Available at: https://www.data.gov.uk/dataset/ad695596-d71d-4cbb-8e32-99108371c0ee/permitted-waste-sites-authorised-landfill-site-boundaries [Accessed May 2025].

Ref 20-52 Environment Agency (2024). Historic Landfill Sites. Available at: https://www.data.gov.uk/dataset/17edf94f-6de3-4034-b66b-004ebd0dd010/historic-landfill-sites [Accessed May 2025].

Ref 20-53 Environment Agency (2024). Environmental Permitting Regulations - Waste Sites. Available at: https://www.data.gov.uk/dataset/e2cc8101-d8b7-434d-a26a-9115061bb57c/environmental-permitting-regulations-waste-sites [Accessed May 2025].

Ref 20-54 UK Steel (2023). Steel UK's Key Statistics Guide May 2023. Available at: https://www.uksteel.org/versions/2/wizard/modules/fileManager/downloadDigitalFile.php?url=https%3A%2F%2Ffiles.cdn-files-

a.com%2Fuploads%2F8346772%2Fnormal_64d3974279292.pdf [Accessed May 2025].

Ref 20-55 Mineral Products Association (MPA) (2023). Profile of the UK Mineral Products Industry: 2023 Edition. Available at: https://www.mineralproducts.org/MPA/media/root/Publications/2023/Profile_of_the_UK_Mineral_Products_Industry_2023.pdf [Accessed May 2025].

Ref 20-56 Defra (2023).UK statistics on waste. Available at: https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-onwaste#key-points [Accessed May 2025].

Ref 20-57 Vekony, A.T (2024). Recycling: A Solar Panel's Life after Death. Available at: https://www.greenmatch.co.uk/blog/2017/10/the-opportunities-of-solar-panel-recycling [Accessed May 2025].

Ref 20-58 Ofcom 2009. West TV Region: Digital Switchover transmitted groups. Available at: https://www.ofcom.org.uk/siteassets/resources/documents/spectrum/tv-transmitter-guidance/maps/west_v2.2.pdf?v=333172 [Accessed: 15 May 2025].

Ref 20-59 National Grid (2007). Specifications for Safe Working in the Vicinity of National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties. [Accessed August 2025]

Ref 20-60 Northern Gas Networks (2017). Working safely near high pressure gas pipelines and associated installations: Third party requirements. [Accessed August 2025]

Ref 20-61 Health and Safety Executive (2014) Avoiding danger from underground services: HSG47. 3rd edn. London: HSE Books. ISBN 978-07176658462.

Ref 20-62 National Grid (n.d.) Dial Before You Dig: Specification for Safe Working in the Vicinity of NGT Assets. Available at: www.beforeyoudig.nationalgrid.com [Accessed August 2025].

Ref 20-63 Vodaphone (2021). Mobile phone masts: Everything you need to know. Available at: vodafone.co.uk/newscentre/smart-living/everything-you-need-to-know-about/mobile-phone-masts-everything-you-need-to-know/ [Accessed 10 July 2025].

Ref 20-64 DECC (2023) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf [Accessed June 2025].

Ref 20-65 Pager Power Glint and Glare Guidance, Fourth Edition (4.0), September 2022 [Accessed August 2025]

Ref 20-66 National Planning Practise Guidance - Renewable and Low Carbon Energy (2023) Available at https://www.gov.uk/guidance/renewable-and-low-carbon-energy [Accessed June 2025].

Ref 20-67 Interim Civil Aviation Authority (CAA) guidance – Solar Photovoltaic Systems (2023) Available at https://www.caa.co.uk/media/hlsmmmoi/cast-renewable-energy-developments-solar-july-2023.pdf [Accessed June 2025].

Ref 20-68 CAA – CAP738: Safeguarding Aerodromes 3rd Edition (2020) Available at https://www.caa.co.uk/publication/download/12346 [Accessed June 2025].

Ref 20-69 CAA (2024) Aerodrome Safeguarding Advice Notice (Advice Note 5). Available at: https://www.caa.co.uk/media/f51mg4hs/cast-advice-note-5-renewable-energy-developments-renewable-energy-apr-24.pdf [Accessed August 2025].

Ref 20-70 Federal Aviation Administration Policy: Review of Solar Energy System Projects on Federally-Obligated Airports, Federal Aviation Administration, date: May 2021 [Accessed August 2025]

Ref 20-71 A Policy: Review of Solar Energy Systems Projects on Federally Obligated Airports (2021) Available at https://www.federalregister.gov/documents/2021/05/11/2021-09862/federal-aviation-administration-policy-review-of-solar-energy-system-projects-on-federally-obligated [Accessed June 2025].

Ref 20-72 Signal Sighting Assessment Requirements, June 2016. Railway Group Guidance Note [Accessed August 2025]

Ref 20-73 BRE. Planning guidance for the development of large scale ground mounted solar PV systems (2014) Available at https://files.bregroup.com/solar/KN5524_Planning_Guidance_reduced.pdf [Accessed June 2025].

Ref 20-74 Consolidated text: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility. Available at: http://data.europa.eu/eli/dir/2014/30/2018-09-11 [Accessed June 2025].

Ref 20-75 Electromagnetic Compatibility Regulations 2016. Available at https://www.gov.uk/government/publications/electromagnetic-compatibility-regulations-2016/electromagnetic-compatibility-regulations-2016-great-britain. [Accessed June 2025].

Ref 20-76 DESNZ (2023) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf [Accessed June 2025].

Ref 20-77 UK Government advice on exposure to EMF in the everyday environment, including electrical appliances in the home and mobile phones. Available from: https://www.gov.uk/government/collections/electromagnetic-fields [Accessed June 2025].

Ref 20-78 1998 International Commission on the Non-Ionizing Radiation Protection (ICNIRP) guidelines. Available at https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf [Accessed June 2025].

Ref 20-79 2020 International Commission on the Non-Ionizing Radiation Protection (ICNIRP) Guidelines For Limiting Exposure To Electromagnetic Fields (100 Khz To 300 Ghz). Available at https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pd [Accessed June 2025].

Ref 20-80 Industry body for the companies which run the UK and Ireland's energy networks. Available at www.emfs.info [Accessed June 2025].

Ref 20-81 ISEP (2020). Major Accidents and Disasters in EIA: A Primer. London: the Institute of Sustainability and Environmental Professionals. [Accessed August 2025]

Ref 20-82 UK Government. (2015). The Planning (Hazardous Substances) Regulations 2015. [online] Available at: https://www.legislation.gov.uk/uksi/2015/627/contents [Accessed 2 May 2025].

Ref 20-83 His Majesties Stationary Office (HMSO) (2005), Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005. Available at: https://www.legislation.gov.uk/uksi/2005/2042/pdfs/uksi_20052042_en.pdf [Accessed: 6 May 2025].

Ref 20-84 HSMO (2004). Civil Contingencies Act 2004. Available at: https://www.legislation.gov.uk/ukpga/2004/36/contents [Accessed: 6 May 2025].

Ref 20-85 Department of Business, Energy & Industrial Strategy (2024). Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/64252f3b60a35e00120cb158/NPS_EN-1.pdf [Accessed 26 March 2025].

Ref 20-86 Health and Safety Executive (HSE). (2015). Control of Major Accident Hazards (COMAH). Regulations 2015. Available at: https://www.hse.gov.uk/comah/ [Accessed 26 March 2025].

Ref 20-87 Ministry of Housing, Communities & Local Government, December 2024. National Planning Policy Framework, https://www.gov.uk/guidance/national-planning-policy-framework [Accessed 26 March 2025].

Ref 20-88 ISEP (2020). Major Accidents and Disasters in EIA: A Primer. London: the Institute of Sustainability and Environmental Professionals. Available at: https://www. ISEP.net/content/major-accidents-and-disasters-in-eia-an- ISEP-primer-october-2020/ [Accessed 26 March 2025].

Ref 20-89 Lime Down Solar Park Limited (2024) Lime Down Solar Park Scoping Report. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010168/EN010168-000007-EN010168_LDSP_Scoping%20Main%20Report.pdf. [Accessed 8 April 2025].

Ref 20-90 HM Government. (2025). National Risk Register – 2025 edition. Available at: https://assets.publishing.service.gov.uk/media/67b5f85732b2aab18314bbe4/National_Risk_Register_2025.pdf [Accessed 26 March 2025].

Ref 20-91 Wiltshire & Swindon Prepared. Registered Risks by Risk Rating. Available at: Registered Risks Rated Very High - Wiltshire & Swindon Prepared [Accessed 26 March 2025].

Ref 20-92 HMSO (1974). Health and Safety at Work Act 1974. Available at: https://www.legislation.gov.uk/ukpga/1974/37/pdfs/ukpga_19740037_en.pdf [Accessed: 6 May 2025].

Ref 20-93 HMSO (1999). The Management of Health and Safety at Work Regulations 1999. Available at: http://www.legislation.gov.uk/uksi/1999/3242/pdfs/uksi_19993242_en.pdf [Accessed: 6 May 2025].

Ref 20-94 HMSO (1992). The Workplace (Health, Safety and Welfare). Regulations 1992. Available at: http://www.legislation.gov.uk/uksi/1992/3004/made/data.pdf [Accessed: 6 May 2025].

Ref 20-95 HMSO (2015). Construction (Design and Management). Regulations 2015. Available at: http://www.legislation.gov.uk/uksi/2015/51/pdfs/uksi_20150051_en.pdf [Accessed: 6 May 2025].

Ref 20-96 HSMO (2014) Explosives Regulations 2014. Available at: https://www.legislation.gov.uk/uksi/2014/1638/contents [Accessed: 6 May 2025].

Ref 20-97 HSMO (2016) Dangerous Goods in Harbour Areas Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/721/contents/made [Accessed: 6 May 2025].

Ref 20-98 Department for Environment, Food & Rural Affairs and Animal and Plant Health Agency (2025) Animal diseases: international and UK monitoring. GOV.UK. Available at: https://www.gov.uk/government/collections/animal-diseases-international-monitoring [Accessed: 11 July 2025].