



Great North Road Solar and Biodiversity Park

Environmental Statement

Volume 4 – Technical Appendices

Technical Appendix A5.5 – Outline Operation Environmental Management Plan

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A5.5.1 INTRODUCTION

- 1 This Outline Operational Environmental Management Plan (oOEMP) describes the operational best practise and maintenance activities relating to the environment to be undertaken for the Development. A final OEMP will be prepared in accordance with this oOEMP and then implemented; this is secured via a Development Consent Order (DCO) Requirement.
- 2 Operation phase mitigation and control measures relating to the environment will be implemented throughout the operation phase of the Development, as identified within the Environmental Statement (ES) [EN010162/APP/6]. This oOEMP details how these measures will be implemented and monitored to ensure their effectiveness.
- 3 This oOEMP includes commitments for the final OEMP to include the following plans:
 - A Site Waste Management Plan (SWMP);
 - A Pollution Prevention Plan (PPP); and
 - An Environmental Emergency Response Plan.
- 4 This oOEMP does not duplicate description of operation phase environmental controls that are described and/or secured elsewhere. These include:
 - Safety and environmental controls associated with the operation of the Battery Energy Storage System (BESS) component of the Development, which are set out in the Outline Fire Safety Management Plan (FSMP) [EN010162/APP/6.4.5.4];
 - The Outline Landscape and Ecological Management Plan (LEMP) [EN010162/APP/6.4.5.1], which specifies the location and detail of vegetation planting and management, other biodiversity interventions, and any monitoring and remediation of these measures;
 - The detailed design description will be provided to NSDC prior to commencement of construction, in compliance with the relevant DCO Requirement. This will include surface water drainage features and foul water drainage/treatment proposals, which will accord with current good practice. Any resulting requirements for environmental monitoring and/or management in relation to foul water will be set out in the final OEMP;
 - The Operational Noise Management Plan (ONMP), which will provide an assessment of noise from the Development during the operation phase, including setting out how noise limits will be met;
 - The Outline Skills, Supply Chain and Employment Plan (SSCEP) [EN010162/APP/6.4.13.2], which sets out how the Applicant will engage with, and enhance, local employment and skills opportunities;
 - The Outline Soil Management Plan (SMP) [EN010162/APP/6.4.17.2], which sets out how soil will be managed during all phases of the Development; and
 - The Outline Recreational Routes Management Plan (RRMP) [EN010162/APP/6.4.18.1], which set out how recreational routes (Public Rights of Way and permissive routes) that could be affected by the Development, will be managed.

- 5 The final OEMP will be designed to ensure compliance with applicable environmental legislation and the mitigation measures outlined in the ES. It will also detail any additional licenses, permits, or approvals required for the operational phase of the Development that are not disapplied by the DCO, including any associated environmental information.
- 6 Due to the scale, it is possible that the Development will become operational in phases as construction progresses. As a result, it is possible that multiple OEMPs may be produced and approved to provide tailored guidance to each operational phase. Following final commissioning of all parts of the Development, these OEMPs will be combined into a single OEMP covering the whole Development.
- 7 This document does not address measures for construction or decommissioning phases. These phases are discussed in the Outline Construction Environmental Management Plan (oCEMP) (TA A5.3 [EN010162/APP/6.4.5.3]), the Outline Construction Traffic Management Plan (CTMP) [EN010162/APP/6.4.5.2] and the outline Decommissioning and Restoration Plan (oDRP) (TA A5.6, [EN010162/APP/6.4.5.6]). The management and monitoring of habitats during the construction and operation phases is controlled by the Outline Landscape and Ecological Management Plan (oLEMP, TA A5.1 [EN010162/APP/6.4.5.1]).
- 8 The Applicant will hold the ultimate responsibility for ensuring works are undertaken in accordance with the environmental controls documented in the oOEMP and for the implementation of future OEMP(s).

A5.5.2 IMPLEMENTATION OF THE OEMP

- 9 The future iteration(s) of this OEMP will set out all roles, responsibilities, and actions required to implement the measures described in this oOEMP, including:
 - An overview of team roles, names and responsibilities;
 - Training requirements for specific roles;
 - Briefings to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;
 - Briefings to advise relevant staff of changing circumstances;
 - Methods of communication of information described in the OEMP;
 - Document control; and
 - Monitoring, inspections and audits of Site operations.

A5.5.3 PUBLIC CONTACT POINT AND COMPLAINTS

- 10 The final OEMP will clearly identify a Development Representative and means of contact that the public can use to communicate with the Applicant on matters relating to the environment and the Development.
- 11 Any complaints, or reports of environmental harm, will be investigated as appropriate and records will be kept of the communication and the Applicant's response (whether communication, investigation and/or action). These records will be kept in accordance with section A5.5.6 below.

A5.5.4 OPERATION OF THE DEVELOPMENT

A5.5.4.1 OPERATIONAL ACTIVITIES

- 12 Activity within the Order Limits during the operation phase of the Development will be limited to vegetation management; sheep management; equipment maintenance and servicing; replacement of any sufficiently degraded or failed components; and monitoring to ensure the continued effective operation of the Development.
- 13 It is anticipated that there would typically be c. 30 staff onsite during the operation phase of the Development, including for maintenance of solar and electrical equipment and vegetation management.
- 14 Access to dwellings and farms will be maintained during the operation phase of the Development.

A5.5.4.2 ROLES AND RESPONSIBILITIES

- 15 The key roles expected to manage environmental impacts during the operational phase include, but are not limited to, those outlined in Table A5.5.1 below.

Table A5.5.1 – Roles and Responsibilities

Role	Responsibility
Site Manager	Responsible for all onsite activity, including workers and the local community.
Development Representative	Provides a point of contact for the public with the Development, and is responsible for responding to questions and managing other interactions with the public on behalf of the Development.
Environment Manager	Responsible for overseeing all environmental aspects onsite, ensuring compliance with environmental legislation and best practices, implementing mitigation and monitoring measures, and liaising with relevant environmental bodies and other third parties. Their duties will include managing onsite environmental monitoring, conducting regular site inspections, and reporting on and addressing any incidents or instances of non-compliance.
Health and Safety Manager	Responsible for the monitoring and management of health and safety compliance and regulations onsite.

A5.5.4.3 WORKING HOURS AND LIGHTING

- 16 It is anticipated that there would typically be c. 30 staff onsite during the operational phase of the Development, including for maintenance of solar and electrical equipment and vegetation and sheep management. Staff will be onsite typically for normal working hours between 08:00 and 18:00, five days a week, though also at night and weekends where required for emergency actions and sheep management.

- 17 During operation, no part of the Development will be continuously lit. It is likely that movement-triggered lighting and passive infra-red sensors would be deployed for security purposes in Work No. 4, 5a and 5b and potentially at any other pieces of critical infrastructure and construction compounds.
- 18 In order to limit impacts on sensitive receptors, lighting would be directed downward and away from boundaries.

A5.5.4.4 SECURITY

- 19 A fence would enclose the operational areas of the Development for security and public safety.
- 20 Pole mounted internal facing closed-circuit television (CCTV) systems are also likely to be deployed around the perimeter of the operational areas of the Development. Software masking of public areas will be applied where necessary to ensure privacy of the public.
- 21 It is likely that movement-triggered lighting and passive infra-red sensors would be deployed for security purposes in Work No.s 4 and 5a and 5b and potentially at any other pieces of critical infrastructure and construction compounds.

A5.5.4.5 POLLUTION PREVENTION AND CONTROL

A5.5.4.5.1 Potential Hydrocarbon Contamination

- 22 Machinery and vehicles owned and operated by the Applicant and its contractors will be regularly maintained to ensure that there is minimal potential for fuel or oil leaks and spillages to occur. All vehicle maintenance will be conducted over drip trays or suitably absorbent spill pads to minimise the potential for groundwater and surface water pollution. All machinery will be equipped with drip pans to contain minor fuel spillage or equipment leakages.
- 23 If any refuelling (of vehicles and/or equipment) and/or other transfer of liquid hydrocarbons (typically fuels, oils and solvents) is to occur on within the Development, appointed personnel will be trained in the correct methods to ensure that pollution incidents are prevented and a quick response plan is implemented (see section A5.5.4.6 Environmental Emergency Response Plan), should a spill occur, to minimise the impact of spills. Any vehicle refuelling will occur within a bunded refuelling area within the substation (Work no.s 4 and 5b) and/or BESS (Work no. 5a) compounds. Interceptor drip trays or similar (noting that open metal drip trays are not acceptable) will be available at refuelling locations. Interceptor drip trays will be positioned under any stationary mobile plant to prevent oil contamination of the ground surface or water. Plant and site vehicles are to be well maintained and any vehicles leaking fluids must be repaired or removed from site immediately.
- 24 Pipes on plant, outlets at fuel tanks, etc., will be regularly checked and maintained to ensure that no drips or leaks to ground occur. The following precautions will be taken:
 - Any flexible pipe, tap or valve should be fitted with a lock where it leaves the container and be locked when not in use;

- Flexible delivery pipes should be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use;
- Warning notices including “No smoking” and “Close valves when not in use” shall also be displayed; and
- Spill kits will be available within each relevant item of plant or vehicle on Site.

A5.5.4.5.2 Chemical Storage

- 25 Potentially contaminating chemicals stored on Site will be kept within industry-standard containers within a secure bunded area to prevent any accidental spills from affecting hydrological resources. The bunds will have a capacity 110 % of that of the fuel or chemical store. The bunded area will be within a substation (Work no.s 4 and 5b) and/or BESS (Work no. 5a) compound and will be underlain by an impermeable ground membrane layer to reduce the potential pathways for contaminants to enter watercourses and groundwater. The chemicals storage area will be kept secure to prevent theft or vandalism. A safe system for accessing the storage area will be implemented by the Applicant.
- 26 Oil, fuel and chemical storage areas will be covered in order to prevent rainwater collecting within the bunded area.

A5.5.4.5.3 Solar PV Module Coatings

- 27 If the installed solar PV module for the Development has a coating of a substance with the potential to cause pollution, the following precautions will be implemented:
 - Regular (at least annual) inspections of all solar PV modules will be made, to identify potential damage to the surface of the module. Any damaged modules will be replaced as soon as practicable; and
 - Solar PV modules will not be cleaned when they are hot (when the panel surface is above 35 degrees centigrade), to avoid thermal shock to the surface).
- 28 This will be confirmed in the final OEMP, following confirmation of the selection of the solar PV module to be installed.

A5.5.4.6 ENVIRONMENTAL EMERGENCY RESPONSE PLAN

- 29 The final OEMP will include an Environmental Emergency Response Plan that will set out preparation and procedures for emergency events with the potential to affect the environment. The OEMP will identify the scenarios envisaged and will set out for each of them the potential environmental impacts and control measures to prevent them.

A5.5.5 MANAGEMENT AND MITIGATION PLAN

- 30 This section of the OEMP summarises the potential impacts and the minimum mitigation measures to be included in the OEMP(s). It also specifies the monitoring requirements for implementing mitigation and/or enhancement measures, where applicable.

- 31 The identified measures are outlined in Tables A5.5.2 to A5.5.5 below. These measures will be reviewed and updated within any future OEMPs following the submission of the application for the DCO.
- 32 The measures outlined below aim to not only address specific adverse effects assessed through the EIA process, but also to highlight best practice measures.
- 33 The Applicant is ultimately responsible for ensuring that the measures outlined in Tables A5.5.2 to A5.5.5 below are implemented, including the appointment of suitably qualified individuals to the roles outlined in Table A5.5.1.

Table A5.5.2 Ecology and Biodiversity

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
<p>Habitat loss and disturbance. Direct harm to and disturbance of animals. Spreading invasive non-native species. Legal offences relating to the above.</p>	<p>The final OEMP will set out measures to avoid or reduce the risk of adverse ecological effects and associated legal offences, including from activities such as replacement of Development components and including protected species licences, where required. It will address many of the sensitive ecological features as in the Construction Ecological Management Plan (CEcMP) in the Outline CEMP, but proportionate to the lower risks associated with the operational phase.</p> <p>The final OEMP will also incorporate, or make explicit reference to, licences or consents that were obtained during construction and which carry compliance obligations during the operational phase.</p>	<p>There is no general monitoring requirement.</p> <p>The oLEMP includes routine monitoring for a range of ecological features.</p> <p>Monitoring may be required to demonstrate compliance with licences or consents.</p>

Table A5.5.3 Water Resources

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
<p>Flood water displacement</p>	<p>Should the Development lifetime be anticipated to extend into the 2080s epoch, as a result of delays to the construction programme for example, then modelling will be undertaken in year 2069 using the appropriate climate change allowances at the time, in consultation with the EA (and other regulators). Should modelling results show that the Development has the potential to interact with flood depths then the Development design will be altered accordingly to ensure that flood storage and conveyance is maintained for the River Trent. This could involve raising the PV Arrays (subject to negligible loss of storage and conveyance), the removal of the first row of panels on a PV table or removing the</p>	<p>No monitoring is required for this.</p>

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
	mounting system and associated infrastructure from the modelled extent.	
Localised pollution	The pollution controls set out in section A5.5.4.5 provide the required mitigation.	The Environmental Manager will be responsible for ensuring these controls are implemented.
Failure of drainage measures and loss of their effects in attenuating water flows	The Applicant will maintain effective drainage measures and rectify drainage measures that are not functioning adequately. The Environmental Manager (see section A5.5.4.2) will have responsibility for reporting to the Site Manager on the functionality of drainage measures and for acting promptly to rectify any defects.	Where Sustainable Drainage System (SuDS) measures are implemented as part of the Development, these will be checked at least quarterly.

Table A5.5.4 Ground Conditions and Land Contamination

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
Localised pollution	Appropriate measures here are as set out in Table A5.5.3.	No monitoring is required for this.

Table A5.5.5 Miscellaneous Issues

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
Waste	The final OEMP will include a Site Waste Management Plan (SWMP) for the operation phase of the Development. Any materials, including solar and BESS equipment, which requires replacement during the operational period will be disposed of following the waste hierarchy, with materials being reused or recycled wherever possible. Any electrical waste will be disposed in accordance with relevant legislation at the time of disposal, such as would include (at the time of writing) the Waste from	No monitoring is required for this.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirement
	Electrical and Electronic Equipment (WEEE) Regulations 2013 and the Waste Batteries and Accumulators Regulations 2009.	

A5.5.6 MONITORING AND RECORDING

- 34 For the duration of the operational phase of the Development, monitoring will take place to determine the effectiveness of the measures set out in the OEMP(s). This will allow for subsequent corrective action to be taken where necessary.
- 35 Regular walkover surveys will be conducted and documented by the Environmental Manager, as well as any formal inspections that might be required. Any deviations from the OEMP(s) will be recorded in a logbook, along with the action taken to remediate the issue. The Environmental Manager would also act as a point of contact with relevant local authorities and other regulatory agencies such as the Environment Agency.
- 36 Following periods of extreme sustained or intense rainfall, the Environmental Manager will examine the drainage measures in place throughout the Development. If required, adaptations or additional measures should be proposed. A photographic record will be logged and sent to the relevant regulators such as the Environment Agency.
- 37 In order to evidence that the OEMP(s) are being implemented effectively, the Environmental Manager will retain all records of the OEMPs execution and of environmental monitoring. These records will include:
- Records of Site inspections by the Environmental Manager;
 - Environmental equipment test records;
 - Licences and approvals;
 - Records of communications with the public on operation phase environmental matters (see section A5.5.3);
 - Corrective actions taken in response to incidents, breaches of the approved OEMP(s) or communications received from a third party; and
 - Any recommendations for amendments to the OEMP.
- 38 Any amendment of the OEMP recommended by the Environmental Manager will be subject to approval by NSDC.

A5.5.7 ARCHAEOLOGICAL PROTECTION

- 39 The Archaeological Mitigation Strategy (AMS; ES TA A11.8 [EN010162/APP/6.4.11.8]), which is secured by DCO Requirement, includes a programme of investigation prior to construction. One possible outcome of this work is the identification of a requirement to preserve in situ archaeological features.
- 40 Where preservation in situ has been identified, measures are will be set out in the final OEMP to ensure that these areas continue to be preserved in situ during operation phase activities.

A5.5.8 TRAFFIC MANAGEMENT

- 4041 There may, on occasion, be a requirement during the operational phase of the Development when vehicles require access to a solar area only served by a secondary access from the public highway. In most instances, these movements can occur under normal traffic conditions and will typically be less than the agricultural use in their current form for existing field accesses.

However, the final OEMP will identify any locations where site-specific activities may require localised temporary traffic management measures to be agreed in advance with the Local Highway Authority – such as the use of banksmen. The temporary traffic management measures will be proportionate to the nature and duration of activity and the expected volume and type of traffic movements.