



Construction Environmental Management Plan

Dunmill Battery Energy Storage System

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Revision History

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1 Introduction

The principal objective of this document is to provide details of the proposed environmental management arrangements during the construction of the Dunmill Energy Storage Facility in support of a full planning application.

1.1 Description of the Site

The Dunmill Farm Energy Storage Facility comprises 32 battery containers, associated PCSs and transformers, a substation building and ancillary plant and infrastructure on land adjacent to Bridge of Dun substation.

During construction, temporary construction facilities will include a site office, welfare areas, parking and storage areas for plant and materials.

1.2 Scope of the Assessment

The purpose of this CEMP is to provide an overview of potential environmental impacts of the Proposed Development, during its construction phase, and describe the management and mitigation measures that will be implemented to minimise those impacts and to protect the environment and sensitive receptors both on-site and off-site.

In particular, the Construction Environmental Management Plan (CEMP) describes how noise, vibration, dust and other airborne pollutants, smoke, and odour from construction work will be controlled and mitigated. The plan shall also include monitoring, recording and reporting requirements. The construction of the development shall be completed in accordance with the approved plan.

This CEMP will consider the effects from the traffic movements to and from site and the onsite construction activities, however, further detail on construction traffic is provided within the Transport Statement which is provided as a separate document.

The Applicant will appoint a Principal Contractor who will be responsible for the construction phase of the Development. The contractor will ensure that all measures and mitigation identified within this CEMP are considered and implemented during the construction phase.

2 Construction Traffic Management

2.1 Transport Route

It is proposed that all equipment deliveries shall take the following route to site:

- Head north into Montrose along the A92, or south on the A90 if coming from the North.
- Turn onto the A935 and head west toward Brechin.
- Approximately 350m after the entrance to the House of Dun & Angus Folk Museum, turn left as if heading towards the Bridge of Dun.
- Approximately 300m along this road the site entrance will be on the right.

- Once inside the site, follow the internal access track roughly 450m (making sure to follow any and all signage instructions) to the main compound.

In the event of any road closures on the delivery route, all vehicles will follow the designated diversion route.

2.2 Vehicle Movements

Throughout the construction phase there will be a combination of HGVs (for the component and material deliveries) and cars/vans (for construction staff), on site. HGV movements are expected to be most intense throughout the first few weeks of construction. Car/van movements are expected to be constant throughout. Estimated numbers of deliveries and traffic movements for the main infrastructure can be found in the Transport Statement submitted as part of this application; the numbers provided should be treated as a guideline as more visits may be required due to site conditions, programming, or weather restrictions.

The daily commute of workers in cars, vans and small trucks will form a large proportion of the site traffic. However, the chosen Contractor will encourage all sub-contractors, labourers and tradesmen to car/van share for their journeys to and from the site to reduce the number of vehicle movements involved. Parking for the workforce will be fully accommodated on site. Parking on, or near to, the adopted highway will not be required.

Vehicles will drive into the site forwards, turn around on site and exit forwards. Measures shall be in place to manage the timing of the delivery of material and plant to the site; if the site has insufficient space to accommodate a delivery (e.g., due to an ongoing delivery or obstructive site works), the delivery vehicle will be instructed to wait in a safe location, remote from site if necessary, until suitable space is available.

It is proposed that temporary signage would be used to highlight the entrance to the site from a southbound direction and to direct construction traffic to the site via the local and regional roads.

Sufficient time will be provided between deliveries to allow for any delays (such as loading / unloading taking longer than expected) and to avoid any vehicles waiting.

2.3 Working Hours

The proposed normal construction working hours also including traffic movements are anticipated to be prescribed as part of the planning conditions, however as a guide the following times are suggested for audible activities:

- Monday to Friday: 07:00 to 19:00 inclusive; and
- Saturday: 07:00 to 13:00 inclusive.

There are not works and traffic movement anticipated on Sundays or Bank or National Holidays unless otherwise agreed in advance with Angus Council.

2.4 Mud Prevention Measures

During the works, measures shall be in place to ensure that mud and debris is not spread onto the adjacent public highway. The public highway will be regularly inspected, and any deposited debris or mud will be dealt with immediately by means of a road sweeper.

3 Pollution Prevention

3.1 Best Practice

This CEMP identifies elements of the development which are potentially capable of giving rise to pollution and identifies pollution prevention and mitigation measures.

The associated infrastructure will require earthworks, including the foundation construction for the accompanying electrical infrastructure and cable trench excavation.

Suitable protection for watercourses potentially affected by the works will be installed prior to relevant works proceeding. Protection measures will include:

- Plant and equipment will be stored on dedicated hardstandings within the construction compound. This will minimise the risk of pollution caused by leakages occurring out of hours. Drip trays will be used where appropriate.
- All plant and equipment will utilise biodegradable hydraulic oil where available.
- Spill kits will be readily available to all personnel. The spill kits will be of an appropriate size and type for the materials held on site.
- Diesel fuel will be stored in a bunded diesel bowser which will be located within a fenced off area in the construction compound.
- Refuelling and maintenance of vehicles and plant will take place in designated areas of hardstanding.
- All other chemicals will be stored within a storage container with accompanying COSHH datasheets.
- Wastewater from the temporary staff toilets and washing facilities will be discharged to sealed containment systems and removed from site via licensed contractors.
- Toolbox Talks (TBTs) on specialised topics shall take place at regular intervals. The TBTs shall be used to highlight issues of concerns, new information or responsibilities. They will also be used as a tool to provide basic environmental training to the staff.

All staff on site will be made aware of the pollution prevention measures being implemented throughout the construction and decommissioning phases using appropriate toolbox talks and the site induction.

3.2 Noise and Vibration

Operating plant noise and vibration will be kept within the standards and time periods dictated for the site. Any noncomplying plant will be stopped and stood down until it can be rectified or removed from the site.

The British Standard which gives guidance on noise and vibration from construction and mineral working sites is BS 5228 'Code of practice for noise and vibration control on construction and open sites'. This document

provides guidance on appropriate construction noise and vibration levels as well as the steps that can be taken to minimise potential noise and vibration effects.

The noise criteria to be met will be that of the noise levels specified in the ABC Methodology in Annex E of BS 5228-1:2009+A1:2014.

Reasonable mitigating measures are as follows:

- Consideration shall be given to noise emissions when selecting or modifying the plant and equipment used on site with quieter variants given preference.
- Plant shall be used and maintained in accordance with the manufacturer's instructions.
- Vehicles and machinery shall be switched off when not in use.
- Avoiding revving of engines.
- Vehicles shall not wait or queue on the public highway with engines idling.
- All personnel shall be instructed on best practice measures to reduce noise and vibration as part of their induction training and followed up by 'toolbox' talks.
- Excavation, cutting and compaction activities will be staggered in time.
- Standard drop heights of materials from lorries and other plant will be used.
- Traffic movements shall be limited to:
 - 08.00 to 18.00 Monday to Friday and
 - 08.00 to 13.00 on Saturdays.

It is not currently expected that activities such as piling will be required.

3.3 Scheme for Ongoing Monitoring of Construction Noise

The following measures shall be in place throughout the construction period:

- Noise sensitive receptors adjacent to the site shall be notified in writing with details of the outline of the proposed works, the approximate duration of the works and contact details to raise concerns or complaints.
- Site contact details shall be displayed at prominent locations at various points around the site boundary.
- A written record made of any complaints including details of the complaint, details of subsequent investigation and details of any action taken.

A written logbook will be kept and maintained up to date on site. The logbook must include all details of the above and be made available to the Local Planning Authority on request.

Any noise complaints shall immediately be directed to the Site Manager. Depending on the nature of the complaint, the initial response could be to immediately cease the activity until suitable mitigation measures have been put in place and agreed with the affected individual.

3.4 Dust and Other Airborne Pollutants

Good practice measures will be adopted during construction to control the generation and dispersion of dust such that significant impacts on neighbouring residents and roads will not occur. The hierarchy for mitigation will be prevention, suppression then containment. The following measures will be implemented to restrict and control the movement of dust and other airborne pollutants within the site:

- Excavation and earthworks areas will be stripped as required in order to minimise exposed areas.
- During excavation works, drop heights from buckets will be minimised to control the fall of materials reducing dust escape.
- Temporary cover may be provided for earthworks if necessary, and completed earthworks, stockpiles and other exposed areas will be covered with topsoil and re-vegetated as soon as it is practical in order to stabilise surfaces. Temporary sheeting may be used where necessary.
- During stockpiling of loose materials, stockpiles shall exist for the shortest possible time.
- Material stockpiles will be sited to account for the predominant wind direction and the location of sensitive receptors.
- Water bowsers will be available on-site and utilised for dust suppression during roadworks/ vehicle movements when and where required.
- Where dust is mobilised, it will pass through and will be contained within the water quality and treatment system serving the tracks and hardstands.
- Regular visual inspections will be undertaken to assess need for use of water bowsers.
- Regular visual inspections will be undertaken to assess the condition of the junction of the site track with the Zu444-1.
- During windy conditions, any dust generating activities will be avoided or minimised, where practical.
- Drivers will adopt driving practices that minimise dust generation including an appropriate internal site speed limit.
- Excessive exhaust emissions will be controlled by ensuring that all plant is correctly adjusted and checked as being in good working order prior to use and is adequately maintained.

Water needed for dust suppression on the site infrastructure and access roads during periods of dry weather will be clean water. Clean water may be obtained from re-circulated clean or treated drainage waters.

3.5 Smoke and Odour

Measures will be taken to avoid causing nuisance from smoke, odours and other air emissions, including the following:

- Burning of materials are banned on site.
- Waste will be managed and removed from site regularly to avoid excess accumulation.
- Vehicles and plant will be maintained in accordance with manufacturer's guidance.

4 Site Security

4.1 Security Hoarding

The compound will not be accessible by the public. The compound will be secured with fencing and a locked gate for the duration of the operation until decommissioning. During construction, until the permanent fence is erected, temporary "Heras" type fencing will secure the active parts of the site. Statutory health and safety signage shall be displayed at the site entrance together with the contact details of the Principal Contractor. No decorative displays will be used during the construction phase and there shall be no viewing areas for the general public.

4.2 Temporary Lighting

Temporary flood lighting maybe used during the construction process, during the winter months in hours of reduced light. All temporary lighting installations will be downward facing and all lights will be switched off during daylight hours.

4.3 Safety and Health Management

A construction phase Health and Safety plan shall be prepared by the Principal Contractor shall be implemented and followed during construction of the development. All works will be carried out in accordance with the plan.

5 Monitoring, Recording and Reporting

It shall be the responsibility of the Site and visiting Managers to monitor and control the Construction Environmental Management Plan and ensure its implementation. However, all Contractors must ensure that they are familiar with and observe this plan. Communication methods will include site inductions, toolbox talks, daily briefings and regular review meetings.

All personnel must report an environmental incident to the Site Manager immediately. Any incident will be assessed to determine if it has the potential for environmental contamination of surface water, groundwater or poses an environmental threat to land or air. The cause of the incident will be investigated, and any corrective or preventative action will be taken as necessary. The implementation of any measures will be monitored to ensure it is being carried out fully and working successfully.

A log of any incidents and associated monitoring will be kept on site.

6 Other Standard Mitigation

The impact of the development has been identified as temporary in nature and associated with short construction and decommissioning stages only. It is still important that any impact is minimised as far as possible and, in light of this, the following mitigation measures have been considered:

- A dedicated person will be appointed for the management of the deliveries, it will be this person's duty to make sure haulage companies use the chosen haul route, including the strict 'no right turn rule' when entering and exiting the site, without fail.
- During the construction phase, clear construction warning signs and junction proximity signage will be implemented in accordance with Chapter 8 of the Traffic Signs Manual. The site entrance will also be appropriately signed. Access to the construction site will be controlled by onsite personnel and all visitors will be asked to sign in and out of the site by security/site personnel. Site visitors will receive a suitable Safety and Health site induction and Personal Protective Equipment ("PPE") will be worn.
- Once construction of the development is completed, all portacabins, machinery and equipment will be removed from site.
- Consultation with relevant roads authority on all transport issues to ensure that deliveries do not conflict with other public road activities.

The following checks will be carried out pre-construction:

- An assessment of overhead lines to ensure there is adequate height clearance;
- An assessment of overhanging vegetation to ensure there is an adequate delivery corridor. If obstructions are found, then vegetation trimming should be undertaken in consultation with the relevant roads authority; and
- An assessment of weight limits along the proposed route to ensure there are no restrictions for the heavier components.