

Cottam Solar Project

Outline Operational Environmental Management Plan Revision **DE**

Prepared by: Lanpro

Date: **February** **August** 2024

PINS reference: EN010133

Document reference: **EX5DEC**/C7.16_ **DE**

APFP Regulation 5(2)(q)



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Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.

~~Examination Deadline 5~~

Decision Stage – Request for Information

Operational Environmental Management Plan

Revision ~~DE~~

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Date of original: January 2023

| Revision | Date | Prepared by: | Approved by: |
|----------|----------------------|--------------|--------------|
| A | 21 November _2023 | AW | BR |
| B | 19 December 2023 | SF | BR |
| C | 30 January 2024 | AW | BR |
| D | 27 February 2024 | AW | BR |
| E | <u>6 August 2024</u> | <u>AW</u> | <u>BR</u> |

1 Introduction

1.1 Introduction

- 1.1.1 Cottam Solar Project Limited (the Applicant) has prepared this Outline Operational Environmental Management Plan (Outline OEMP) in relation to an Application for a Development Consent Order (DCO) for the construction, operation, maintenance, and decommissioning of the Cottam Solar Project (the Scheme).
- 1.1.2 The Scheme will comprise the construction, operation, maintenance and decommissioning of a solar photovoltaic (PV) electricity generating facility and Battery Energy Storage System (BESS) with a total capacity exceeding 50 MW. The solar array Sites, associated substations and energy storage are to be connected to the National Grid at a substation at Cottam Power Station. Further details on the Scheme are provided in Environmental Statement Chapter 4: The Scheme [REP-012].
- 1.1.3 The aim of this Outline OEMP is to provide a clear and consistent approach to the control of operational and maintenance activities within the Order limits. This document does not address construction or decommissioning activities, which are subject to separate environmental management plans and procedures.
- 1.1.4 Likely significant effects have been identified through the Environmental Impact Assessment (EIA) process and are reported in the Environmental Statement (ES) [APP-036 to APP-058]. A range of 'standard' or best practice mitigation and operational management measures are accounted for in the assessments, and these will be implemented during operation of the Scheme. This Outline OEMP details these operational mitigation measures. It also sets out the monitoring activities designed to demonstrate that such mitigation measures are carried out, and that they are effective.
- 1.1.5 The Scheme currently has a grid connection date of 2029 although there is the potential that an earlier connection could be achieved. It is currently anticipated that construction works will commence, at the earliest, in Q4 2024 and will run to Q4 2026. The operational life of the Scheme will be no more than 60 years and decommissioning is estimated to be no earlier than 2066.
- 1.1.6 It is envisaged that OEMPs may be prepared, approved and implemented for individual parts of the Scheme. It is recognised that there could be multiple OEMPs prepared in accordance with the parts of this Outline OEMP.
- 1.1.7 Each OEMP will be produced in line with this Outline OEMP following the grant of the DCO and would be approved by the relevant local planning authority or authorities in advance of the date of final commissioning for the relevant phase of the Scheme (in accordance with the relevant DCO Requirement). This Outline OEMP is designed with the objective of ensuring compliance with the relevant environmental legislation and mitigation measures set out within the ES. This document provides the likely structure of the detailed OEMP(s) and relevant preliminary information. It also indicates what additional information or controls might be included under each sub-section within each OEMP(s).

- 1.1.8 The key elements of this Outline OEMP include:
- An overview of the Scheme and associated operational programme;
 - Identification of potential environmental effects;
 - Proposed design and other mitigation measures to prevent or reduce potential adverse environment effects;
 - Monitoring and reporting of effectiveness of mitigation measures; and
 - Links to other complementary plans and procedures.
- 1.1.9 The appointed contractor(s) will be responsible for working in accordance with the environmental controls documented in the Outline OEMP and for the preparation and implementation of each OEMP.
- 1.1.10 Any additional licences, permits, or approvals that are required will be listed in the OEMPs.

1.2 The Order limits

- 1.2.1 The Order limits comprise all land falling within the Application required for the construction, operation and maintenance, and decommissioning of the Scheme and are shown on the Location Plan [REP4-003] and described in Environmental Statement Chapter 3: The Order Limits [APP-038].
- 1.2.2 The Order limits cover an area of 1,451.23 hectares (ha). located within the administrative areas of West Lindsey District Council in the county of Lincolnshire and Bassetlaw District Council in the county of Nottinghamshire. The Scheme comprises four distinct sites Cottam 1, Cottam 2, Cottam 3a and Cottam 3b ('Site' or 'Sites') connected by the Cable Route Corridor and to the Point of Connection (POC) at Cottam Power Station.

1.3 The Scheme

- 1.3.1 The Sites accommodate ground mounted solar photovoltaic (PV) generating stations (incorporating the solar arrays); grid connection infrastructure and energy storage; and the Cable Route Corridors. The Scheme will comprise the construction, operation and maintenance, and decommissioning of a generating station (incorporating solar arrays)w with a total capacity exceeding 50 megawatts (MW). The Scheme is defined as a NSIP under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref 1-1), as it is an onshore generating station in England with a capacity of more than 50 MW.

2 Operational Environmental Management

2.1 Introduction

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

2.2 Operational 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. 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.

2.2.2 Along the grid connection route operational activity will consist of routine inspections (schedule to be determined) and any reactive maintenance such as where a cable has been damaged.

2.2.3 The substation at Cottam Power Station will be managed and maintained by National Grid. The substations on the Sites will be managed and maintained by the Applicant / operator of the site.

2.2.4 As stated in the Chapter 14 of the ES Transport and Access [APP-049 and REP2-070], during the Scheme's operational phase, there are anticipated to be around five visits to each Site per month for maintenance purposes. These would typically be made by light van or 4x4 type vehicles. The installed grid connection cables (within the Cable Route Corridor) will be located underground. Access may be required for maintenance, but this is only likely once or twice a year.

2.2.5 Welfare facilities will be required at the substations within each Site. Any wastewater will be removed via tanker to local wastewater treatment works.

2.3 Operation Programme

2.3.1 Operation of the Scheme is expected to start following construction, no earlier than Q4 of 2026. The Scheme will operate for no more than 60 years, with decommissioning assumed for the purposes of the environmental impact assessment to be not earlier than Q4 2066.

2.4 Working Hours

2.4.1 The Sites will generally be unmanned during normal operation. Routine maintenance would be carried out as required Monday to Friday 07.00 – 18.00. Emergency maintenance would be carried out as and when needed.

2.5 Control of Light

2.5.1 During operation, no part of the Scheme will be continuously lit. The use of motion detection security lighting to avoid permanent lighting will be utilised and a sensitive

lighting scheme will be developed ensuring inward distribution of light and avoiding light spill onto existing boundary features.

2.5.2 Lighting will be directed downward and away from boundaries.

2.6 Parking Provisions

2.6.1 During operation, parking permeable gravel hardstanding will be provided within the operational compounds.

2.7 Management of Vegetation Planting

2.7.1 An Outline Landscape and Ecological Management Plan (OLEMP) has been prepared and submitted as part of the Application [~~REP4-035~~].[EN010133/DEC/C7.3_FJ](#).

2.7.2 The OLEMP 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.

2.7.3 The OLEMP sets out the measures proposed:

- To mitigate the effects of the Scheme on landscape, biodiversity, and heritage features;
- To enhance the biodiversity, landscape, and green infrastructure value of the Order limits;
- To secure compliance with relevant national and local planning policies.

2.7.4 A detailed Landscape and Ecology Management Plan (LEMP) will be prepared in accordance with the Outline LEMP and will be submitted to and approved by the relevant local planning authority or authorities prior to construction. This will include provisions in respect of on-going maintenance and management of the landscape and ecology.

2.8 Security

2.8.1 The Sites will receive several security risk management threat assessments during the 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.

2.8.2 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.

- 2.8.3 The boundary of the Sites will be secured both by fencing and by the provision of Closed-Circuit Television (CCTV) equipment. Cameras would be placed on galvanised steel painted green poles with a maximum height of 3m. Perimeter fencing will be deer wire mesh and wooden post fencing with a maximum height of 2.5m. All new access tracks will be secured by gates, which will be set back from the public highway. Where existing access tracks are used that also provide access to residential properties, appropriate security measures will be put in place in consultation with the relevant property owner(s).
- 2.8.4 There will be palisade fencing around the substations and energy storage compound which will have a maximum height of 2.6m.
- 2.8.5 Other potential security measures to be included comprise:
- Detection systems such as beam break, image detection etc. to raise alarm when fence breached;
 - Audio announcement when intruder detected to warn alarm triggered and police on way;
 - Barriers/locked gates at main entrances to the Sites;
 - Steel doors on substation buildings;
 - Buried cables as much as possible;
 - Remote monitoring; and
 - Alarm response contract with keyholder/security company.

3 Mitigation and Management

3.1 Purpose

3.1.1 This section of the Outline OEMP sets out the mitigation and management measures to be included as a minimum in the detailed OEMP. It also identifies where monitoring is proposed to assess the effectiveness of the mitigation measures.

Table 3.1: Climate Change

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|--|--|
| Greenhouse gas emissions from the operational maintenance activities required during operation of Scheme. Increased ambient temperature due to climate change. | <p>a. Regular planned maintenance of the Scheme will be conducted to optimise efficiency of the Scheme infrastructure.</p> <p>b. Increasing recyclability by segregating waste to be re-used and recycled were reasonably practicable.</p> <p>c. 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 a higher recycled content.</p> <p>d. Encouraging the use of lower carbon modes of transport by identifying and communicating local bus connections and pedestrian and cycle access routes to/from the Scheme to all staff.</p> <p>e. Switching off vehicles and plant when not in use and ensuring vehicles conform to current EU emissions standards.</p> | The overall responsibility will be with the Applicant. Specific responsibilities will be confirmed in the OEMP(s). |

Table 3.2: Cultural Heritage

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|--|-------------------------|
| Impacts on cultural heritage assets from security lighting, operational noise, associated traffic and | <p>The OLEMP [REP4-035EN010133/DEC/C7.3_F] describes how existing and new habitats will be maintained during the first five years following implementation and managed in the long-term until decommissioning, including hedgerows and planting which provide screening.</p> <p>Where hedgerows require removal for visibility splays to facilitate temporary access routes these will be coppiced to just above ground level allowing for the necessary visibility splay. The trees can then be</p> | Refer to the OLEMP. |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| glint and glare. | <p>allowed to regenerate following completion of site works and the removal of temporary access.</p> <p>Motion detection security lighting will be used to avoid permanent lighting and a sensitive lighting scheme will be developed ensuring inward distribution of light and avoiding light spill on to existing boundary features.</p> <p>Measures to minimise impacts from noise and traffic during operation are provided in the relevant sections.</p> | |

Table 3.3: Ecology

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--|--|-------------------------|
| <p>Impacts on biodiversity features during the operation of the Scheme.</p> <p>Disturbance to wildlife from artificial lighting.</p> | <p>The OLEMP [EN010133/DEC/C7.3_F] will be used to manage the areas of landscaping to maximise the benefits for biodiversity and the monitoring requirements to ensure the successful establishment of the proposed planting.</p> <p>a. Vegetation clearance will be undertaken at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians.</p> <p>b. Avoidance of the nesting bird period (March to August inclusive) for any management of vegetated areas. Any management of vegetated areas or works that could cause disturbance to nesting birds within the nesting bird period should be checked for the presence of any nests by a suitably qualified ornithologist, prior to such works in line with legislative requirements. Depending on the type and timing of management activities required, if active nests are found, dependent upon the bird species and status of the nesting attempt, appropriate buffer zones may need to be required. The extent of the buffer zone will be based on advice then sought from an appropriately qualified ornithologist and the</p> | Refer to the OLEMP. |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--|---|--|
| | <p><u>area monitored until the young birds have fledged.</u></p> <p><u>c. Reasonable avoidance measures for any management activities that have the potential to cause disturbance to badger setts or roosting bats, including appropriate buffers (of up to 30m) around any badger setts, or trees with bat roost potential (a buffer of 15m). Advice should be sought from an appropriately qualified ecologist.</u></p> <p><u>Motion detection security lighting will be used to avoid permanent lighting and a sensitive lighting scheme will be developed ensuring inward distribution of light and avoiding light spill onto existing boundary features.</u></p> | |
| <p>Impacts on biodiversity features during the operation of the Scheme:</p> <p>Disturbance to wildlife from artificial lighting:</p> | <p>The OLEMP [REP4-035] will be used to manage the areas of landscaping to maximise the benefits for biodiversity and the monitoring requirements to ensure the successful establishment of the proposed planting.</p> <p>a. Vegetation clearance will be undertaken at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians.</p> <p>b. Avoidance of the nesting bird period (March to August inclusive) for any management of vegetated areas. Any management of vegetated areas or works that could cause disturbance to nesting birds within the nesting bird period should be checked for the presence of any nests by a suitably qualified ornithologist, prior to such works in line with legislative requirements. Depending on the type and timing of management activities required, if active nests are found, dependent upon the bird species and status of the nesting attempt, appropriate buffer zones may need to be required. The extent of the buffer zone will be based on advice then sought from an appropriately qualified ornithologist and the area monitored until the young birds have fledged.</p> | <p>The OEMP will set out detailed monitoring requirements, with results relayed on a regular basis to the Environment Agency and Natural England. Refer to the OLEMP.</p> |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--|---|-------------------------|
| <p>Programme of monitoring of impacts from EMF on migratory fish species in the vicinity of the operational cable crossing beneath the River Trent</p> | <p>€. Reasonable avoidance measures for any management activities that have the potential to cause disturbance to badger setts or roosting bats, including appropriate buffers (of up to 30m) around any badger setts, or trees with bat roost potential (a buffer of 15m). Advice should be sought from an appropriately qualified ecologist.</p> <p>Motion detection security lighting will be used to avoid permanent lighting and a sensitive lighting scheme will be developed ensuring inward distribution of light and avoiding light spill onto existing boundary features.</p> <p>In response to comments put forward by the Environment Agency within Written Representations during the DCO examination [REP-093], a Risk Assessment of the potential impacts of Electromagnetic Fields (EMF) on fish species within the River Trent (specifically, European eel, river lamprey, sea lamprey and salmon) was prepared by the Applicant [Appendix to REP3-034]. This document concluded that the risk of harm to these species posed by the installation of electrical export cables associated with the Scheme were likely to be low. This conclusion was acknowledged by the Environment Agency; however, this was caveated with the warning that it cannot categorically conclude there would be no risk to fish populations as this is not currently a well researched issue/topic. The Environment Agency requested a programme of monitoring be developed to corroborate the impacts of EMF on fish which might arise during operation of the power export cable which is to cross beneath the River Trent and how any such impacts compare to the predicted impacts on EMF on fish during operation of the power export cable. -The aim of this programme would be to gather information on and monitor the presence, behaviour and ongoing trends of these species and to detect any changes which may arise as a</p> | |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | <p>result of the cable installation. This information could then be used to inform similar, future development. It is not intended for this programme to confer any requirement for remediation or mitigation in the event adverse effects are detected as a result of the monitoring.</p> <p>Unless otherwise agreed with the Environment Agency, a programme for monitoring will be developed to form an Appendix of the final Operational Environmental Management Plan (OEMP). The programme must be approved by the Environment Agency in consultation with Natural England before being adopted into the final OEMP. The results of monitoring surveys are to be shared with the Environment Agency and Natural England.</p> <p>The programme should be prepared in collaboration between the Applicant and the Environment Agency and may draw on specialist and academic advice from organisations conducting similar fisheries research within the River Trent catchment and Humber Estuary. It is understood that existing and ongoing research into fish movements in this area may be able to be expanded and the Applicant will seek opportunities to coordinate the monitoring into any ongoing research exercise.</p> <p>Where any power export cables have also been laid for other solar projects beneath the River Trent and monitoring has been agreed for them, the purpose of the programme will be to monitor the cumulative impacts of the power export cables and a separate monitoring programme shall not be required for each solar project.</p> <p>As a minimum, unless otherwise agreed with the Environment Agency, the programme will include:</p> <ul style="list-style-type: none"> • an appropriate mechanism for monitoring any behavioural responses from migratory fish species passing through the area of the cable crossing | |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | <p>under the River Trent including the nature and extent of any surveys;</p> <ul style="list-style-type: none"> • a mechanism for relaying the results of the surveys to the Environment Agency and Natural England on a regular basis; • proposed periods and timings during which surveys will be undertaken to coincide with the main migratory periods for species such as salmon and lamprey; and • the provision of information regarding the operation of the cable(s) from the Applicant (or subsequent operator), such as voltages and design specifications. <p>The programme can be undertaken by the Applicant, by or in collaboration with the developers of the other solar projects and/or by a third party (for example, a university research team). At the time of writing this outline OEMP, the persons or organisation(s) who may already be undertaking or are proposing to undertake research exercises relating to the River Trent in this area have not yet been determined. The programme will set out any academic bodies and ongoing research that the monitoring may be coordinated with – Hull University are believed to be carrying out research projects along the River Trent. In the latter case, it may be appropriate for the Applicant to provide a financial contribution (proportionate to the Scheme taking into account other projects with cables crossing under the River Trent in this location) in lieu of undertaking the monitoring directly, in order to secure the longevity of the monitoring.</p> <p>The commencement of the monitoring will be subject to any necessary consents from landowners or other stakeholders, for example the Canal and Rivers Trust/Marine Management Organisation. It is envisioned that the monitoring would continue for at least three</p> | |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | years following commissioning of the first cable crossing installed beneath the River Trent at this location. | |

Table 3.4: Hydrology, Flood Risk and Drainage

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--|--|--|
| <p>The following impacts may occur without adequate mitigation:</p> <ul style="list-style-type: none"> - Impacts on water quality in waterbodies that may receive surface water runoff or be at risk of chemical spillages from supporting infrastructure for the Scheme (e.g., substations, battery stores, solar stations, local site offices and car parking etc.) and maintenance activities. - Potential for reduced chemical loading of watercourses associated with cessation of nitrate, pesticide, herbicide and insecticide applications on arable fields, or reduction in fine sediment/soil erosion, which would be beneficial. - Hydro morphological impacts to waterbodies including changes to physical form (for example where outfalls | <p>Drainage Strategy</p> <p>A Drainage Strategy is included in the Application and outlines management of surface and foul water. Details are included in Environmental Statement Chapter 10: Hydrology, Flood Risk and Drainage [APP-045 and REP-076] and the associated Appendices and Annexes. The drainage strategy provides where necessary for the attenuation of surface water runoff from the operational Order limits, whilst minimising flood risk to the Scheme and surrounding areas. In accordance with planning policy guidance runoff from the Order limits requires attenuation where there is an increase in hardstanding areas to ensure no increase in surface water discharge rates and to provide water quality treatment of runoff water. The Drainage Strategy also outlines how firewater runoff will be managed. They also include detail on operation and management of the drainage infrastructure in order to ensure that they continue to function effectively throughout the lifetime of the Scheme.</p> <p>Solar PV Panels</p> <p>The Scheme is predominantly located within Flood Zone 1 with the minimum height of the lowest part of the solar PV Panels to be 0.6m above ground level. Where solar PV Panels are located within Flood Zone 2 or 3 extents the panels will be tracker panels. The solar panel units will be mounted on raised frames (usually raised a</p> | <p>Regular recording of compliance in a logbook. The OEMP will detail the frequency.</p> |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--|---|-------------------------|
| <p>or watercourse crossings are required) which underpin habitats.</p> <p>- Impacts on flood risk from increased runoff from new impervious areas across the Sites.</p> <p>- Potential impacts on hydrology as a result of the Scheme by changing the way water infiltrates into the ground.</p> <p>- Potential beneficial impacts on local waterbodies where local abstractions are made for spray irrigation and therefore need will reduce.</p> | <p>minimum of 400 mm) when on maximum rotation angle) and will therefore be raised above surrounding ground levels and fitted with a tracking system. During times of flooding, solar panels may be stowed by the tracking system algorithm onto a horizontal plane, to the minimum post height of 2.3 m above ground level. This ensures that all sensitive and electrical equipment on the solar panel is raised to a minimum of 2.3 m above ground level in the horizontal position. Other sensitive infrastructure will be located in Flood Zone 1 or raised a minimum of 600mm above the associated flood level.</p> <p>Watercourse Buffers</p> <p>Stand-off distances from waterbodies are:</p> <ul style="list-style-type: none"> • EA Main Rivers, Ordinary Watercourses and Ditches – 8m • IDB watercourses – 9m • Other water bodies – 25m <p>Pollution Controls</p> <p>The design of the Scheme has included measures to avoid and minimise the risk of water pollution during its operation. These include:</p> <p>a. All hazardous materials including chemicals, cleaning agents and solvent containing products to be properly sealed in sealed containers at the end of each day prior to storage in appropriately protected and bunded storage areas.</p> <p>b. Regular inspections and maintenance of all equipment will be undertaken in order to identify any leaks or damage early. Any panels which require maintenance / replacement will be removed before there is any leakage of chemicals from the sealed units. Any leaks will be dealt with in a way that is compliant with the prevailing environmental legislation. The detailed OEMP will include a regular schedule for</p> | |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | <p>visual inspection of the panels and all other equipment.</p> <p>Resilience to Flooding</p> <p>Regular inspection and maintenance of the drainage systems, Sustainable Drainage Systems (SuDS) and culverts will take place throughout the operational phase. This will be undertaken in accordance with good practice guidance. Details are included in Environmental Statement Chapter 10: Hydrology, Flood Risk and Drainage [APP-045 and REP-076].</p> <p>SuDS features will be utilised to ensure the surface water drainage strategy adequately attenuates and treats runoff from the Scheme, whilst minimising flood risk to the Order limits and surrounding areas.</p> <p>A management and maintenance team will be established to maintain SUDS features throughout the lifetime of the Scheme.</p> <p>Rainwater harvesting will be used for the fire suppression tanks/ponds where possible and appropriate.</p> | |

Table 3.5: Landscape and Visual Amenity (including Glint and Glare)

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|---|----------------------------|
| <p>Loss of existing landscape features (e.g., vegetation).</p> <p>Visibility of operational activities.</p> | <p>The OLEMP [REP4-035EN010133/DEC/C7.3_F] sets out the measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of the Order limits (i.e. the Green Infrastructure).</p> <p>A detailed LEMP will be prepared in accordance with the principles of the OLEMP and will be submitted to and approved by the relevant planning authority or authorities. This will include measures to ensure landscape mitigation and enhancements are established and maintained into and throughout the operational phase.</p> | <p>Refer to the OLEMP.</p> |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | <p>No visible lighting will be utilised at the Order limits perimeter.</p> <p>Visible lighting will be installed at entrance points to the substations and BESS (entrance, parking area and control room). Lighting in these locations if not installed on a building or structure would be installed no higher than 3m above ground level, be fitted with downward directional cowls. Lighting would be turned on to allow security personnel to leave Site.</p> <p>Visible lighting would be installed at the BESS compound but used only outside of working hours in emergencies.</p> <p>Screening</p> <p>Existing vegetation along the boundary of the Order limits will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views into the Order limits.</p> <p>Interim measures, prior to establishment of screening vegetation, in the form of opaque fencing will be provided at certain locations if required (as identified in the Glint and Glare Chapter of the ES [APP-051]</p> <p>Blyton Park Driving Centre</p> <p>Screening vegetation as detailed on Figure 8.16.10 A Landscape and Ecology Mitigation and Enhancement Plan – Cottam 3a [REP-025] will be provided.</p> <p>Interim measures, prior to establishment of screening vegetation, in the form of opaque fencing will be provided as set out in ES Addendum Appendix 16.1 Solar Photovoltaic Glint and Glare Study [REP-077])</p> <p>If required, the backtracking angle of the solar panel tracking system can be changed to mitigate solar glare.</p> <p>Where Glint and Glare cannot be mitigated through panel backtracking tilt (tracking panels) and would require instant screening, a temporary 3m wooden solid hoarding may be required until adjacent planting has matured.</p> | |

Table 3.6: Noise and Vibration

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|---|--|
| Noise and vibration from operational equipment. | <p>Cottam 1 BESS:</p> <p>3.0m high acoustic barriers will be constructed around sections of the BESS area at Cottam 1, these will be of a close boarded construction with a minimum mass per square metre of 10 kgm⁻². In addition, acoustic louvres providing at least 10 dB will be required for the conversion unit immediately to the east of the battery storage area.</p> <p>Cottam 1,2 and 3a Solar Arrays:</p> <p>A number of conversion units located around the Cottam Sites will require acoustic louvres providing 10 to 15 dB noise reduction. Details of the requirements can be found in Section 15.6 of Environmental Statement Chapter 15: Noise and Vibration [APP-050].</p> | The Environmental Manager will regularly record compliance in a logbook. The OEMP will detail the frequency. |

Table 3.7: Soils and Agriculture

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|---|---|
| <p>Potential for surface soil compaction in some areas. For example, grassed access alleys traversed by light vehicles for Site maintenance could cause surface compaction in damp or wet soil conditions.</p> <p>If sheep grazing is used for vegetation management surface compaction can result if numbers grazing is too great in wet conditions. Surface compaction can cause run-off.</p> | <p>A Soil Resource Management Plan (SRMP), in accordance with the Outline Soil Management Plan [REP3-010] will detail how the risk of causing surface compaction can be minimised and how to remove compaction if it has occurred.</p> <p>Examples include specification of vehicles used for any trafficking off access tracks, placement and movement of any livestock troughs and site inspection by a suitably experienced soil scientist to monitor for the emergence of any soil compaction issues.</p> | Soil assessments and monitoring will be undertaken as detailed in the Outline Soil Management Plan. |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | Any grazing of livestock will be in accordance with good practice guidance for livestock welfare. | |

Table 3.8: Socio-economics, tourism and recreation

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|--|-------------------------|
| Disruption to local residents, businesses and community facilities. | <p>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.</p> <p>Measures to mitigate the effects of operational noise and vibration are outlined in Table 3.6.</p> <p>Measures to mitigate the effects of landscape and visual amenity impacts from operational are outlined in Table 3.5.</p> <p>Measures to mitigate the effects of operational traffic are outlined in Table 3.9.</p> | |

Table 3.9: Transport and Access

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|-------------------------------------|---|-------------------------|
| Vehicle movements during operation. | <p>a. Maintaining access to all existing PRoW within the Order limits, with no diversions or closures (any PRoW temporarily diverted during the construction phase will be reinstated during the operational phase).</p> <p>b. Providing an additional permissive path from Normanby Road, Stow to Fleets Lane, Stow Pastures</p> | Not required. |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--------------------------------|---|-------------------------|
| | <p>to improve connections and desire lines for pedestrians, including to / from existing PRoWs;</p> <p>c. Providing a suitable point of access for operational vehicles on Thorpe Lane, Stow Lane, Ingham Road, Fleets Lane, South Lane, Willingham Road and an access junction to the east of Corringham on the A631;</p> <p>d. Controlling areas where the internal maintenance route crosses any existing PRoW or local access roads (such as by providing gates), permitting only operational traffic to utilise these internal routes within the Order limits. Operational traffic should give-way to other users (pedestrians and road users) when utilising the crossing points. Reduced speed limits and signage, will ensure safe movement around the site;</p> <p>e. All new access tracks will be secured by gates, which will be set back from the public highway. Where existing access tracks are used that also provide access to residential properties, appropriate security measures will be put in place in consultation with the relevant property owner(s).</p> <p>f. Measures such as planting of hedgerows, maintained to a height of at least 3m, in order to conceal the solar reflections and to mitigate the overall impacts for road receptors.</p> | |
| Management of permissive path. | <p>The permissive path will be managed through:</p> <p>a. Displaying clear signage at the entrance to permissive path. Details of the signage for the path (which should include making clear the path is a permitted path, with usage permitted by the landowner) will be agreed with the Host Authorities.</p> <p>b. Regular maintenance, including annual closure for maintenance. Closures will be discussed and agreed with the Host Authorities beforehand with appropriate signage/warnings.</p> <p>c. The surfacing material and width of the permissive path will be agreed in advance of operation with the Host Authorities. Paths could consist of a mix of grass or crushed stone/gravel across the Sites, with grass being a preference.</p> | Not required. |

Table 3.10: Air Quality

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|--------------------------|--|-------------------------|
| Dust emissions off-Site. | <p>Dust emissions during operation will be managed through the following:</p> <ul style="list-style-type: none"> a. Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction (e.g., suitable local exhaust ventilation systems). b. Ensuring an adequate water supply on the Sites for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. c. Ensuring equipment is readily available on the Sites to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. | Not required. |

Table 3.11: Ground Conditions

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|---|--|
| Potential for pollutants to enter the ground. | <p>The design of the Scheme has included measures to avoid and minimise the risk of pollution to the ground and water during its operation. These include:</p> <ul style="list-style-type: none"> a. Regular inspections and maintenance of all equipment will be undertaken in order to identify any leaks or damage early. Any panels which require maintenance / replacement will be removed before there is any leakage of chemicals from the sealed units. Any leaks will be dealt with in a way that is compliant with the prevailing environmental legislation. The detailed OEMP(s) will include a regular schedule for visual inspection of the panels and all other infrastructure. b. During the operational phase there would be surface water runoff from the permanent structures, roofs, solar PV panels and access roads. Details are included in Environmental Statement Chapter 10: Hydrology, Flood Risk and Drainage [APP-045 and | The Environmental Manager will regularly record compliance in a logbook. The OEMP will detail the frequency. |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|--|-------------------------|
| | <p>REP-076] has been prepared and references the water quality risk assessment;</p> <p>c. Minimum buffers as described in the Hydrology, Flood Risk and Drainage table above; and</p> <p>d. All plant (i.e., inverters, transformers and switchgear) will be installed on concrete bases with suitable bunding where appropriate.</p> <p>e. Bulk fuels and any chemicals used on the Site will be stored appropriately, within an impervious bund of 110% of the volume of the container to reduce the potential for any contamination source in the event of a container failure / leak of battery fire and associated fire waters.</p> | |

Table 3.12: Major Accidents and Disasters

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|---|-------------------------|
| | <p>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.</p> <p>A Battery Storage Safety Management Plan has been produced for the Scheme [REP3-018] and will be referred to during operation to safely reduce and manage the risk of fire during operation. This will be updated and maintained as a 'live document' throughout the operational phase of the Scheme. An Emergency Response Plan will be prepared to minimise risks from smoke that may accompany a toxic gas release.</p> <p>An appropriate risk assessment will be produced to minimise the risk of major accidents during operation. Further risks of major accidents and disasters are covered in the following tables: Table 3.4 - Hydrology, Flood Risk and Drainage; Table 3.9 - Transport and Access; Table 3.11 - Ground Conditions; and Table 3.13 - Waste.</p> <p>Substation Fire Action Plan</p> <p>A Substation Fire Action Plan will be prepared ahead of the commissioning of the Scheme to include the following good practice safety measures::</p> <p>The site manager/fire safety representative will need to assess the fire location(s), wind directions and surrounding receptors. The site manager/fire safety representative will take appropriate actions accordingly. The actions to be taken include:</p> <ol style="list-style-type: none"> (1) to inform any potentially affected residents, especially those that are located at downwind locations to the substation fire; (2) to cancel outdoor events and keep windows closed for any potentially affected residents, especially those that are located at downwind locations to the substation fire; and (3) to stop any farming activities and to move any farmers/workers within 300 m of the substation fire to a cleaner air location. <p>A cleaner air location would preferably not be downwind, and be at a distance greater than 300 m from the substation fire.</p> | |

Table 3.13: Waste

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|---|---|---|
| <p>Impacts of waste to the surrounding environment.</p> <p>Potential to impact on sensitive receptors (humans, wildlife, and controlled waters) if not stored and managed appropriately.</p> <p>Impacts on waste recycling and handling facility capacity</p> | <p>Materials requiring removal from the Order limits during operation would be transported using licensed carriers and records kept, detailing the types and quantities of waste moved and the destinations of this waste, in accordance with the relevant regulations.</p> <p>Infrastructure such as PV panels and battery storage units that need to be replaced during the operational phase, will be removed and recycled as far as practical and in accordance with legislation and guidance applicable at the time, or if more suitable at the time, sold for refurbishment and reuse.</p> <p>A 'Waste Management Strategy' will be provided as a standalone document requiring approval from the Waste Management Authority as set out under Requirement 14 of the DCO [EN010133/EX5/C3.1_GREP5-005] to ensure operational waste is managed suitably, and that waste arisings are sent for handling at facilities within the waste local authorities that have capacity to do so without adversely impacting upon their capacity to handle waste arisings for all other waste streams in the authority area. This Waste Management Strategy should cover the following topics:</p> <ul style="list-style-type: none"> • Separate sections covering waste from commissioning, operational and decommissioning phases. • For each phase show the overall total and split by year: | <p>A register of waste loads leaving the Order limits 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.</p> <p>The Waste Management Strategy should be updated periodically, as and when waste local plans in the host waste authorities are updated, and in light of any significant changes in available waste processing technology and capacity, or the quantity, type or timing of waste arisings from the Scheme. This is to ensure that forecasts for waste handling capacity throughout operation, and at the projected point of decommissioning, are kept up to date to ensure adverse effects can be suitably mitigated.</p> |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|--|-------------------------|
| | <ul style="list-style-type: none"> ○ Tonnage of each type of waste. ○ Whether any of those waste type have specific status – e.g. hazardous. ○ Preferred method of processing or disposal for each waste type of waste – e.g. reuse – including how they’ve considered the Waste Hierarchy. ○ Hierarchy of backup plan(s) if proposed method of processing or disposal is not available – e.g. recycling. ○ ‘Worst case’ method of processing or disposal – e.g. landfill. ● Proposed destination (host Waste Planning Authority) of each type of waste, including if this differs depending on method of processing or disposal. ● Up-to-date assessment of available waste handling capacity in the host Waste Planning Authority areas <p>The Waste Management Strategy and OEMP will be sent to West Lindsey District Council and Lincolnshire County Council as required by Schedule 17 in Schedule 2 of the draft Development Consent Order</p> | |

| Potential Impact | Mitigation / Enhancement Measure | Monitoring Requirements |
|------------------|--|-------------------------|
| | Revision E [EN010133/EX5/C3.1_G]REP5-005] | |

4 Complementary Plans and Procedures

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

- Outline Landscape and Ecology Management Plan (OLEMP) [~~REP4-035~~EN010133/DEC/C7.3_F].
- Outline Soil Management Plan [REP3-010].
- Outline Public Rights of Way (PROW) Management Plan [EN010133/EX5/C6.3.14.3_E].
- Outline Battery Storage Safety Management Plan [REP3-018].
- Outline Skills, Supply Chain and Employment Plan [REP4-041].

5 Implementation and Operation

5.1.1 Each OEMP 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 via 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.

6 Monitoring and Reporting

6.1 Monitoring

6.1.1 Monitoring and reporting will be undertaken for the duration of the operational phase in order to demonstrate the effectiveness of the measures set out in the OEMP(s) 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(s) 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 OEMP(s) 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 OEMP(s). This will allow provision of evidence that the OEMP(s) are being implemented effectively. These records will include:

- Results of routine site inspections by Environmental Manager/ Project Manager;
- Environmental surveys and investigations;
- Environmental Action Schedule;
- Environmental equipment test records;
- Licences and approvals;
- Corrective actions taken in response to incidents, breaches of the approved OEMPs or complaints received from a third party.

6.2.2 The OEMP(s) 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.

References

Ref 1-1: Planning Act 2008