EAST YORKSHIRE SOLAR FARM

East Yorkshire Solar Farm
EN010143

Framework Operational Environmental Management Plan

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Prepared for:

East Yorkshire Solar Farm Limited

Prepared by:

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1. Introduction

1.1 Introduction

1.1.1 This document provides the framework for the Operational Environmental Management Plan (OEMP) for East Yorkshire Solar Farm (hereafter referred to as 'the Scheme'). A detailed OEMP will be produced for the Scheme, prior to the date of final commissioning.

1.1.2 A Development Consent Order (DCO) would provide the necessary authorisations and consents for the Scheme which comprises the construction, operation (including maintenance) and decommissioning of a solar photovoltaic (PV) electricity generating facility with a total capacity exceeding 50 megawatts (MW) and export connection to the national grid, at National Grid's Drax Substation, and associated infrastructure. The Scheme is classified as a Nationally Significant Infrastructure Project (NSIP) under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref. 1).

1.1.3 The aim of this Framework OEMP is to provide a clear and consistent approach to the control of operational and maintenance activities within the Site. This document does not address construction or decommissioning activities, which are subject to separate environmental management plans and procedures (**Framework Construction Environmental Management Plan (CEMP) [EN010143/APP/7.7]** and **Framework Decommissioning Environmental Management Plan (DEMP) [EN010143/APP/7.9]).**

1.1.4 An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and an Environmental Statement (ES) has been prepared in accordance with the Infrastructure Planning (EIA) Regulations 2017 (EIA Regulations). In accordance with the requirements of the EIA Regulations, the ES contains the assessment of the likely significant effects on the environment that may be caused during the operational phase of the Scheme and describes a range of 'industry standard' or best practice mitigation and operational management measures. This Framework OEMP outlines these operational mitigation measures and sets out the monitoring activities designed to ensure that such mitigation measures are carried out, and that they are effective.

1.1.5 The detailed OEMP will be produced in line with this Framework OEMP, which provides the structure and outline information, in accordance with Requirement 12 of the **draft DCO [EN010143/APP/3.1]**, before the Scheme becomes operational. This Framework OEMP is designed with the objective of ensuring compliance with the relevant environmental mitigation measures set out within the ES.

1.1.6 The key elements of this Framework OEMP are:

a. An overview of the Site, Scheme and associated operational activities and programme;

b. Prior assessment of environmental impacts (through the EIA);

c. Proposed design and other mitigation measures to prevent or reduce potential adverse environmental effects;

d. Monitoring and reporting of effectiveness of mitigation measures;

e. Corrective action procedure; and

f. Links to other complementary plans and procedures.

1.1.7 In summary, this Framework OEMP identifies how commitments made in the ES will be translated into actions and includes a process from implementing the actions through to the allocation of key roles and responsibilities.

1.1.8 The appointed contractor(s) will be responsible for working in accordance with the environmental controls documented in the Framework OEMP and for the preparation and implementation of the detailed OEMP.

1.1.9 This Framework OEMP has been designed with the objective of compliance with the relevant environmental legislation and mitigation measures set out within the ES.

1.1.10 Any additional licences, permits, or approvals that are required will be listed in the detailed OEMP, including any environmental information submitted in respect of them.

1.2 The Applicant

1.2.1 The Applicant (East Yorkshire Solar Farm Limited) is a wholly owned subsidiary of BOOM Developments Limited who specialise in non-subsidised solar and battery storage projects. BOOM Developments Limited was founded in 2020, and the name BOOM is an acronym for Build Own Operate Maintain. This reflects the organisation's intentions to be involved in sustainable energy projects from day one right the way through to operation.

1.2.2 Further information on BOOM Developments Limited can be found in **Chapter 1: Introduction, ES Volume 1 [EN010143/APP/6.1]** and the **Funding Statement [EN010143/APP/4.2].**

1.2.3 The DCO Application is submitted to the Planning Inspectorate, with the decision of whether to grant a DCO to be made by the Secretary of State for Department for Energy Security and Net Zero (hereafter referred to as the 'Secretary of State') pursuant to the Planning Act 2008 (Ref. 1).

1.3 The Site

1.3.1 The Order limits are shown on **Figure 1-2, ES Volume 3 [EN/010143/APP/6.3]** and represent the maximum extent of land to be acquired or used for the construction, operation (including maintenance), and decommissioning of the Scheme. This includes land required for temporary and permanent uses. The 'Site' is the collective term for all land within the Order limits.

1.3.2 The Site comprises approximately 1,276.5 hectares (ha) of land, centred on National Grid Reference SE 756 330. It is located between the hamlet of Gribthorpe and villages of Spaldington, Brind and Willitoft. The nearest town is Howden approximately 1.6 kilometres (km) away at the closest point.

1.3.3 The Site includes the following elements:

a. The Solar PV Site which will include the Solar PV Panels and supporting solar PV infrastructure, including the two 33 kV/132 kV Grid Connection Substations;

b. The Grid Connection Corridor includes the area outside of the Solar PV Site within which the 132 kV cabling linking the Grid Connection Substations to the National Grid Drax Substation will be laid;

c. The Interconnecting Cable Corridor includes the area outside of the Solar PV Site and Grid Connection Corridor which will contain the 33 kV cabling linking the Solar PV Areas to the Grid Connection Substations;

d. Ecology Mitigation Area includes the area of land in the north-east of the Site which is to be managed to provide good quality habitat for overwintering and migratory bird species; and

e. Site Accesses includes additional land required to facilitate access to the Site, such as new access routes or measures to provide better visibility splays.

1.3.4 The Order limits straddle the boundary between East Riding of Yorkshire Council and North Yorkshire Council. The Solar PV Site, Ecology Mitigation Area and Interconnecting Cable Corridor are solely located within the administrative area of East Riding of Yorkshire Council. The Grid Connection Corridor and Site Accesses are located within the administrative areas of East Riding of Yorkshire Council and North Yorkshire Council.

1.3.5 Further details of the Site are presented in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** and the Outline Design Principles **[EN010143/APP/7.4].**

2. Operational Environmental Management

2.1 Introduction

2.1.1 This section sets out the general site arrangements for the operational phase of the Scheme.

2.2 Operation Activities

2.2.1 During the operational phase, activity within the Scheme will be minimal and will be restricted principally to vegetation management, equipment maintenance and servicing, replacement and renewal of any components that fail, and monitoring and inspection. It is anticipated that maintenance and servicing would include the inspection, removal, reconstruction, refurbishment or replacement of faulty or broken equipment to ensure the continued effective operation of the Scheme. Along the Grid Connection Corridor operational activity will consist of routine inspections (schedule to be determined) and any reactive maintenance such as where a cable has been damaged.

2.2.2 It is anticipated that there will be three permanent staff employed during the operational phase, who will be based at the operations and maintenance hub at Johnson's Farm (Solar PV Area 1e). Additional staffing/visitors such as maintenance workers and deliveries will be ad hoc as needed. It is assumed that this will equate to four days of additional worker time per month.

2.2.3 Any operational maintenance activities required to be undertaken on Horizontal Directional Drilling (HDD) cable sections within the Grid

Connection Corridor are expected to be undertaken within existing joint bays installed during construction.

2.2.4 Additionally, the cleaning of Solar PV Panels is anticipated to be undertaken on every two years (as a worst case), as explained in section 2.5.8.

2.3 Operation Programme

2.3.1 The design life of the Scheme is 40 years with decommissioning to commence 40 years after final commissioning (currently anticipated to be 2027 to 2067).

2.3.2 During the operational phase the solar farm will be monitored 24/7. Any maintenance activities will be programmed between 08:00 to 18:00 Monday to Friday, 08:00 to 14:00 on a Saturday and will not take place on a Sunday or Bank Holiday. Night-time working is not generally expected but may occur at times, such as for emergency repairs or maintenance, and if needing to clean the panels. For these purposes, "emergency" means a situation where, if the relevant action is not taken, there will be adverse health, safety, security or environmental consequences that in the reasonable opinion of the undertaker would outweigh the adverse effects to the public (whether individuals, classes or generally as the case may be) of taking that action.

2.4 Control of Light

2.4.1 The general principles of the lighting design in the operational phase are set out below.

2.4.2 During operation, the Solar PV Areas will not require artificial lighting other than during temporary periods of maintenance/repair. All routine maintenance activities, except panel cleaning, will be scheduled for daylight hours as far as is practicable, and therefore it is anticipated that focussed task specific lighting should only be required in the event of emergency works/equipment failure requiring night-time working or panel cleaning operations.

2.4.3 As further described in section 2.5.8, as a worst-case, it is estimated that the Solar PV Panels would be cleaned every two years. The panels would be cleaned at night when they are cool and not tracking. The current preferred solution for cleaning operations would be lit by tractor mounted lighting which is akin to that used during night-time arable harvesting operations which are currently undertaken within the Site.

2.4.4 As they are containerised units, the Field Station Units/ Field Substations may also contain internal artificial lighting (to be manually activated when needed), but light spillage would be minimal (through doorway when open).

2.4.5 It is anticipated that the compound for the two Grid Connection Substations will have inward facing Passive Infra-Red (PIR) controlled security lighting installed at each corner of the compound. As for the Solar PV Areas, all routine maintenance activities will be scheduled for daylight hours as far as is practicable, and focussed task specific lighting should only be required in the event of emergency works/equipment failure requiring night-time working.

2.4.6 It is anticipated that there will be internal lighting within the control buildings for the Grid Connection Substations, but that light spillage from these would

be minimal (through open doorway only), outside task specific and fixed 'general' lighting may be required in winter periods (early mornings and evenings) to meet safety requirements. Outside of core working hours PIR controlled lights (motion sensors) will be used.

2.4.7 At the operations and maintenance hub at Johnson's Farm, task specific and fixed 'general' lighting may be required in winter periods (early mornings and evenings) to meet safety requirements. Outside of core working hours PIR controlled lights (motion sensors) will be used. The buildings will be fitted with internal lighting, but light spillage would be minimal (through open doorway and the windows of the offices only).

2.4.8 Therefore, during operation, no part of the Scheme will be continuously lit. The general design principles for operational lighting are set out below (see also the **Outline Design Principles Statement [EN010143/APP/7.4])**.

2.4.9 Lighting will be directional with care to minimise potential for light spillage beyond the Site particularly towards houses, live traffic, and habitats, and will be designed with reference to the Institute of Lighting Professionals (ILP) Guidance Notes (in particular GN-8/23: Bats and Artificial Lighting at Night (Ref. 2) which was produced in collaboration with the Bat Conservation Trust (BCT), and GN-1: Reduction of Obtrusive Light (Ref. 3) in so far as it is reasonably practicable.

2.4.10 This includes the implementation of measures such as:

a. Lights will be of the minimum brightness and/or power rating capable of performing the desired function;

b. Light fittings will be used that reduce the amount of light emitted above the horizontal (reduce upward lighting);

c. Light fittings will be positioned correctly, inward facing and directed downwards;

d. Direction of lights will seek to avoid spillage onto neighbouring properties, habitats, highway or waterway; and

e. Passive Infra-Red (PIR) controlled lights (motion sensors) will be used except where temporary focussed task specific lighting is required.

2.5 Operational Traffic and Access

2.5.1 Heavy Goods Vehicle (HGV) movements are anticipated to be low across the 40-year operational period, but when required HGV movements will be restricted to certain times of day (between 09:00 and 16:00) and restricted to the strategic road network (A63, A163, and A645 (HGV) It is expected that the majority of deliveries will be by light goods vehicle (LGV) or car.

2.5.2 Abnormal Indivisible Loads (AIL) movements during the operational phase are not anticipated due to the delivery of spare transformer phases to the Grid Connection Substations during the construction phase**.** If AILs are needed during the operational period, they will be in accordance with the findings of the routing review for large vehicles which is discussed further in the **Framework Construction Traffic Management Plan (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]).**

2.5.3 A small number of private vehicles for the three permanent staff and ad hoc maintenance workers and visitors will also use the local road network along with light goods maintenance and delivery vehicles when required.

2.5.4 Accesses into the site installed during the construction phase (either new accesses or modified/extended existing accesses) will remain in place during the operational phase. The exception to this is that the site access off Rowlandhall Lane into Solar PV Area 3c will only be used at construction and decommissioning. During the operational phase of the Scheme access to Solar PV Area 3c will use the access through Newsholme village (this access will not be used at construction or decommissioning). Use of the Newsholme village access during operation will largely be restricted to access by site staff and maintenance workers with vehicles using this route generally being no larger than a van or Light Goods Vehicle (LGV). The access can accommodate tractor-trailers, but use by this size of vehicle would be very infrequent, likely restricted to panel cleaning operations which would be undertaken every two years as a worst case. Tractor access would also be required for grass cutting within the Solar PV Site if grazing is not undertaken.

2.5.5 It is noted that on the Grid Connection Corridor alone, some accesses may have been modified/reduced in footprint at the end of the construction period.

2.5.6 It is anticipated that any components which are removed (replaced) will be transported to the Scheme's storage facilities (at Johnson's Farm), by transit van or similar or LGV. Once a sufficient volume of waste has been accumulated to make a 'load' for transport off-site, it is anticipated that these movements will also be undertaken by LGV (i.e., not HGV).

2.5.7 Parking provisions will be provided on hardstanding at the Operations and Maintenance Hub at Johnson's Farm and within Solar PV Areas, likely adjacent/part of Field Stations. Within the Cable Corridors parking will be off the carriageway. Likely on the hardstanding of bell mouth accesses for routine monitoring visits, or within fields/adjacent to works areas should maintenance operations be required).

2.5.8 Further details on traffic and transport are presented in **Table 7.** Transport and Access.

2.6 Panel Cleaning

2.6.1 The panel cleaning requirements for the Scheme can only be accurately determined once operational; therefore, to present a worst-case, a two-year cleaning cycle is assumed.

2.6.2 Panel cleaning would be achieved using a tractor mounted cleaning system with a rotating 'car-wash' type brush. It is anticipated that water would be brought to Site in 1 m3 (intermediate bulk containers (IBC). Individual IBCs would be mounted on the rear of the tractor to provide water supply during cleaning.

2.6.3 Panels would be cleaned at night when they are cool, as applying cold water to warm panels can lead to thermal shock and the risk of micro-cracks to the panel surface. Cleaning operations typically commence at sunset (after the panels have stopped tracking and have returned to their night-time horizontal

position) and finish prior to the panels recommencing tracking in the morning.

2.6.4 As the use of cleaning products (chemicals) can damage panels and void manufacturer's warranties, no cleaning products would be used only water.

2.6.5 Dry-cleaning would not be employed as the action of the dry brush and any dust present on the panel surface would likely result in the formation of micro-scratches. Such scratches would likely attract/harbour more dirt on the panel surface decreasing efficiency and potentially voiding manufacturer's warranties.

2.7 Management of Vegetation Planting

2.7.1 A **Framework Landscape and Ecological Management Plan (LEMP) [EN010143APP/7.14]** has been prepared and submitted as part of the DCO Application. The Framework LEMP provides a framework for delivering the landscape strategy and the successful establishment and future management of proposed landscape works associated with the Scheme. It sets out the short and long-term measures and practices that will be implemented to establish, monitor, and manage landscape and ecology mitigation and enhancement (biodiversity net gain) measures embedded in the design.

2.7.2 The Framework LEMP sets out the measures proposed:

a. To mitigate the effects of the Scheme on landscape, biodiversity, and heritage features;

b. To enhance the biodiversity, landscape, and green infrastructure value of the Order limits; and

c. To secure compliance with relevant national and local planning policies.

2.7.3 A detailed LEMP will be prepared in accordance with the Framework LEMP and will be submitted to and approved by the relevant local planning authority prior to construction, as secured through a requirement in the DCO. This will include provisions in respect of on-going maintenance and management of the landscape and ecology.

2.8 Recovery, Recycling and Disposing of Waste

2.8.1 The contractor will separate the main waste streams on-site, prior to transport to an approved, licensed third party waste facility for recovery, recycling or disposal.

2.8.2 Waste Duty of Care will be followed for all waste generated on Site. All waste to be removed from the Site will be undertaken by fully licensed waste carriers and taken to suitably licensed waste facilities and managed in line with the requirements of the Hazardous Waste Regulations (2005) (Ref. 4) and the Waste (England and Wales) Regulations (2011) (Ref. 5). The Scheme will apply the waste heirarchy, in priority order; prevention, preparation for reuse, recycled, other recovery and disposal.

2.9 Water Supply

2.9.1 During operation self-contained portable welfare units which store foul/wastewater for collection/emptying by specialist licenced contractors will

be deployed on an ad hoc basis (e.g., if required by maintenance crews) at the further reaching sites where the use of the facilities at the Operations and Maintenance Hub at Johnson's Farm is not feasible.

2.9.2 The water supply for the Operations and Maintenance Hub will come from the mains supply and disposal of foul water will be to septic tank emptied by specialist licenced contractor.

2.9.3 Water for panel cleaning will be brought to Site in 1 m^3 (intermediate bulk containers (IBC)).

2.10 Security

2.10.1 The Site will receive several security risk management threat assessments during its development, construction, operation, and ultimately decommissioning phases. These security risk management threat assessments are conducted by suitable qualified and experienced persons (SQEP) and will determine security risks.

2.10.2 The Applicant recognises, and embraces, the symbiotic relationship between safety and security. The security arrangements to be present at the Site will therefore contribute to the overall safety of all who will, or may, enter the site. The security arrangements will be SQEP reviewed at identified epochs commensurate to the Security Risk rating and will further assess any changes in the Security Risk Management Threat Assessment.

2.10.3 The Solar PV Site perimeter fence will enclose the operational areas of the solar farm. The fence will be a stock proof mesh-type security fence with wooden posts up to 2.2 m in height.

2.10.4 Post mounted internal facing closed circuit television (CCTV) systems will be installed around the perimeter of the operational areas of the Solar PV Site. The wooden mounting posts will be directly driven into the ground using a standard post driver. There will be no excavation of foundations or 'concreting in' of posts. The power supply and communication (fibre optic) cables to the cameras will be underground.

2.10.5 The perimeter CCTV system will be mounted on wooden posts approximately 2.5 m high. These CCTV cameras will have fixed, inward-facing viewsheds and will be aligned to capture only the Scheme fence and the area inside the fence, thereby not capturing publicly accessible areas. The poles will be positioned at every change in direction to the fence, and the anticipated spacing is every 50 m along straight sections. The CCTV will use thermal imaging and Infrared (IR) lighting to provide night vision functionality meaning that no visible lighting will be needed for security.

2.10.6 The Grid Connection Substations will be securely fenced with galvanised palisade security fencing, likely green in colour. The fencing would be at a maximum height of 2.4 m. There would be a perimeter fence around both Grid Connection Substation compounds, with a secure gated access point off Tottering Lane. Additional internal fencing would be erected around each of the Grid Connection Substation compounds to allow works to be undertaken in one Substation without having to shut down the other.

2.10.7 Centrally located CCTV mounted up to 5.0 m will be installed within the Grid Connection Substation compounds covering a 360° view of the Grid Connection Substations. These CCTV cameras will have fixed, inward-facing

viewsheds and will be aligned to capture only the Scheme fence and the area inside the fence, thereby not capturing publicly accessible areas. The CCTV will use thermal imaging and IR lighting to provide night vision functionality meaning that no visible lighting will be needed for security.

2.10.8 The Operations and Maintenance Hub will be manned throughout the day, night-time security will be provided by CCTV (as above).

3. Mitigation and Monitoring

3.1 Purpose

3.1.1 This section of the Framework OEMP sets out the mitigation measures to be included as a minimum in the detailed OEMP. It also sets out monitoring requirements and the responsible party identified for each mitigation measure or monitoring requirement. This section will be updated and expanded upon as part of the preparation of the detailed OEMP.

Table 1. Climate Change

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Greenhouse gas emissions from the operational maintenance activities required during operation of Scheme.	• Use of motion detection security lighting and thermal /IR CCTV system to avoid permanent lighting and reduce energy demand of the Scheme (see sections 2.4 and 2.10); • Establish, monitor, and manage landscape and ecology mitigation and enhancement (BNG) measures embedded in the design, secured through the **Framework Landscape and Ecological Management Plan (LEMP) [EN010143/APP/7.14],** which has been submitted as part of the DCO Application; • Regular maintenance of the Scheme will be conducted to optimise the efficiency of the Scheme infrastructure; • Operating the Scheme in such a way as to minimise the creation of waste and maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with higher recycled content; and • Switching off vehicles and plant when not in use and ensuring vehicles conform to current EU emissions standards. In addition, adaptation measures to reduce the effect of projected temperature increases on electrical equipment over the course of the Scheme's design life have been taken into account. PV inverters will have a cooling system installed to control the temperature and allow the inverters to operate efficiently in warmer conditions. The PV modules and transformers have a wide range of acceptable operation temperatures, and it has been determined that increasing temperatures will not adversely affect their operation.	N/A	The overall responsibility will be with the Applicant. Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	Consideration will also be given to the UKCP18 climate change projections outlined in **Chapter 6: Climate Change, ES Volume 1 [EN010106/APP/6.1]** section 6.5, and the resilience of the Scheme's infrastructure to these, through the detailed design process.		

Table 2. Ecology

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Disturbance to protected and notable species and associated habitat from artificial lighting.	During operation, the Solar PV Areas will not require artificial lighting other than during temporary periods of maintenance/repair. All routine maintenance activities, except panel cleaning, will be scheduled for daylight hours as far as is practicable, and therefore it is anticipated that focussed task specific lighting should only be required in the event of emergency works/equipment failure requiring night-time working or panel cleaning operations (section 2.4). Section 2.4 details the control of light during the Operational period and section 2.5.8 discusses lighting during panel cleaning. Where lighting is required during operation, it will conform to best practice guidelines with respect to minimising light spill into adjacent habitats and prevent disturbance to bats and other species.	N/A	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.
Impacts on aquatic habitats/species and water-dependent nature conservation sites	A **Framework Surface Water Drainage Strategy Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]** has been developed and includes measures to manage surface water runoff from the Grid Connection Substations in Solar PV	Regular recording of compliance in a logbook. The detailed OEMP will detail the frequency. The detailed OEMP will include a regular schedule for visual inspection of the	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	Area 1c during operation and will reduce the likelihood and severity of potential pollution incidents and flooding affecting watercourses and the local ditch network to reduce or eliminate adverse effects for aquatic and riparian species and habitats. A detailed Surface Water Drainage Strategy for the Grid Connection Substations (based on the detailed design and infiltration testing data) will be developed post-consent. Discussions with the Ouse and Humber Drainage Board confirmed that surface water drainage measures were not required for other areas of the Site. Detailed information is provided in **Table 3** regarding mitigation measures to avoid adverse impacts to aquatic habitats and water-dependent nature conservation sites.	attenuation ponds, channels, culverts, panels and all other equipment.	confirmed in the detailed OEMP.
Reduction in habitat connectivity	The Solar PV Site perimeter fence design (stock proof mesh-type security fence with wooden posts) will include gaps at the base to allow mammals that may use retained habitats, including, badger, brown hare and hedgehog, to pass underneath at strategic locations, thereby retaining connectivity across the Scheme.	Check by Environmental Manager during detailed design, procurement, and installation.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Reduction in habitat quality	Habitats within the Site will be managed to achieve Biodiversity Net Gain (BNG) targets (as detailed in the **BNG Assessment Report, ES Volume 7 [EN010143/APP/7.11]**) and to provide suitable habitat for a range of protected and notable species during the operational phase of the Scheme. Habitat management principles are outlined in the **Framework LEMP, ES Volume 7 [EN010143/APP/7.14]** and will be confirmed in the detailed LEMP. This includes management and monitoring of artificial bird and bat habitat boxes and any wetland features created for wading birds. Grazing by sheep is the Applicant's preferred option for the management of the grassland created within the solar farm. Should grazing not be achievable in some or all areas of the Solar PV Site, grassland will instead be managed by mowing/strimming.	Monitoring requirements, frequency and responsibility is outlined in the **Framework LEMP, ES Volume 7 [EN010143/APP/7.14]** and will be confirmed in the detailed LEMP.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.
Loss of functionally linked land for qualifying species of the Lower Derwent Valley SPA/Ramsar/SSSI	The objective of the mitigation areas is to ensure that there is no net loss in foraging opportunities for the non-breeding populations of pink-footed goose, golden	The success of this will be measured by monitoring the Mitigation Areas as follows: a. The five-year peak mean (Years 1 to 5 of operation) of each species using	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be

Potential Impact	Mitigation Measure	Monitoring	Responsibility
and Humber Estuary SPA/Ramsar/SSSI	plover and lapwing recorded using the Order limits.	the relevant mitigation area, will reflect that recorded during the surveys. This equates to a five-year peak mean of 264.34 Pink-footed Goose, 218.5 Golden Plover and 52.59 Lapwing. This measure will also be repeated in years 6 to 10 of operation. After year 10 of operation, monitoring will be carried out on every fifth year, up to decommissioning (which will commence no later than 40 years after final commissioning in accordance with requirement 18, Schedule 2 of the draft DCO **[REP5-009]**). Operational monitoring will be detailed and secured in the detailed Landscape and Ecological Management Plan and OEMP. Monitoring will include both the occupancy of the mitigation areas by the target species and the condition of these habitats, in the context of providing optimal foraging habitat. Annual monitoring reports will be submitted for review and consultation with NE and the East Riding of Yorkshire Council as the host authority, to allow any remedial actions to be identified and agreed. Any remedial actions agreed with the stakeholders will be implemented as a commitment by the Scheme.	confirmed in the detailed OEMP.

Table 3. Water Environment

Potential Impact	Mitigation Measure	Monitoring	Responsibility
The following impacts may occur without adequate mitigation: • Impacts on water quality in watercourses and groundwater from run-off and the potential for accidental spillages from new permanent hardstanding and maintenance activities; • Potential impacts on hydrology as a result of the Scheme. This may also have a subsequent effect on aquatic habitats and water-dependent nature conservation sites; • Potential impacts on the rate and volumes of surface water run-off entering local watercourses and increasing the risk of flooding; • The current arable fields are treated with fertiliser and pesticides. During the life of the project the use of such chemicals will be ceased which will lead to beneficial impacts on the water environment; and	**Watercourse Buffers** Watercourse buffers of 10 m from solar PV infrastructure (except in the case of open-cut cable installation) and 30 m in the case of the River Ouse, River Derwent and unnamed drain (DE53) will be implemented. For small channel watercourses/agricultural drainage channels this would be measured from the top of bank as required by IDBs (confirmed during consultation on 15 March 2023, and this will likely require survey). For larger watercourses with channel widths typically greater than 3 m (such as the River Ouse and River Derwent), this would be measured from the water's edge / channel extents under normal flow conditions. **Flood Risk Mitigation Requirements** Where panels are located within Flood Zone 3, the tilt range of the tracker panels will be restricted to ensure that a 300 mm freeboard above the modelled design flood event (1% Annual Exceedance Probability (AEP) plus climate change) is maintained at all times regardless of whether there is a flood event occurring or not. Tilt range can be set on a solar PV table by solar PV table basis and therefore will vary across the Flood Zone 3 area. Additionally, if increasing water levels are observed or if a flood warning is received,	Regular recording of compliance in a logbook. The OEMP(s) will detail the frequency. The detailed OEMP(s) will include a regular schedule for visual inspection of the panels and all other equipment. No water quality monitoring is required during the operational period.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
• Potential impacts on groundwater resources and local water supplies.	panels will be remotely moved into their horizontal (night-time storage position) of 2.3 m above ground level, as further described in the **FRA (Appendix 9-3, ES Volume 2 [EN010143/APP/6.2])**. To compensate for the approximate 150 m^3 of floodplain volume lost as a result of the Scheme in Solar PV Area 2a, flood compensation will be delivered along the edge of Flood Zone 3 in this area to provide this storage. The floodplain compensation indicative area can be seen in **Figure 9-4, ES Volume 3 [EN010143/APP/6.3].** The precise location and design of the compensation area will be determined at detailed design. In Solar PV Area 2a, where the solar PV panels are located within Flood Zone 3, the tilt range of the tracker panels will be restricted to ensure that a 300 mm freeboard above the estimated flood event is maintained at all times. Where depressions are located, the panels will either traverse the depression and maintain the same minimum panel level as the highest ground level either side or will stop at the depression if it is too wide. To compensate for the approximate 100 m^3 of floodplain volume lost as a result of the Scheme in Solar PV Area 1e, flood compensation is proposed along the edge of Flood Zone 3 in this area to provide this storage. The floodplain compensation indicative area can be seen in **Figure 9-4, ES**		

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	Volume 3 [EN010143/APP/6.3]. The precise location and design of the compensation area will be determined at detailed design. To increase resiliency of the panels in both parcels, including during the 1% AEP H++ event, when a flood warning is issued by the Environment Agency, the panels will be set to their horizontal position where the height above ground level will be 2.30 m. The Site will be monitored 24 hours a day and site inspections will occur daily so operatives will set the panels to the horizontal position if increasing water levels are observed or if a flood warning is received. This is done remotely, likely from the Operations and Maintenance Hub at Johnson's Farm. Field Stations located within Flood Zone 2 and in areas of surface water flood risk will be raised a minimum of 300 mm above the modelled design flood event. The Grid Connection Substations will be located in in Solar PV Area 1c which is Flood Zone 1. **Surface Water Drainage Strategy** A **Framework Surface Water Drainage Strategy Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]** has been developed and includes measures to manage surface water runoff from the Grid Connection Substations in Solar PV Area 1c during operation and will reduce the likelihood and severity of potential pollution incidents and flooding		

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	affecting watercourses and the local ditch network. A detailed Surface Water Drainage Strategy for the Grid Connection Substations will be developed post-consent. This is to be informed by the detailed substation design and infiltration testing data. Discussions with the Ouse and Humber Drainage Board confirmed that surface water drainage measures are not required for other areas of the Site. **Panel Cleaning** This is described in section 2.6 Panel Cleaning**.** **Herbicides** Should any herbicide or other spray chemical be needed in small volumes, a method statement, operating procedure or similar will be prepared prior to the work commencing. This will include measures to protect ground and surface water, including working in dry weather and not in high winds, and maintaining appropriate buffers from watercourses. Application of chemicals would only be carried out by suitably competent personnel using products approved for UK use with adherence to manufacturer's instructions.		

Table 4. Landscape and Visual Amenity

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Lighting on residential, Public Right of Way (PRoW) and road receptors	The control of lighting in the operational phase of the development is presented in section 2.4 and will prevent nuisance light to residential, road and PRoW receptors.	Daily checks of operational areas will note any instances where lighting requires adjustment.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.
Potential to impact on residential and road receptors	New and existing hedgerows will be managed and maintained to a range of heights between 2.5 m and 3.5 m.	Monitoring of planting is provided in **Outline LEMP [EN010131/APP/7.14]**	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Table 5. Noise and Vibration

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Noise and vibration from operational equipment.	Embedded mitigation measures to reduce noise emissions are summarised as follows: • Plant selection; • Design Location and orientation of Field Station Units / Field Substations, and the Grid Connection Substations (collectively referred to as 'fixed plant') to minimise noise at receptors. Fixed plant that will be used in the Scheme has not yet been finalised. Where practicable quieter plant than that considered in EIA will be incorporated into the final design. Quieter plant would be the most effective way of controlling noise emissions. Fixed plant will be located as far as practicable from sensitive receptors where the highest levels of noise were predicted. This will be a minimum distance of 250 m. Fixed plant will be designed, constructed, operated and maintained with the objective that the $L_{Ar,Tr}$ rating level of fixed plant at affected residential receptors is not more than 30 dB. In cases where it is not reasonably practicable to achieve this objective, the Applicant will adopt measures so that noise from all fixed plant is reduced as far as is reasonably practicable, including the consideration of: a. engineering feasibility; b. cost; and	Noise monitoring will be undertaken during commissioning. The OEMP(s) will detail the frequency.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	c. other design considerations such as the visual appearance of plant, equipment and any screening or structures which house the equipment. In these cases, the Applicant will design, construct, and maintain the fixed plant such that, under all reasonably foreseeable circumstances, the $L_{Ar,Tr}$ rating level of the fixed plant operation at affected residential receptors does no higher than the levels presented in Table 11-17 of **Chapter 11: Noise and Vibration, ES Volume 1 [EN010143/APP/6.1]**. Low frequency noise can be very difficult to predict with a high level of certainty and similarly hard to identify and resolve if present. This is because it can be generated by the unexpected interactions between system components and can be amplified by the geometry of the site and receptor buildings. The issue of low frequency noise will be considered during the detailed design post consent for the Grid Connection Substations and eliminated through design, or appropriately mitigated (isolation and attenuation measures). Plant will be inspected regularly and any faults that result in increased levels of noise emissions will be logged and repaired as soon as practicable.		

Table 6. Socio-Economics and Land-Use

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Disruption to users of Public Rights of Way	A **Framework Public Rights of Way Management Plan (PRoW MP) [EN010143/APP/7.13]** is presented with the DCO Application and considers the management of PRoW during operation. This will be updated and measures incorporated in to the detailed OEMP. The Framework **PRoW MP states:** • The existing PRoW which pass through or run adjacent to the Site are expected to be unaffected during the operational phase. • It is not expected that any Temporary Traffic Management (TTM), PRoW diversions or closures will be required and the majority of vehicles accessing the Site will be maintenance vehicles/Light Goods Vehicles (LGV) and will be nominal in number. • The Scheme will retain the existing links to adjacent PRoW routes and highways as at present. The operational phase of the Scheme will include the following mitigation measures: • Maintaining access to all existing PRoW within the Site, with no diversions or closures (any PRoW temporarily diverted during the construction phase will be reinstated prior to the operational phase); and • Controlling areas where the internal maintenance route crosses any existing PRoW (such as by providing gates), permitting only operational traffic to utilise these internal routes within the Solar PV Areas.	Monitoring any permissive routes to enhance the current PRoW network during the operation. To be confirmed in the detailed OEMP.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	Operational traffic would give-way to other users when utilising the crossing points. Visibility will be maximised between operational vehicles and other users, with warning signage provided if required. A minimum width has been incorporated into the Scheme design for PRoW within or directly adjacent to the Solar PV Site. The PRoW will also be buffered from the perimeter fencing, with fencing being installed a minimum distance of 20 m either side of the centre of the PRoW where solar infrastructure lies to both sides (creating a 40 m wide corridor between the fence lines), or 15 m if solar infrastructure is to one side only. There will be a further 5 m from the perimeter fence to the Solar PV Panels. This will avoid the perception of being channelled into narrow passages between solar PV panels. Provision of two Permissive routes are shown on the indicative site layout plan (**Figure 2-3, ES Volume 3 [EN/010143/APP/6.3]**) and are further described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**. The first proposed Permissive route is a continuation of Bridleway SPALB08 which currently terminates at Johnson's Farm (Solar PV Area 1e). Following discussions with East Riding of Yorkshire Council's PRoW Team it is proposed that this Permissive Path will allow passage on foot or on horseback. The proposed Permissive route runs northwards for approximately 340 m until it connects with the second proposed Permissive route. This second route runs eastwards from footpath SPALF14 (to the north of Spaldington) parallel with Londesborough Drain,		

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	connecting with the first Permissive route and continuing eastwards to the edge of the grassland habitat created in the east of Solar PV Area 1e adjacent to the River Foulness. The route would be approximately 1.4 km in length. From discussions with East Riding of Yorkshire Council's PRoW Team it is proposed that the section from SPALF14 to the connection with the first Permissive Path would also authorised passage on horseback, helping to reinforce the Council's aspirations for the reinforcement of bridleway (or equivalent) provision. From the point where the two Permissive Paths meet, heading westwards it is anticipated that the route (approximately 250 m in length) will allow passage by foot only.		
Disruption to local residents, businesses and community facilities	Primary mitigation measures are embedded within the Scheme, as set out in the respective chapters, to reduce operational effects (such as noise, air quality, transport, and landscape and visual) which in turn will mitigate the effects on the local community and existing facilities from a socio-economic and land use perspective. • Measures to mitigate the effects of visual impacts from operational are outlined in **Table 4**; • Measures to mitigate the effects of operational noise are outlined in **Table 5;** and • Measures to mitigate the effects of operational traffic are outlined in **Table 7.**	N/A	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Table 7. Transport and Access

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Vehicle movements during operation	See also section 2.5. During the operational period, the following embedded design mitigation measures are proposed: • Operational staff will be directed to take the most direct route to the Site using 'higher' order roads, such as A and B classified roads or the Strategic Road Network; • HGV movements are anticipated to be low across the 40-year operational period, but when required HGV movements will be restricted to certain times of day (between 09:00 and 16:00) and restricted to the strategic road network (A63, A163, and A645); • If AILs are needed during the operational period, they will be in accordance with the findings of the routing review for large vehicles which is discussed further in the **Framework CTMP (Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]);** • A specialised haulage service will be employed to allow AILs to transport components with the necessary escort, permits and traffic management, with the contractor consulting the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003 (Ref. 6); • Ensuring operational staff park within the Solar PV Areas during operation as to limit impact on the local road network; • Accesses into the site installed during the construction phase (either new accesses or modified/extended existing accesses) will	Not Required	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation Measure	Monitoring	Responsibility
	remain in place during the operational phase (apart from the access Rowlandhall Lane into Solar PV Area 3c); • The site access off Rowlandhall Lane into Solar PV Area 3c will not be used during the operational phase. Operational phase access to Solar PV Area 3c will use the access through Newsholme village; and • Measures to mitigate disruption to users of PRoW are presented in **Table 6.** Socio-Economics and Land-Use.		

Table 8. Human Health

Potential Impact	Mitigation/Enhancement Measure	Monitoring
The Scheme has been designed to avoid any requirements for PRoW to be closed or diverted during the operational phase, with additional Permissive Paths provided within the Solar PV Site during the operational phase. Further details with respect to specific embedded mitigation measures relevant to minimising amenity impacts associated with traffic, noise and air quality are set out in **Table 6.** Socio-Economics and Land-Use, **Table 7.** Transport and Access, **Table 8.** Human Health, and **Table 12.** Waste.		

Table 9. Soils and Agricultural Land

Potential Impact	Mitigation/Enhancement Measure	Monitoring	Responsibility
The Scheme has the potential to impact soil resources in terms of disturbance and damage. The Scheme has the potential to result in a loss of soil resources, including related biosecurity effects. Lowering of Agricultural Land Classification (ALC) grade (reduction in land quality)	Soil movement is not expected, but where localised small scale maintenance operations require excavations, etc, these works would be managed through a Risk Assessment Method Statement (RAMS), Operating Procedure or similar which would include measures for the sustainable management of soil resources. The following main rules should be observed during all soil handling tasks: • No trafficking/driving of vehicles/plant or materials storage to occur outside designated areas; • No trafficking/driving of vehicles/plant on reinstated soil (topsoil or subsoil); • Only direct movement of soil from donor to receptor areas (no triple handling and/or ad hoc storage); • No soil handling to be carried out when the soil moisture content is above the lower plastic limit; • Soils should only be moved under the driest practicable conditions, and this must take account of prevailing weather conditions; • No mixing of topsoil with subsoil, or of soil with other materials; • Soil only to be stored in designated soil storage areas;	Maintenance works would be audited against the RAMS/ Operating Procedure	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Potential Impact	Mitigation/Enhancement Measure	Monitoring	Responsibility
	• Plant and machinery only work when ground or soil surface conditions enable their maximum operating efficiency; • All plant and machinery must always be maintained in a safe and efficient working condition; • Daily records of operations undertaken, and site and soil conditions should be maintained; and • Low ground pressure (LGP models) or tracked vehicles should be used where practicable. • Soils (topsoil and subsoil) to be reinstated in sequence to recreate the soil profile. The specific mitigation measures would take account of soil type – drawing upon the available survey data for the Site and the Soil Management Plan (SMP) produced at the construction phase (**Framework SMP [EN010143/APP/7.10]**). The appropriate management of soil resources will maintain soil volumes and quality to prevent loss/lowering of ALC grade. The loss of soil resource is considered as the main cause of disease and pathogen transfer, due to the transfer of soil (and incorporated seed/spore bank) from infected to uninfected areas. The Biosecurity Plan prepared for the construction phase will be revised for the operational phase, in advance of start of operation (secured through the OEMP).		

Potential Impact	Mitigation/Enhancement Measure	Monitoring	Responsibility
	UK Government's website advertising current occurrences and imposed restrictions with regards to animal and plant diseases should be checked both post-construction and at regular intervals throughout operation. The Applicant will also subscribe to the Animal Disease Alert Subscription Service. All restrictions will be adhered to and may include additional biosecurity measures being implemented such as restricted movements within prevention zones and additional measures around the disinfection of plant and equipment (including boots and manual tools). Should grazing be undertaken in line with Government guidance with regard to animal and plant diseases (described above), it would be managed to ensure that potential negative impacts of grazing such as over-grazing, or damage to soil structure do not occur. For example, the size of the flock would be suitable for the area being grazed, the flock would be rotated as required and moved out of areas if the land is too wet. These measures would be set out in the detailed OEMP if required.		

Table 10. Ground Conditions

Potential Impact	Mitigation/Enhancement Measure	Monitoring
Based on the environmental design and management measures, for the operation phase, following the additional mitigation measures during the Construction phase, the risk to human health and controlled waters is considered acceptable.		

Table 11. Glint and Glare

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Potential to impact on ground based receptors (residential, PRoW, rail waterways and road)	New and existing hedgerows will be managed and maintained to a range of heights between 2.5 m and 3.5 m.	Monitoring of planting is provided in **Outline LEMP [EN010131/APP/7.14]**	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Table 12. Waste

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Impacts of waste to the surrounding environment. Potential to impact on sensitive receptors (humans, wildlife and controlled waters) if not stored and managed appropriately	During operation, 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. 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.	A register of waste loads leaving the Site would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods.	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

Table 13. Major Accidents and Disasters

Potential Impact	Mitigation Measure	Monitoring
All works will be undertaken in accordance with relevant Health and Safety legislation and guidance. Details of fire, police, emergency services and hospitals will be publicised and included in the site induction. Furthers risks of major accidents and disasters are covered in the following tables: Table 3 Flood Risk and Water Environment, and **Table 7** Transport and Access.		

Table 14. Utilities

Potential Impact	Mitigation Measure	Monitoring	Responsibility
Potential to affect existing above and below ground utility infrastructure	Measures in relation to safe working beneath overhead lines will be in place at all stages of the Scheme, for example measures set out in National Grid's technical guidance note 287 (Third-party guidance for working near National Grid Electricity Transmission equipment) such as ensuring adequate clearances are in place when plant and equipment is being moved beneath the overhead lines. Due to the nature of the scheme no impacts to below ground utility infrastructure are expected during operation however, should maintenance works require excavations, measures in relation to safe working near buried utilities, particularly gas pipelines, will be in place. For example mitigation set out in National Grid and Northern Gas Networks guidance documents for third parties working in the vicinity of high pressure gas pipelines and associated installations.	No monitoring required	Overall responsibility lies with the Applicant (who will be the operator of the Scheme). Specific responsibilities will be confirmed in the detailed OEMP.

4. Complementary Plans and Procedures

4.1.1 A suite of complementary environmental plans and procedures for the operational phase will be developed alongside the detailed OEMP/ have been included within the DCO application and set out proposed mitigation for the operational phase, and further detailed plans will be prepared for further approval.

a. **Framework Landscape and Ecology Management Plan (LEMP) [EN010143/APP/7.14]**;

b. **Framework Soil Management Plan [EN010143/APP/7.10]**; and

c. **Framework Public Right of Way (PRoW) Management Plan [EN010143/APP/7.13]**.

5. Implementation and Operation

5.1.1 The detailed OEMP will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this Framework OEMP, including:

a. An organogram showing team roles, names and responsibilities;

b. Training requirements for relevant personnel on environmental topics;

c. Information on-site briefings and toolbox talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;

d. Measures to advise employees of changing circumstances as work progresses;

e. Communication methods;

f. Document control;

g. Monitoring, inspections and audits of site operations; and

h. Environmental emergency procedures.

6. Monitoring and Reporting

6.1 Monitoring

6.1.1 Monitoring and reporting will be undertaken for the duration of the operational phase to demonstrate the effectiveness of the measures set out in the detailed OEMP and related construction controls and allow for corrective action to be taken where necessary.

6.1.2 As part of the monitoring process a designated Environmental Manager will observe site activities and report any deviations from the OEMP in a logbook, along with the action taken and general conditions at the time. In addition, the Environmental Manager will conduct regular walkover surveys

which will be documented and arrange regular formal inspections to ensure the requirements of the detailed OEMP are being met.

6.1.3 The Environmental Manager would also act as day-to-day contact with relevant local authorities and other regulatory agencies, such as the Environment Agency.

6.2 Records

6.2.1 The Environmental Manager will retain records of environmental monitoring and implementation of the detailed OEMP. This will allow provision of evidence that the detailed OEMP are being implemented effectively. These records will include:

a. Results of routine site inspections by Environmental Manager/ Project Manager;

b. Environmental surveys and investigations;

c. Environmental Action Schedule;

d. Environmental equipment test records;

e. Licences and approvals; and

f. Corrective actions taken in response to incidents, breaches of the approved detailed OEMP or complaints received from a third party.

6.2.2 The detailed OEMP will be updated if it is necessary to add additional control measures, with a full review as required. Existing control measures and mitigation will not be amended without prior agreement with the local authorities.

7. References

Ref. 1 HMSO (2008) The Planning Act 2008, Available at: https://www.legislation.gov.uk/ukpga/2008/29/pdfs/ukpga_20080029_en.pdf.

Ref. 2 Institute of Lighting Professionals and the Bat Conservation Trust (2023) Guidance Note 8 Bats and artificial lighting at night. Available at: https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ [Accessed 3 October 2023].

Ref. 3 Institute of Lighting Professionals and the Bat Conservation Trust (2021) Guidance Note 1 for the reduction of obtrusive light. Available at: https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2021/ [Accessed 3 October 2023].

Ref. 4 HMSO (2005) Hazardous Waste Regulations 2005. Available at: http://www.legislation.gov.uk/uksi/2005/894/pdfs/uksi_20050894 _en.pdf

Ref. 5 HMSO (2011) Waste (England and Wales) Regulations 2011. Available at: http://www.legislation.gov.uk/uksi/2011/988/pdfs/uksi_20110988 _en.pdf.

Ref. 6 Gov.uk (2003). The Road Vehicles (Authorisation of Special Types) (General) Order 2003. Available at: https://www.legislation.gov.uk/uksi/2003/1998/contents/made [Accessed 09 October 2023].

Abbreviations

Abbreviation/Term	Definition
AEP	Annual Exceedance Probability
AIL	Abnormal Invisible Load
ALC	Agricultural Land Classification
BNG	Biodiversity Net Gain
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
DEMP	Decommissioning Environmental Management Plan
EIA	Environmental Impact Assessment
ES	Environmental Statement
ha	hectares
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
IBC	Intermediate Bulk Containers
ILP	Institute of Lighting Professionals
IR	Infra-red
LEMP	Landscape and Ecological Management Plan
LGP	Low Ground Pressure
LGV	Light Goods Vehicle
MW	Megawatts
NSIP	Nationally Significant Infrastructure Project
OEMP	Operational Environmental Management Plan
PIR	Passive Infra-Red
PRoW	Public Right of Way
PRoWMP	Public Rights of Way Management Plan
PV	photovoltaic
RAMS	Risk Assessment Method Statement
SMP	Soil Management Plan
SQEP	Suitable Qualified and Experienced Persons
TTM	Temporary Traffic Management

Glossary of Frequently Used Terms

Term	Definition
Applicant	East Yorkshire Solar Farm Limited
Biodiversity Net Gain (BNG)	BNG is a strategy to develop land and contribute to the recovery of nature. It is a way of making sure the habitat for wildlife is in a better state than it was before development.
Detailed Construction Environmental Management Plan (CEMP)	Subsequently produced following the appointment of the contractor, when the detailed design of the Scheme is known, in accordance with a requirement of the DCO prior to commencing construction. It will be a live document and will provide a systematic approach to environmental management so that environmental risks are identified, incorporated in all decision-making and managed appropriately.
Development Consent Order (DCO)	Development consent is required pursuant to the Planning Act 2008 for Nationally Significant Infrastructure Projects. A development consent order is the order which grants development consent when an application is made to the Secretary of State.
Environmental effect	The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees.
Environmental impact	The change in the environment from a development such as the removal of a hedgerow.
Environmental Impact Assessment (EIA)	A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision making. For certain projects, EIA is a statutory requirement.
Field Station Units	Single enclosures that comprise the inverters, a transformer, and switchgear in a single containerised unit.
Field Stations	Areas where electrical equipment such as central inverters, transformers, and switchgear are located.
Field Substations	Transformers and switchgear packaged together in containerised units. In this case inverters are separate, either string or central type.
Framework CEMP	This document. Provides a framework from which a final CEMP will be developed to avoid, minimise or mitigate any construction effects on the environment.
Framework Decommissioning Environmental	A specific plan developed to ensure that appropriate environmental management practices are followed during the decommissioning phase of a project.

Term	Definition
Management Plan (DEMP)	
Framework Operational Environmental Management Plan (OEMP)	A specific plan developed to ensure that appropriate environmental management practices are followed during the operational phase of a project.
Grid Connection Corridor	Corridor which represents the maximum extent of land within which the cable route would be located.
Grid Connection Substation	A compound containing electrical equipment to enable connection to the National Grid.
Interconnecting Cable Corridor	The land outside of the Solar PV Site and the Grid Connection Corridor in which the 33 kV cables linking the Solar PV Areas to the Grid Connection Substations will be installed.
Interconnecting Cables	33 kV cables which link the Solar PV Areas to the Grid Connection Substations. (This excludes the 132 kV Grid Connection Cable).
Inverter	Inverters convert the direct current (DC) electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid. Battery energy storage systems also use inverters to convert between DC and AC. The batteries function in DC and electricity must be converted to AC to pass into or from the grid.
Mitigation	Measures including any process, activity, or design to avoid, prevent, reduce, or, if practicable, offset any identified significant adverse effects on the environment.
National Grid Drax Substation	The substation at Drax Power Station west of Drax village, North Yorkshire, owned and operated by National Grid and where the Grid Connection Cable will connect to.
Nationally Significant Infrastructure Projects (NSIP)	NSIPs are large scale developments such as certain new harbours, power generating stations (including wind farms), highways developments and electricity transmission lines, which require a type of consent known as ‘development consent’ under procedures governed by the Planning Act 2008 (and amended by the Localism Act 2011).
Onsite Cables	Cables within the Solar PV Site.
Scheme	The project (as described in section 1.3 of this document) for which the DCO Applicant is sought.
Site	The Site is the collective term for the Solar PV Site, the Interconnecting Cables and the Grid Connection Corridor.

Term	Definition
Solar array	Combining several solar panels creates an array.
Solar photovoltaics (PV)	Solar electricity panels, also known as PV, capture the sun's energy and convert it into electricity for consumer use.
Solar PV Areas	Areas of land within which the solar PV panels, Field Stations and Grid Connection Substations are to be located. For clarity of reporting, individual Solar PV Areas have been assigned an identification number e.g. 1a, 1b, etc.
Solar PV Site	The Solar PV Site comprises the 18 Solar PV Areas. This is the anticipated maximum extent of land potentially required for the solar photovoltaic (PV) panels, associated infrastructure and on-site energy storage facilities; including land for landscaping and habitat enhancement
Solar PV Panels	Convert sunlight into electrical current (as direct current, DC). Typically consist of a series of photovoltaic cells beneath a layer of toughened, low reflectivity glass.
String inverters	A device used with solar arrays to convert the energy that is generated (DC) to usable electricity for a home (AC)
Switchgear	Switchgear is an integral part of an electric power system. It includes fuses, switches, relays, isolators, circuit breaker, potential and current transformer, indicating device, lightning arresters, etc. that protects electrical hardware from faulty conditions.
Transformers	Transformers control the voltage of the electricity generated across the site before it reaches the electrical infrastructure.