



Pearmtree Hill Solar Farm

Outline Operational Environmental Management Plan

Application Document Ref: EN010157/APP/7.3
February 2025

Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009 –
Regulation 5(2)(q)

Contents

Peartree Hill Solar Farm..... 1

1 Introduction..... 1

2 Proposed Development..... 3

3 Roles and responsibilities..... 5

4 Operational environmental management and mitigation..... 6

5 Operational environmental management and mitigation procedures 11

6 Implementation..... 14

7 Monitoring and reporting 15

1 Introduction

1.1 Purpose of this document

- 1.1.1 Peartree Hill Solar Farm (hereafter referred to as the 'Proposed Development') comprises the construction, operation (including maintenance) and decommissioning of a solar photovoltaic (PV) electricity generating and storage facility with an export capacity of up to 320 megawatts (MW) and associated infrastructure, as described within **Environmental Statement (ES) Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]** and **Schedule 1** of the **Draft Development Consent Order (DCO) [EN010157/APP/3.1]**.
- 1.1.2 The Proposed Development is located within the 'Order Limits', which set out the maximum extent within which the Proposed Development can be carried out and encompasses an area of approximately 891 hectares (ha) within East Riding of Yorkshire (the 'Site') as shown on the **Location and Land Area Plan [EN010157/APP/2.1]**.
- 1.1.3 The Proposed Development consists of five areas of land (Land Areas B-F – there is no Land Area A), interconnecting underground cables between the Land Areas, a 132kV underground cable route to National Grid Creyke Beck Substation (referred to as the Grid Connection Cable Route), and sections of highway land. These are shown in **ES Volume 3, Figure 1.2: Land Areas and Cable Routes Plan with Field Numbering System [EN010157/APP/6.3]**.
- 1.1.4 This document constitutes an Outline Operational Environmental Management Plan ('Outline OEMP') for the operation (including maintenance) of the Proposed Development.
- 1.1.5 An Outline Environmental Management Plan will be produced for the Proposed Development in accordance with the requirements in **Schedule 2** of the **Draft DCO [EN010157/APP/3.1]** prior to commencing operation of any part of the Proposed Development. The Operational Environmental Management Plan must be substantially in accordance with this Outline OEMP.
- 1.1.6 It is envisaged that an Operational Environmental Management Plan may be prepared, approved and implemented for individual parts of the Proposed Development. As a result, there could be multiple Operational Environmental Management Plan(s) prepared in accordance with this Outline OEMP. Each Operational Environmental Management Plan will be produced substantially in accordance with this Outline OEMP following the making of the DCO and

approved by East Riding of Yorkshire Council in advance of the date of final commissioning for the relevant part of the Proposed Development.

- 1.1.7 The aim of this Outline OEMP is to provide a clear and consistent approach to the control of operational and maintenance activities in respect of the Proposed Development.
- 1.1.8 Likely significant effects of the Proposed Development have been identified through the Environmental Impact Assessment (EIA) process and are reported in **ES Volume 2, Chapters 6-15 [EN010157/APP/6.2]**. A range of best practice mitigation and operational management measures are accounted for in the assessments, which will be implemented during operation of the Proposed Development. This Outline OEMP sets out how these measures will be implemented. It also sets out the monitoring activities designed to demonstrate that such mitigation measures are carried out, and that they are effective.
- 1.1.9 This Outline OEMP provides the structure of the Operational Environmental Management Plan(s) and relevant preliminary information. It also indicates any additional information or controls which might be included under each sub-section within the Operational Environmental Management Plan(s).
- 1.1.10 The Applicant will be responsible for ensuring any works are undertaken in accordance with the environmental controls documented in this Outline OEMP and for the preparation and implementation of the Operational Environmental Management Plan(s).
- 1.1.11 This document does not address measures for the construction or decommissioning phases, which are provided in the separate **Outline Construction Environmental Management Plan (Outline CEMP) [EN010157/APP/7.2]** and **Outline Decommissioning Environmental Management Plan (Outline DEMP) [EN010157/APP/7.4]**.

2 Proposed Development

2.1 Operational programme

2.1.1 The operational life of the Proposed Development is 40 years. However, the following infrastructure may be permanently retained beyond this period subject to the conditions described below:

- Access tracks (subject to agreement with the relevant landowner(s));
- Highways improvements to facilitate access for construction vehicles including passing places, new or improved site accesses and visibility splays;
- Environmental mitigation (subject to agreement with the relevant landowner(s)); and
- If on-site substations are to be retained at the request of the Distribution Network Operator, this will be subject to further discussions and agreements/approvals as necessary.

2.1.2 Underground cables will be left in situ.

2.2 Operational activities

2.2.1 During the operational (including maintenance) phase of the Proposed Development, on-site activities would be limited to maintenance activities and grazing. Maintenance activities, as described in **ES Volume 1, Chapter 3: Proposed Development Description [EN010157/APP/6.1]**, would include:

- Regular visual inspection of all infrastructure;
- Regular scheduled inspections and testing of equipment;
- Replacement of consumable items (e.g., inverter filters);
- Cleaning of solar PV modules, if required;
- Repair or replacement of solar modules or other components, if damaged;
- Delivery of spare parts, replacement equipment items and consumables;
- Water management (e.g., clearing of drainage ditches);
- Vegetation management (e.g., cut back of grass, hedges, trees); and
- Regular litter picking of the Site (including community accessible areas).

2.2.2 Access to the Site from the local highway network would be required during the operational phase to allow for ongoing maintenance activities. The operational

phase is not anticipated to generate a significant number of trips, with approximately 26 maintenance visits per year expected.

- 2.2.3 It is anticipated that the number of workers typically on-site at any one time during the operational (including maintenance) phase can be broken down as follows:
- Two workers for security during daytime; and
 - Two workers for security at night.
- 2.2.4 Permanent security staff are expected to be based at the office within the on-site substation compounds. Other operational workers undertaking maintenance would be based within the region and would attend the Proposed Development periodically, making use of the staff welfare and office facilities within the substation compounds.
- 2.2.5 The land underneath and around the Solar PV modules could be managed during the operational phase through a combination of sheep grazing and/or hay/silage production to maintain the field vegetation. The management of areas identified for mitigation and enhancement will be undertaken in accordance with the Landscape and Ecological Management Plan. An **Outline Landscape and Ecological Management Plan (Outline LEMP) [EN010157/APP/7.5]** is submitted with the DCO Application.

3 Roles and responsibilities

- 3.1.1 Key roles and responsibilities during the operational (including maintenance) phase will be identified and defined in the Operational Environmental Management Plan once these roles are designated.

4 Operational environmental management and mitigation

4.1 Working hours

- 4.1.1 The normal hours of working on any part of the Proposed Development during the operational period will be:
- 07:00 hours to 19:00 hours Mondays to Fridays;
 - 07:00 hours to 12:00 hours on Saturdays.
- 4.1.2 The following controls will also apply:
- No works, including site deliveries and collections, will take place on Sundays or Public Holidays unless otherwise agreed with East Riding of Yorkshire Council; and
 - Where on-site works are to be conducted outside the core working hours, activities will be agreed with East Riding of Yorkshire Council.
- 4.1.3 The two on-site substations will be unmanned during normal operation.

4.2 Site security

- 4.2.1 The Proposed Development will receive regular security risk management threat assessments during its operation. These security risk management threat assessments will be conducted by suitably qualified and experienced persons and will determine security risks.
- 4.2.2 The security arrangements to be present at the Site will contribute to the overall safety of all who will, or may, enter the Site. The security arrangements will be reviewed by suitably qualified and experienced persons at intervals commensurate to the security risk rating and will further assess any changes in the security risk management threat assessment.
- 4.2.3 The boundary of the Site will be secured by fencing and by the provision of closed-circuit television (CCTV) equipment. The operational areas of the Proposed Development would be fenced using either a wire mesh or deer-proof fencing, which is formed of wooden or metal posts and wire mesh, up to 2m in height. Pole-mounted internal-facing CCTV systems will be installed at a height of up to 3m around the perimeter of the solar PV module fields. Access gates will be metal and of similar height to the perimeter fencing. Clearances above ground, or mammal gates, will be included to permit the passage of wildlife.

- 4.2.4 CCTV cameras would use infrared technology, which would be monitored remotely and avoid the need for night-time lighting. For security requirements, passive infra-red detector (PID) systems (or similar) will be installed around the solar PV module field perimeter to provide the CCTVs night vision functionality.
- 4.2.5 Palisade security fencing would be installed around the perimeter of the two on-site substations and is proposed to be made of steel rails attached to horizontal-running rails connected to vertical steel joints. The palisade security fencing will be up to 2.4m in height. Pole-mounted CCTV systems, which typically have a maximum height of 3m, are proposed to be positioned around the perimeter of the operational areas of the Site with fixed views of the Proposed Development as a security measure and will not be positioned facing any residential properties.
- 4.2.6 In instances whereby an offender is identified through the security measures, the police or relevant authorities will be notified.

4.3 Control of light

- 4.3.1 The lighting of the two on-site substations will be in accordance with health and safety requirements. Lighting sensors will be implemented for security purposes. Lighting will include features designed to reduce light spill beyond the areas required to be lit. During operation (including maintenance), no part of the Proposed Development will be continuously lit; infra-red security lighting will be utilised for operational and security purposes.

4.4 Control of noise

- 4.4.1 To attenuate noise emissions during the operational (including maintenance) phase, reduced fan speeds will be employed where applicable whilst maintaining the required airflow for cooling requirements. Inverters will be run at 80% fan speed during the day and 60% during the night, while battery containers will have their chillers limited at 50% fan speed.

4.5 Operational traffic management and access

- 4.5.1 Access for the operational stage will accord with the **Streets, Rights of Way and Access Plans [EN010157/APP/2.3]** and the **Outline Rights of Way and Access Management Plan [EN010157/APP/7.9]**, which will be further developed into the Rights of Way and Access Management Plan during detailed design.
- 4.5.2 Traffic management measures will accord with the **Traffic Measures Plan [EN010157/APP/2.9]**.

- 4.5.3 The internal speed limit within the Site will be 10 miles per hour. Signage will be displayed for internal tracks.

4.6 Parking provisions

- 4.6.1 During operation, parking for vehicles will be available for use by workers within the substation compounds. Further details on parking provisions will be confirmed during detailed design and provided in the Operational Environmental Management Plan(s).

4.7 Footpaths

- 4.7.1 Access to footpaths, including the permissive paths to be provided as part of the Proposed Development, will be maintained throughout the operational (including maintenance) phase of the Proposed Development. Further details are provided in the **Outline Rights of Way and Access Management Plan [EN010157/APP/7.9]**.

4.8 Operational waste management

- 4.8.1 Owing to the nature of the Proposed Development, waste generation during the operation (including maintenance) phase will be minimal and will not have a significant impact upon the local and regional waste management infrastructure.
- 4.8.2 To manage the solar PV module waste that will arise from potential module replacements during the operational life of the Proposed Development, there will be a regular review of suitable outlets for reuse and recycling of the modules and associated infrastructure at the end of its viable life, to maximise recycling and minimise the need to landfill.
- 4.8.3 Any equipment that needs to be replaced during the operational (including maintenance) phase will be disposed of in accordance with the waste hierarchy described in the **Outline Site Waste Management Plan [EN010157/APP/7.10]**, with materials being reused or recycled, wherever practicable.
- 4.8.4 Solar PV modules are made up of several materials, including a metal frame, of which approximately 99% can currently be recycled. For any solar PV modules that are replaced during operation, options to reuse or recycle materials available at the time will be explored to ensure that as much of the materials as possible are recycled and diverted from landfill.
- 4.8.5 Waste solar PV modules replaced during operation will be classified as a Business to Consumer (B2C) Waste. Waste batteries and solar PV modules will be taken to an approved authorised treatment facility.

- 4.8.6 Electrical waste will be disposed of per The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 **[Ref. 1]**, minimising the environmental impact of replacing any elements of the Proposed Development. A record will be kept for the operational life of the Proposed Development of all WEEE waste produced, the weight and the facility it has been disposed at.
- 4.8.7 Prior to the operational (including maintenance) phase commencing, the Operational Environmental Management Plan will include details on the management of site waste for the operational stage of the Proposed Development. The Operational Environmental Management Plan will provide waste estimates, and specify key responsibilities, reporting and auditing requirements and waste recovery targets.
- 4.8.8 All waste to be removed from the Site will be undertaken by licensed waste carriers, documented by appropriate waste transfer notes, and taken to licensed waste facilities for recycling or disposal and managed in line with the requirements applicable at the time. The waste hierarchy will be applied, in priority order: prevention, preparation for reuse, recycled, other recovery and disposal.
- 4.8.9 Self-contained independent welfare units which are not connected to the mains and which store foul/wastewater for collection/emptying by specialist licenced contractors will be used.

4.9 Environmental incidents and emergencies

- 4.9.1 The following additional plans will be prepared as part of the Operational Environmental Management Plan prior to first operation of the Proposed Development:
- Emergency Response Plan (including Flood Risk). This will be developed in consultation with the East Riding of Yorkshire Council emergency planning officer, emergency services including the local fire service, as well as the Environment Agency in relation to responding to flood warnings and events;
 - Emergency Spillage Action Plan. This will set out actions that will be taken in an event of a spillage event on-site; and
 - Health and Safety Plan. This will set out the health and safety requirements of the Site and how they will be implemented.
- 4.9.2 An **Outline Battery Safety Management Plan [EN010157/APP/7.6]** has been prepared for the Proposed Development and outlines the approach to be taken to manage the safety of the BESS in accordance with regulatory requirements, guidance, and good industry practice. The **Outline Battery Safety Management**

Plan [EN010157/APP/7.6] addresses aspects such as safe design, construction, operation, and disposal and the strategy for firefighting and emergency planning.

4.10 Management of landscaping, vegetation planting and biodiversity

- 4.10.1 No part of the Proposed Development is to be commenced until a LEMP for that part has been submitted to and approved by East Riding of Yorkshire Council. The LEMP must be substantially in accordance with the **Outline LEMP [EN010157/APP/7.5]** and any LEMP must be implemented as approved and maintained throughout the operation. This will include provisions in respect of on-going maintenance, management and monitoring of the landscape, vegetation, habitats and species during the operational phase of the Proposed Development.
- 4.10.2 The **Outline LEMP [EN010157/APP/7.5]**, prepared and submitted as part of the DCO Application, provides a framework for delivering the landscape strategy and the successful establishment of future management of proposed landscape works associated with the Proposed Development. 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.
- 4.10.3 The **Outline LEMP [EN010157/APP/7.5]** sets out the measures proposed:
- To mitigate the effects of the Proposed Development on landscape, biodiversity, and heritage features;
 - To enhance the biodiversity, landscape, and green infrastructure value of the Order limits; and
 - To secure compliance with relevant national and local planning policies.

5 Operational environmental management and mitigation procedures

5.1 Topic specific mitigation

- 5.1.1 **Table 5-1** below sets out a summary of the mitigation and management measures to be included as a minimum in the Operational Environmental Management Plan, using information presented in **ES Volume 2, Chapters 6 to 15 [EN010157/APP/6.2]**. It also identifies where monitoring is proposed to assess the effectiveness of the mitigation measures.
- 5.1.2 To avoid any duplication, operational mitigation measures proposed for Biodiversity and Landscape and Visual are included in the **Outline LEMP [EN010157/APP/7.5]** only.

Table 5-1: Operational (including maintenance) phase environmental management and monitoring measures

Measure	Monitoring Requirements	Responsibility
General		
Utilise an automatic clean agent fire suppression system rather than a water-based system.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and Battery Safety Management Plan	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Air quality		
Ensure all vehicles switch off engines when stationary within the Site - no idling vehicles	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s).	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Impose and signpost a maximum speed limit of 10mph on internal tracks.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s).	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Biodiversity		
Mitigation Area 17 within Land Area F will be used as a construction compound during the construction phase but will be converted to flower-rich neutral grassland once construction within Land Area F is completed. There is no work anticipated which will directly impact other areas of ecological mitigation and enhancement areas will be apart from habitat management.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and Landscape and Ecological Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Any required management would be undertaken in accordance with legislative requirements to avoid harm to ground nesting birds. Where possible, livestock will be used to manage vegetation sward height. The use of livestock will reduce the potential risk of disturbance to species which may use the habitat underneath and adjacent to the solar PV modules. Work within areas assessed as suitable for ground nesting birds will be avoided during the nesting bird season. However, if this is not possible, appropriate surveys will be undertaken prior to works to determine appropriate mitigation and precautionary working measures to prevent disturbance to ground nesting birds. Appropriate surveys may include nesting bird checks and supervision by a suitably qualified ecologist	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and Landscape and Ecological Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Climate - no specific measures are proposed for this environmental factor		
Cultural heritage- no specific measures are proposed for this environmental factor		
Land, soil and groundwater		
Water for firefighting purposes would be sourced from the nearest available supply; however, this water would be used only to cool areas adjacent to a BESS container to prevent fire spread, rather than being used to attempt to directly fight a fire within a BESS container. The water would therefore not contain any chemicals or fire-fighting compounds after use.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and Battery Safety Management Plan	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Follow procedures set out in the Outline Battery Safety Management Plan [EN010157/APP/7.6] , which outlines the regulatory guidance reviewed and the measures proposed to ensure that all safety concerns around the BESS elements of the Proposed Development are addressed in so far as is reasonably practicable.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and Battery Safety Management Plan	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).

Measure	Monitoring Requirements	Responsibility
Safety plans (Emergency Response Plan and Emergency Spillage Action Plan) will be prepared to ensure activities and on-site staff concerns relating to these matters are addressed as far as reasonably practicable.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s).	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Where soil, aggregates or fill material needs to be brought on to Site for various reasons, it must be ensured that it is from a certified clean source and is suitable for use.	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s) and the Soil Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Follow standard parameters (as set out in the Outline Soil Management Plan [EN010157/APP/7.8]) to identify when soil conditions are suitable for handling or trafficking (qualities of the soil, for example when it is wet or after periods of heavy rainfall or high winds)	If required, monitoring measures will be identified in the Soil Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Follow principles (as set out in the Outline LEMP [EN010157/APP/7.5]) of how the land within the Site would be managed during the operational (including maintenance) phase, such as the requirements for the management and remediation of vegetation to ensure the planting is sustained	If required, monitoring measures will be identified in the Landscape and Ecological Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Landscape and visual		
During the operation (including maintenance) phase of the Proposed Development, existing and newly established habitats and planting would be maintained in accordance with the principles established in the Outline LEMP [EN010157/APP/7.5] .	If required, monitoring measures will be identified in the Landscape and Ecological Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Any defective planting to be replaced and all new planting established successfully. Existing and new hedgerows (once established) would be maintained at a minimum height of 3.5m for the duration of the operation (including maintenance) phase of the Proposed Development. The proposed hedgerows adjacent to Monk Dike would be maintained at a minimum height of 4m.	If required, monitoring measures will be identified in the Landscape and Ecological Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Noise and vibration		
Employ reduced fan speeds where applicable whilst maintaining the required airflow for cooling requirements	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s).	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Details of the complaints process with regard to potential noise levels will be made available and accessible to the public during the lifetime of the Proposed development	If required, monitoring measures will be identified in the Operational Environmental Management Plan(s).	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Population		
All existing public rights of way will be retained during the operation (including maintenance) of the Proposed Development, as the Proposed Development design incorporates a minimum offset distance of 10m from all public rights of way, where reasonably practicable. There will be no requirement for temporary or permanent closures of any public rights of way during operation (including maintenance).	If required, monitoring measures will be identified in the Rights of Way and Access Management Plan.	The Applicant (responsibilities will be confirmed in the Operational Environmental Management Plan(s)).
Transport and access - no measures are proposed for this environmental factor		
Water - no measures are proposed for this environmental factor		

6 Implementation

6.1.1 The Operational Environmental Management Plan(s) will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this Outline OEMP including:

- An organogram showing team roles, names and responsibilities;
- Training requirements for relevant personnel on environmental topics;
- Information of 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;
- Measures to advise employees of changing circumstances;
- Communication methods;
- Document control;
- Monitoring, inspections and audits of Site operations; and
- Environmental emergency procedures.

7 Monitoring and reporting

7.1 Process for monitoring and inspections

- 7.1.1 Monitoring and reporting will be undertaken for the duration of the operational (including maintenance) phase in order to demonstrate the effectiveness of the measures set out in the Operational Environmental Management Plan(s) which will allow for corrective action to be taken, where necessary.
- 7.1.2 As part of the monitoring process a suitably qualified person will observe Site activities and report any deviations from the Operational Environmental Management Plan(s), along with the corrective action taken and general conditions at the time. In addition, the suitably qualified person will conduct regular walkover surveys which will be documented and arrange regular formal inspections to ensure the requirements of the Operational Environmental Management Plan(s) are being met.
- 7.1.3 The suitably qualified person would also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the Environment Agency.

7.2 Records

- 7.2.1 Records will be managed through the Quality and Safety Management Systems and the Environmental Management System of the Applicant which will be certified in accordance with the ISO 14001 Environmental management systems standards [Ref. 2].
- 7.2.2 The suitably qualified person will retain records of environmental monitoring and implementation of the Operational Environmental Management Plan(s). This will allow provision of evidence that the Operational Environmental Management Plan(s) are being implemented effectively. Documents shall be stored in a suitable manner and back-ups created to safeguard the records. These records will include:
- Results of routine Site inspections by a suitably qualified person;
 - Environmental surveys and investigations;
 - Environmental Action Schedule;
 - Environmental equipment test records;
 - Licenses and approvals; and
 - Corrective actions taken in response to incidents, breaches of the approved Operational Environmental Management Plan(s) or complaints received from a third party.

7.3 References

- **[Ref. 1]** The Waste Electrical and Electronic Equipment Regulations 2013. Available online. [The Waste Electrical and Electronic Equipment Regulations 2013](#)
- **[Ref. 2]** ISO 14001:2015 Environmental management systems (Edition 3, 2015)

RWE Renewables UK Limited

Windmill Hill Business Park,
Whitehill Way,
Swindon,
Wiltshire,
England,
SN5 6PB
www.rwe.com