Technical Appendix 2.1: Outline Construction Environmental Management Plan (OCEMP)

Intended for
Ravengill Energy Park Ltd

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RAVENGILL ENERGY PARK

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN – DRAFT TEMPLATE FOR PLANNING

CONTENTS

1. INTRODUCTION

This Outline Construction Environmental Management Plan (OCEMP) has been prepared in support of the Environment Impact Assessment (EIA) process for the proposed Ravengill Energy Park (hereafter referred to as the 'Proposed Development') and forms Technical Appendix 2.1 of Volume 4 of the Environmental Impact Assessment (EIA) Report (EIAR) submitted as part of the application for consent for the Proposed Development under Section 36 of the Electricity Act 1989.

A CEMP describes the environmental management and construction controls and methods to be employed during the construction of the Proposed Development to mitigate adverse environmental impacts. CEMPs are typically iterative and develop throughout the programme of construction works. The requirement to produce a CEMP will form part of the contract for the construction works for the Proposed Development, with its preparation the responsibility of the appointed construction contractor(s).

This outline CEMP sets out the minimum requirements, guidance and good practice measures from which the CEMP will be produced post-consent. Measures set out within this outline CEMP will be implemented in addition to those within **Chapter 11: Schedule of Environmental Mitigation (EIAR Volume 2)**.

The CEMP will be updated with detailed information and finalised prior to commencement of construction, in consultation with the relevant authorities and taking account of the approved plans and planning conditions. The CEMP will be sought for approval with the relevant planning authorities prior to the commencement of construction works.

The contractor(s) appointed to construct the Proposed Development will prepare detailed method statements which will be incorporated into the CEMP. The management measures, method statements and referenced good practice guidance and legislation will form the basis of the detailed design to be prepared by the appointed contractor(s).

The CEMP will provide:

- a schedule of all construction stage mitigation measures required to address likely significant effects identified in the EIAR;
- a schedule of all additional construction and decommissioning stage good practice management measures included as part of the proposed construction work, in line with industry good practice guidance;
- a schedule of roles and responsibilities for delivering the requirements of the CEMP, including a statement of responsibility to 'stop the job/activity' if a potential breach of a mitigation or legislation occurs;
- a method statement for monitoring, auditing, and templates for reporting and communication of environmental management performance on-site and with the Applicant, planning authority and other relevant parties;
- construction stage environmental management measures, based on both compliance with relevant regulations and relevant good practice including but not limited to:
  - Environmental Authorisation (Scotland) Regulations 2018 (EASR)[1];
  - Forestry Commission (2023). UK Forestry Standard: The Government's approach to sustainable forestry, 5th Edition. Forestry Commission, Edinburgh[2];
  - NatureScot (2024) Good Practice During Wind Farm Construction, A joint publication by Scottish Renewables, NatureScot, SEPA, Forestry Commission Scotland and Historic Environment Scotland, Marine Scotland Science[3];
  - Netregs, Guidance for Pollution Prevention (GPP)[4];
  - CIRIA Publications including CIRIA C768 (Guidance on the construction of SuDS), CIRIA C753 (The SuDS Manual)[5]; and
  - NatureScot (2015) Constructed Tracks in the Scottish Uplands, 2nd Edition[6].
- a template for the production of detailed and task/ site specific plans for on-site components of the construction work.

It is anticipated that specific mitigation plans and additional management measures will be required to address cultural heritage, ecology (protected habitats and species), surface water management and pollution prevention, watercourse crossings, waste, access arrangements, soil and peat management, construction and decommissioning nuisance (noise, dust), and community liaison.

[1] Available at: https://www.legislation.gov.uk/sdsi/2018/9780111039014/contents
[2] Forestry Commission, 2017. The UK Forestry Standard. Online. Available at: https://www.gov.uk/government/publications/the-uk-forestry-standard
[3] NatureScot, 2024. Guidance- Good Practice during Wind Farm Construction. Available at: https://www.nature.scot/doc/good-practice-during-wind-farm-construction
[4] Available at: https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/
[5] SUSDRAIN, URL: https://www.susdrain.org/resources/ciria-guidance.html
[6] NatureScot, 2015. Constructed tracks in the Scottish Uplands. Available at: https://www.nature.scot/doc/archive/constructed-tracks-scottish-uplands

2. COMMUNICATION PROTOCOL

2.1 Roles and Responsibilities

The CEMP will confirm the roles, responsibilities and communication routes for environmental management during construction works, including communication protocols for use during a potential environmental emergency or incident.

An appropriately qualified Environmental / Ecological Clerk of Works (EnvCow or ECoW) / Site Environment Manager will be appointed with responsibility for monitoring compliance with the CEMP. They would be supported by an appropriately experienced and qualified engineering geologist/ geotechnical engineer for the supervision of works in any areas identified as medium to high risk of peat instability.

An appropriately qualified Archaeological Clerk of Works would be appointed to supervise fencing off of archaeological remains and would be responsible for undertaking an archaeological watching brief on ground-breaking works across the Site, as identified in the CEMP.

2.2 Recording and Reporting

The CEMP will set out the requirements for recording and reporting all aspects of environmental management, for example:

- minutes and attendance record of start-up meeting (on-site meeting prior to commencement of construction works);
- an environmental risk register;
- minutes of weekly meetings covering environmental (ecology, archaeology, hydrology) issues (meetings may be combined with regular construction progress meetings);
- a communication plan;
- records of toolbox talks;
- dust/ noise monitoring records;
- site waste and materials records;
- water quality monitoring records (if required); and
- licensing and consents.

Consultation on the CEMP would be undertaken with South Lanarkshire Council (SLC) and relevant statutory consultees prior to adoption.

2.3 Environmental Audits

The CEMP will set out the programme of environmental audits, including audits of sub-contractors to be undertaken by the appointed contractor(s). Audits will be provided on a quarterly basis (as a minimum) with audit reports to follow within two weeks of the audit being undertaken.

The contractor(s) will develop a template for completing and reporting audits for the agreement of the employer prior to the commencement of site works.

2.4 Community Liaison

During the construction period, a community liaison plan may be developed by the appointed construction contractor(s). This would set out the approach for the dissemination of information (including regular updates to the project website) and the recording of public feedback and any potential complaints. SLC would be invited to contribute to the plan as appropriate.

3. TYPICAL CONSTRUCTION STAGE ENVIRONMENTAL MANAGEMENT MEASURES AND PLANS

3.1 Contractor Requirements

A Principal Contractor will be appointed and they will ensure that all employees, sub-contractors, suppliers and other visitors to the Site are made aware of the content of the CEMP and its applicability to them. Accordingly, environmental specific induction training will be prepared and presented to all categories of personnel working on and visiting the Site.

As a minimum, the following information will be provided to all inductees:

- identification of specific environmental risks associated with the work to be undertaken on-site by the inductee;
- summary of the main environmental receptors, risks, aspects and requirements at the Site as identified in the CEMP; and
- Environmental Incident and Emergency Response Procedures (including specific Environmental Communication Plan requirements).

A conveniently sized copy of an Environmental Risk Map or equivalent will be provided to all inductees showing all the sensitive areas, exclusion zones and designated washout areas. The map will be updated and reissued as required. Any updates to the map will be communicated to all inductees through a toolbox talk given by specialist environmental personnel. Regular toolbox talks will be provided during construction to provide ongoing reinforcement and awareness of environmental issues.

3.2 Temporary Lighting

Temporary lighting will be required at the temporary construction compounds for security purposes and to ensure that a safe working environment is provided to construction staff. In addition, temporary lighting could be required to ensure safe working conditions at infrastructure locations during construction.

All temporary lighting installations will be downwards pointing passive infra-red (PIR) activated lighting and all lights will be switched off during daylight hours and outwith working hours.

3.3 Archaeological Management Plan

Specify requirement for mitigation and/ or good practices measures agreed with the planning authority and in line with measures specified in the EIAR including, for example, archaeological monitoring and excavation (where required).

3.4 Agricultural Management Plan

An agricultural management plan would be developed to outline how livestock would be managed on-site. The plan would detail how livestock would be managed through agricultural infrastructure e.g. fences and gates, how these would be maintained, and replaced, if required, during construction.

3.5 Ecological Management Plan / Species Protection Plan

Provide an Ecological Management Plan (EMP) and/or Species Protection Plan (SPP), to include all measures required to protect ecology and biodiversity at the Site and maintain compliance with relevant nature conservation and wildlife protection legislation.

3.6 Water Quality and Fish Monitoring Plan

Provide a Water Quality and Fish Monitoring Plan in line with Marine Scotland Science (MSS) guidelines[7] to specify the mitigation measures and working methods to protect aquatic ecology and fish.

3.7 Construction Bird Disturbance Management Plan

A construction Bird Disturbance Management Plan would be provided to specify the mitigation measures and working methods to protect birds.

3.8 Surface, Groundwater and Water Quality Monitoring Management Plan

A Surface, Groundwater and Water Quality Monitoring Plan will specify and provide design for drainage management measures, to incorporate sustainable drainage systems (SuDS) to attenuate the volume and rate of runoff and maintain water quality within the Site.

The plan will specify requirement for monitoring (including visual inspection and sampling) of all drainage measures (SuDS) employed during the construction phase to assess and manage the performance of the drainage system and ensure they are maintained appropriately and remain effective. The performance of the drainage measures will be monitored and recorded.

The plan will specify the monitoring of surface watercourses to be undertaken during the construction phase, if required. Further consultation in relation to water quality monitoring will be sought with Scottish Water prior to the commencement of construction works.

The contractor will obtain the appropriate EASR authorisation from SEPA prior to the commencement of construction. The Contactor will be responsible for implementing any requirements of the EASR authorisation, along with PPG/ GPPs and GBRs relevant to the protection of water quality.

3.9 Dust Management Plan

Specify dust management controls and protocols for implementation (e.g. in the event of dry weather).

3.10 Waste Management Plan

Provide details of site waste management, identifying all waste streams and responsibilities of the contractor.

3.11 Ancillary Excavation Works and Material Storage

Provide details of ancillary excavation works and material storage, identifying responsibilities of the contractor.

3.12 Soil and Peat Management Plan

An updated Peat Management Plan (PMP) will be produced post consent using data acquired through the site investigation campaign. This will specify measures to maintain soil structure and function during temporary storage and reinstatement work.

[7] Scottish Government (2021). Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines.

3.13 Peat Instability Risk Assessment Management Plan

Provide a geotechnical risk register and management plan to manage risks associated with construction in close proximity to areas identified as having peat instability risk.

3.14 Noise Management Plan

Specify hours of work and an outline of proposed restrictions and noise control measures and notifications required during construction work.

In particular, the plan will include the commitment to liaise directly with local residents and the wider community, particularly where night-time working may be necessary, when local residents would be notified in advance of any night-time construction activities likely to generate significant notable noise levels, e.g., abnormal load movement.

In order to reduce the potential effects of construction noise, specifically for site track and road verge construction activities near the residential properties at Lettershaws to the north of the Site, the following mitigation measures would be detailed in the Noise Management Plan:

- Direct engagement with the residents would be undertaken to inform them beforehand of the nature and duration of the construction works in proximity to their property and discuss potential mitigation and management measures such as the timing of the works.
- The use of solid screening or temporary acoustic barriers, of a sufficient height to screen the track activities at the property where construction activity is up to 65 m from the receptor boundary (Lettershaw Farm) would be investigated. The final design and specification of such screening would be determined as part of the detailed design of the access track following ground investigations.
- Where practicable, quieter equipment models and construction methods would be used for the activity.
- Construction plant capable of generating high noise and vibration levels would be operated in a manner to restrict the duration of the higher magnitude levels.
- Noise monitoring during this phase of construction activities would be undertaken at the most affected properties to assist in managing the noise impacts from the access track and road verge works.
- Where noise impact (after above measures and noise monitoring) at Lettershaws Farm is expected to likely remain above 75 dB LAeq, for a period of 10 or more days of working in any 15 consecutive days, reduced levels of activity or reduced construction hours would be investigated, although this may extend the duration of the works

3.15 Construction Traffic Management Plan

Specify traffic management plan measures agreed with the planning authority.

4. CONSTRUCTION METHOD STATEMENTS

4.1 Construction Programme

The estimated construction period of the Proposed Development is approximately 18 months.

4.2 Working Hours

The normal working hours would be as follows:

- Monday to Friday 0700 – 1900;
- Saturday 0700 – 1300; and
- No working on Sundays or public holidays without prior written approval from SLC.

No works which exceed the Category A thresholds in British Standard (BS) 5228 shall occur outside core hours except with prior approval from SLC, with the exception of turbine delivery, the completion of turbine erection and commissioning or emergency work. The requirement for out-of-hours work could arise, for example, from delivery and unloading of abnormal loads or health and safety requirements, or to allow optimal use of fair weather windows for the erection of turbine blades and the erection and dismantling of cranes.

4.3 Temporary Construction Compounds, Lighting, Staging Area and Site Fencing

Specify layout in temporary construction compounds.

4.4 Public Access Roads

Specify the improvements proposed along the Site access route and detail in the Traffic Management Plan (TMP) which will also set out any Agreements or Licences required with the relevant statutory authorities and the delivery of abnormal indivisible loads (AIL).

4.5 Site Entrance

Specify requirement for inspection of Site entrance roads and detail requirement/ protocol for providing a road sweeper to remove mud or debris transferred onto the roads from Site activities, if required. Additionally, the Site entrance provides security to the Site.

4.6 Site Access Tracks

Specify construction details for Site tracks, including installation of track drainage, and the locations and use of cut and floating track design.

Specify areas requiring sub-grade drainage measures to maintain groundwater connectivity (based on detailed site investigation at pre-construction phase).

4.7 Watercourse Crossings

Specify design of watercourse crossings in accordance with the EASR authorisations (either General Binding Rules, Registration or Permit as appropriate).

Specifications will comply with:

- Flood Estimation Handbook[8] (Statistical Analysis) and ReFH2 - used where appropriate used to determine the design flow;
- CIRIA Culvert design and operation guide (C689)[5];

[8] UK Centre for Ecology and Hydrology: Flood Estimation Handbook. Available at: https://www.ceh.ac.uk/our-science/projects/flood-estimation-handbook

- Scottish Executive (2002) River Crossings and Migratory Fish: Design Guidance (where appropriate); and
- Other SEPA guidance where appropriate.

Construction Methodology

Specify watercourse crossing construction methodology, including detailed measures to prevent pollution.

4.8 Crane Hardstanding

Specify construction design details for crane hardstanding and construction methods for their installation.

4.9 Turbine Foundations

Specify foundation design (based on site investigation) and construction methods proposed.

4.10 Turbine and Turbine Transformer Erection

Specify construction details for turbine and turbine transformer erection.

4.11 Site Electrical Works

Specify construction details for Site electrical works.

4.12 Cable Trench Design Philosophy

Specify route and design of on-site cables, including methods of installation, watercourse crossing and measures to ensure that cable trenches do not provide a preferential pathway for dewatering peat forming habitats.

4.13 Substation, Control Building and Battery Energy Storage System

Specify construction details for substation control building, battery energy storage system and its associated compound.

5. DECOMMISSIONING AND RESTORATION PLAN

The expected operational life of the Proposed Development is 40 years from the date of final commissioning. Towards the end of this period a decision will be made as to whether to refurbish, remove or replace the turbines. If refurbishment or replacement is chosen, then relevant planning applications would be made as appropriate.

The CEMP will be updated on completion of the construction work for handover to the Site operator(s). The CEMP will provide details of all relevant 'as-built' plans/ drawings and technical details which will inform the decommissioning process.

The CEMP will provide a schedule of bill of quantities to summarise the components and constituent materials which form the Proposed Development, and the likely options or methodology envisaged for the decommissioning process.

If a decision was taken to decommission the Proposed Development, this would require the removal of all the turbine components, transformers, battery energy storage systems (BESS), the substation and associated buildings. In the event of decommissioning, a Decommissioning Environmental Management Plan (DEMP) will be prepared and submitted for approval to the relevant planning authorities including the local planning authority, NatureScot and SEPA, as appropriate, no less than 12 months prior to the final decommissioning of the Proposed Development. The detailed DEMP will be implemented within 18 months of final decommissioning of the Proposed Development, unless otherwise agreed with the relevant planning authorities.

The DEMP will include decommissioning and Site restoration proposals and will set out methods for the following:

- access track and hardstand areas: new site tracks and areas of hardstanding constructed as part of the Proposed Development would be subject to further appraisal of the best environmental option, be left in situ, partially removed or fully removed, in agreement with the landowner and/or SLC;
- turbines: the decommissioning of the wind turbines will follow the reverse of the erection process involving similar lifting plant and equipment. Cranes would be used to split the turbines into sections which would then be transported from the Site. These components would be reused, recycled or, if appropriate, disposed of in accordance with the relevant waste management regulations at the time of decommissioning;
- turbine foundations: the plinth and the top surface of the wind turbine foundations would be broken out to an agreed depth below the surface, with all cabling cut out at the same depth within the remaining concrete. Once the broken-out concrete was removed, the area would be reinstated with a final layer backfilled with soil to an agreed method statement;
- energy storage units: energy storage units and associated equipment can be disassembled in reverse order to assembly with the aim of components being recycled;
- cabling works: cabling would be safely disconnected but would generally remain in situ to avoid any effect to the local environment by the ground disturbance associated with their removal; and
- substation compounds: will be decommissioned by disconnecting and dismantling all the surface plant. Solid structures such as the building and equipment plinths will be demolished and the foundation will be removed to an agreed depth below ground level. Ducting and cabling that is within the agreed depth to be cleared will be removed. The fence surrounding the compound will be removed and the area covered with topsoil and reseeded, as required.