

## 2 PROJECT DESCRIPTION

### Introduction

- 2.1 This chapter provides a description of the Coalburn Energy Storage Project (referred to in this report as the 'Project'). It includes a description of the proposed construction phase, together with details of the operation and maintenance of the Project and forms the basis for the environmental assessment provided in this Environmental Impact Assessment (EIA) Report.
- 2.2 The Project comprises an energy storage facility with a capacity of up to 500 megawatts (MW) of electricity.
- 2.3 Due to ongoing development in this sector and emerging technological advances, it is not possible to finalise the exact layout, location and design of the Project prior to applying for consent. Therefore, some limited flexibility in the design of buildings and plant is required. This is because the number and size of batteries, the building design, and the extent of external equipment required may vary depending on the selected technology, technology provider and other technical considerations. This would allow for selection of a technology provider as part of the procurement process at a future date.
- 2.4 Therefore, design parameters (informed by candidate technology) have been identified within this chapter and considered within the topic chapters of this EIA Report, to enable this flexibility. Construction techniques, buildings and plant design are based on current understanding from existing projects and information provided by potential market suppliers.
- 2.5 Indicative layout plans are provided, based on candidate technologies. Any deviation in the final design from these indicative designs will fall within the design parameters (or 'Rochdale Envelope') identified for the Project within this chapter. Further details regarding the Rochdale Envelope approach are provided in Chapter 4: Environmental Assessment Methodology.
- 2.6 A number of measures which would reduce or avoid adverse environmental effects arising have been included as part of the Project design. Details of these measures are summarised in Appendix 2.5, with further details provided in each topic chapter of the EIA Report.
- 2.7 This chapter, together with the topic chapters, provides the data required to identify and assess the main and likely significant effects of the Project in accordance with Regulation 5 and Schedule 4 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, as amended (referred to as the EIA Regulations).
- 2.8 The sections below provide a description of the Project site and surrounding area, the key components of the Project (including the design parameters) and the mitigation measures adopted as part of the Project.

### Site and Surrounding Area

- 2.9 The proposed energy storage site (referred to here as the 'Project site') is located on land west of the M74 approximately 20 km south of Motherwell, South Lanarkshire. The Project site is located approximately 1.4 km south east of the existing Coalburn electricity substation. The location and geographic extent of the Project site is shown on Figure 1.1.
- 2.10 The Project site occupies approximately 16.4 hectares of agricultural land located within the administrative boundary of South Lanarkshire Council. The M74 borders the Project site to the east while the B7078 Carlisle Road borders it to the west. To the west of the Project site (on the opposite side of the B7078) is the Coalburn Moss Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC). The designation covers a 225 hectare area and is designated for its lowland raised bog habitat.

## COALBURN ENERGY STORAGE FACILITY

- 2.11 To the south of the Project site lies a complex of warehouses and associated hardstanding storage at Birkhill Commercial Park, occupied by Harbro Limited. To the north of the Project site, located adjacent to the B7078 is the TPA Temporary Access Solutions facility (the TPA Facility).
- 2.12 Several non-statutory designations are located in the area surrounding the Project site. These include the following areas documented on the National Forest Inventory:
- one area of 'broadleaved woodland' located approximately 680 metres south;
  - one area of 'assumed woodland' located approximately 340 metres south;
  - one area of 'woodland young trees' located approximately 150 metres east;
  - one area of 'Ground Preparation' located approximately 330 metres east; and
  - one area of 'woodland conifer' located approximately 250 metres south east.
- 2.13 Patches of conifer woodland are also present to the east of the M74.
- 2.14 Further afield, statutory designations are sparse. The closest are the Birkenhead Burn SSSI approximately 6.9 km west of the site and the Muirkirk Uplands SSSI a further 1.1 km west of this.
- 2.15 Several wind turbines are located in the area surrounding the Project site, the closest of these is located approximately 340 metres south of the Project site, with another 580 metres south east of the site. Two previously consented but not yet constructed wind turbines are located in close proximity to the Project site; one is close to the western boundary of the site, with the other located approximately 120 metres to the south of the southern boundary.
- 2.16 The Project site slopes from the north east at approximately 243 metres above ordnance datum (AOD) to the south west at approximately 215 metres AOD. The village of Coalburn is located approximately 2.5 km to the south west of the site, separated by the B7078 and open agricultural land. Coalburn village includes a range of community facilities and businesses. Lesmahagow is located approximately 2.5 km to the north west of the Project site.
- 2.17 The closest residential property to the Project site is located approximately 150 metres to the north west (at 515 Carlisle Road, formerly Star Inn), immediately south of the TPA Facility. There are no core paths within or adjacent to the Project site boundary. National Cycle Network 74 (NCN74) route 74 runs to the east of the B7078 and adjacent to the western boundary of the Project site.
- 2.18 The Project site has been the subject of previous development proposals for energy related development which to date have been approved but not yet implemented. Those that are close to or partially overlap with the Project site boundary include the following.
- Planning permission granted in 2016 for two 98.14 metre high wind turbines adjacent to the Project site boundary (Ref: CL/16/0090). This application was granted for a further 3 years in January 2020 (Ref: P/19/0363).
  - Planning permission in principle granted in May 2020 for the erection of a data centre (Class 4 Business) and associated 12 MW solar farm and 7.5 MW gas turbine with light industrial (Class 5) area and associated infrastructure (Ref: P/19/0896). This would overlap with the Project site and, therefore, it should be noted that this development and the Project are mutually exclusive. Since this permission was granted, the developer for P/19/0896 has applied for, and been granted consent for, a reduced scale development comprising a hydrogen production facility (Ref: P21/031, matters specified by condition application P/19/0896). This more recent consent is understood to be the current proposal in this area and would be located approximately 20 metres to the west of the Project site boundary. Permission was granted for the vehicular access (Ref: P/21/0438). This access is proposed to be shared between the Project site and the proposed hydrogen facility.
- 2.19 Other developments in the vicinity have been identified for the purposes of the cumulative effects assessment (see Chapter 4 and Appendix 4.4).

## Project Description

- 2.20 This section firstly provides an overview of the Project. This is followed by a description of the design parameters identified for assessment purposes (see Chapter 4 Environmental Assessment Methodology for a description of the way in which this parameter approach has been used for the environmental assessment).
- 2.21 The measures adopted as part of the Project are also described in this section.

### Overview of the Project

- 2.22 The Project involves the use of energy storage technology, which can import or export large amounts of electricity with no time lag, which will:
- assist National Grid with the balancing market (balancing transmission requirements as large generation and consumption sources come on- or off-line);
  - assist the energy market (by storing excess generation until it is needed); and
  - maintain the narrow frequency range around 50 hertz (Hz) required for safe transmission network operation.
- 2.23 In overview, the Project comprises the construction and/or operation of:
- cut and fill earthworks to provide suitable topography for development, landscape and drainage purposes;
  - a compound for the relevant transmission licensee (RTL);
  - security fencing and Closed Circuit Television (CCTV);
  - access from the adopted road (B7078), internal access and circulation roads;
  - drainage infrastructure, landscape, and ecological planting;
  - creation of 'platform(s)' to support the energy storage infrastructure;
  - energy storage systems and associated infrastructure consisting of:
    - energy storage modules;
    - heating, ventilation and air conditioning (HVAC) equipment;
    - fire suppression equipment;
    - cooling plant;
    - control and protection apparatus;
    - switchgear apparatus;
    - inverters or power conversion systems;
    - transformers;
    - metering equipment;
    - cabling and connection to the RTL compound; and
    - welfare facilities.
- 2.24 The above components would be required regardless of the design solution implemented and could be arranged in either an open (external) configuration, an internal configuration (within a building or buildings) or a combination of both.

## Design Parameters

- 2.25 As described above, the final design and technology supplier would be identified prior to construction. The number and size of batteries and the type of energy storage technology may vary depending on the technology provider and other technical considerations, such as technological improvements. The final selection of technology would be undertaken after consent has been granted for the Project.
- 2.26 To enable some flexibility in the design of the Project and to provide a robust basis for assessment, parameters representing the outer limits for specific design parameters have been identified as shown in Table 2.1. These identify the ‘Rochdale Envelope’ for the Project.
- 2.27 Table 2.1 is considered to provide a realistic range of parameters within which the final selected development layout would lie. Any deviation in the final design would fall within the identified design parameters.
- 2.28 Three indicative layout and design plans for the Project have been developed based on candidate technologies. These have been used to identify the required design parameters.

**Table 2.1: Design Parameters**

Design Aspect	Maximum Design Parameter	Minimum Design Parameter
Footprint: development platforms	Five platforms, each of 5,610 m <sup>2</sup> (110 m x 51.05 m)	N/A
Building mass	Up to a building mass of 110 m x 51.05 m (up to 15 metres high) on each development platform	Open configuration of outdoor/external equipment with a single welfare facilities building
Impermeable (development platforms and hardstanding) area	4.55 hectares	N/A
Landscape planting, ecological enhancement and drainage areas	N/A	8.68 hectares
Other permeable areas (RTL compound and gravel areas)	N/A	3.14 hectares
Noise from plant, equipment and machinery	<p>The Rating Level, L<sub>Ar,T</sub>, of the noise emitted from all plant, equipment and machinery, including on site vehicle movements would not exceed the existing representative L<sub>A90</sub> background sound level at any time by more than +5 decibels (dB)(A) at the noise sensitive receptors (NSRs) listed below:</p> <ul style="list-style-type: none"> <li>• 515 Carlisle Road (former Star Inn)</li> <li>• Birkhill Cottage</li> <li>• Residential properties on Cairnhouses Road</li> </ul> <p>The Rating Level shall be determined in accordance with British Standard (BS) 4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’</p>	n/a

- 2.29 The following figures present the maximum or minimum parameters that have been identified, where they would represent the worst case scenario for environmental effects.
- Figure 2.1: Development Platform Areas – Maximum Parameter Plan (this plan identifies the maximum extent of the development platforms).
  - Figure 2.2: Landscape, Ecological and Drainage Areas – Minimum Parameter Plan (this plan identifies the minimum amount of new planting/habitat to be provided).

- Figure 2.3 Building Mass – Maximum Parameter Plan (this plan identifies the maximum mass of built development).
- 2.30 In order to provide examples of the types of designs that could arise within these parameters, the following indicative plans are provided. These are based on candidate technology.
- Figure 2.4 Indicative Layout: In-building configuration (maximum building mass, with some limited external plant).
  - Figure 2.5 Indicative Layout: Open configuration (minimum building mass, with mostly external plant).
  - Figure 2.6 Indicative Layout: Hybrid configuration (combination of both in-building and open configurations).
- 2.31 In addition, Figure 2.7 (Indicative Elevations) provides indicative elevations, based on the candidate technology solutions.
- 2.32 The Applicant is committed to achieving acceptable noise levels for any selected technology provider. Therefore, the following planning condition is proposed to reflect the maximum design parameter:

*'The Rating Level,  $L_{A,T}$ , of the noise emitted from all plant, equipment and machinery, including on site vehicle movements would not exceed the existing representative  $L_{A90}$  background sound level at any time by more than +5 dB(A) at the noise sensitive receptors (NSRs) listed below:*

- 515 Carlisle Road (former Star Inn)
- Birkhill Cottage
- Residential properties on Cairnhouses Road

*The Rating Level shall be determined in accordance with British Standard (BS) 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'.*

*The existing representative  $L_{A90}$  background sound level shall be determined by measurement that shall be sufficient to characterise the environment. The representative level should be justified following guidance contained within BS 4142:2014+A1:2019 and agreed with the Local Planning Authority (LPA).*

*The Rating Levels and background sound levels shall be determined separately for the daytime (07:00 to 23:00) and night-time (23:00 to 07:00) periods, and separate assessments shall be carried out for these periods.*

**Reason:** *In the interests of protecting residential amenity.'*

- 2.33 At the current time, opportunities are being explored to accommodate a synchronous condenser within the Project site. The increased use of renewable sources of energy in the UK has led to a reduction in inertia within the system, creating stability difficulties. Synchronised condenser technology provides stability and support to the electricity network and, therefore, inclusion of this element would be complementary to the energy storage technology.

## Design and Construction

- 2.34 Information about specific design aspects and construction that would be common to any design falling within the identified parameters for the Project is provided below.

### Electrical and Other Infrastructure

- 2.35 External switchgear and step-up transformers would be located within the Project site adjacent to each of the development platforms to convert the electrical output to 400 kV for export to the National Grid. External components would consist of external switchgear and transformers and the RTL compound. The high voltage (400 kV) components would be enclosed by secure fencing.

### Access and Transport Management

- 2.36 Site access would be achieved via a single point of access from the B7078 on the western boundary of the Project site. The road access would be used during the construction phase and would be retained into and through the operational phase of the Project and would therefore be permanent.
- 2.37 As set out above, an application for a hydrogen production facility (Ref: P/21/0311) located immediately to the west of the Project site was submitted in March 2021 and has been consented. Consultation with the applicant of the hydrogen facility has led to a combined access point being proposed to service both sites. This has been incorporated into the design of the Project and would avoid the need for two access points along the B7078.
- 2.38 There would be minimal access for traffic required during normal operation, as the facility would have no full time equivalent employees based on the site during its operation. Only occasional visits for inspection and maintenance activities would be required during normal operation, approximately monthly or once per quarter. The access would also be used in the event that any part of the energy storage facility required replacement during the operational life of the Project. During the normal course of operations, no heavy goods vehicles (HGVs) or Abnormal Indivisible Loads (AIL) are anticipated to be required.
- 2.39 Up to six car parking spaces would be provided within the Project site.

### Landscape, Ecology and Drainage

- 2.40 The proposed landscape strategy for the Project site would include boundary planting along the northern, southern and eastern boundaries of the site, providing screening together with ecological value. This new planting would form a mainly continuous boundary with an existing area of tree planting on the north western boundary, with the exception of an area along the northern boundary and along the eastern boundary where clearance is required for the existing overhead line. Larger areas of habitat would be provided in the north eastern part of the site and along the western boundary, integrated with the proposed attenuation pond.
- 2.41 An attenuation pond is proposed close to the western boundary of the Project site, which would form the basis of the sustainable drainage system (SuDS) strategy for the site, ensuring that runoff from the site could be controlled to the equivalent of the greenfield runoff rate, allowing for future climate change.
- 2.42 Flood resilience measures to provide protection of critical infrastructure in the event of a flood event would be provided, which would include raised floor levels and/or provision of bunds for these items.
- 2.43 The Project would not have a foul sewer connection. Foul drainage originating from staff welfare facilities on site would consist of either a packaged biological foul treatment plant with discharge to the surface water system, or a storage tank for offsite disposal via road tanker.

### Lighting

- 2.44 External lighting would be designed to allow for night-time safety and security when required, incorporating the Applicant's operational needs. The exterior lighting scheme design would aim to minimise lighting spillage into surrounding areas and discourage trespass, to comply with the Dark Skies Campaign and recommendations in the Society of Light and Lighting (SLL) Lighting

Handbook (Chartered Institution of Building Services Engineers (CIBSE), 2018). Lighting would be designed to be activated only when required.

### **Grid Connection**

- 2.45 The Project would require a connection to the National Grid. A connection offer has been received from Scottish Power (SP) Transmission Connections. This offer would provide a connection between the Project and the existing Coalburn substation, which was constructed in 2019 and lies approximately 1.4 km to the north west of the Project site. The connection is anticipated to be made by a buried underground cable and the anticipated route is shown in Figure 4.1. The cable would connect into the RTL compound.
- 2.46 The grid connection and the equipment within the RTL compound do not form part of the Project for which consent is sought as these would be provided separately by SP Energy Networks. However, the anticipated grid connection has been considered as a 'cumulative' development for EIA purposes (see Chapter 4 for further details).

### **Operation and Maintenance**

- 2.47 The energy storage facility is likely to operate intermittently on a 24/7 basis, although night-time operation is less likely to occur.
- 2.48 The facility is expected to have no full-time equivalent staff during the operation. However, access would be required for staff to undertake inspection, maintenance, repairs and make adjustments. For the majority of the time, the facility would be controlled remotely.
- 2.49 Only occasional visits for inspection and maintenance activities would be required during normal operation, approximately monthly or once per quarter.
- 2.50 No significant sources of operational waste are anticipated. When batteries reach the end of their life, a recycling process would be followed with an approved recycling partner. The partner would transport the batteries to a suitably licensed recycling centre, where cells would be processed. Some materials are recovered from this process, including economically valuable metals, as well as slag material used in construction or as aggregate for concrete. Hazardous materials such as chlorine and fluorine would be collected from the process. A gas cleaning technology would be applied to avoid the formation of dioxins and furans, with only hydrogen, oxygen, and limited volumes of carbon dioxide emitted.
- 2.51 Information about energy and raw material use is provided in Chapter 12: Climate Change.
- 2.52 The development would be permanent, with structures remaining 'in situ' and repowered, if required in the future.

### **Use of Natural Resources**

- 2.53 The Project would not result in the use of natural resources during operation. Details of the use of natural resources during construction are provided below.
- 2.54 Based on the existing national mapping, the site is likely to fall within the definition of carbon rich soils. Peaty soils can be considered those that comprise less than 50 cm thickness of peat and deep peat is considered to be those profiles that comprise more than 50 cm thickness of peat.
- 2.55 A peat survey has been undertaken and the results indicate that peat and peaty soils are present in the northern part of the Project site, with some peaty soils adjacent to the south western fringe.
- 2.56 The area of deep peat resources within the Project site in the northern part of the site has been avoided as part of the Project design. This area is proposed to form an ecological enhancement area where there would be improvement of existing habitats on site and where the peat resources would be maintained and potentially enhanced as a result of the ecological management proposals.

- 2.57 Two small areas have been identified where initial interpolated peat depth plans indicate that peaty soils may be present on the fringes of the development platforms. If present, these areas comprise the outermost fringe of the peaty soil resources and these shallower resources would be incorporated into the ecological mitigation and enhancement areas. The effect of the Project on this small area of soils with a negligible peat depth would be negligible.
- 2.58 Further details of the effects on soil resources are provided within Appendix 2.2.

**Residues and Emissions**

- 2.59 Details of residues and emissions in relation to water; soil; and noise and vibration are set out in Chapters 8: Hydrology and Flood Risk, 9: Hydrogeology, Geology and Ground Conditions and 11: Noise and Vibration of this EIA Report.
- 2.60 Details of the soil resources found within the Project site are presented in Appendix 2.2. Details of lighting are provided within this chapter and considered within Chapters 5: Ecology and Nature Conservation and 7: Landscape and Visual Effects where relevant.
- 2.61 As set out in Chapter 4 of this report, the Project is not likely to give rise to heat or radiation emissions during its operational phase. Potential population and health effects associated with exposure to electric and magnetic fields are addressed through the 'risk perception' section of the Population and Health Scoping Statement (Appendix 2.3).

**Vulnerability to Accidents and Disasters**

- 2.62 The EIA Regulations require consideration of the Projects' vulnerability to major accidents and/or disasters. The development is not of a type to give rise to potential for any unusual accidents or disasters.
- 2.63 Due to its location, it is not likely that the Project would be at risk of a major disaster from extreme flood or rainfall events. The drainage design for the Project takes into account an increase in rainfall as a result of climate change and therefore has been designed to accommodate higher flows.
- 2.64 A Flood Risk Assessment has been prepared to support the application (see Chapter 8: Hydrology and Flood Risk and Appendix 8.1: Flood Risk Assessment and Surface Water Drainage Strategy).
- 2.65 The design and construction of the buildings would comply with Building (Scotland) Regulations, which are enforced by local building control bodies. The final design would therefore take into account relevant legislation and guidance including the following (or their replacement versions at the time of construction) to reduce the risk of fire:
- Building Regulations (Scotland) 2004; and
  - Building Standards Technical Handbook 2020: Non-domestic Buildings (Section 2: Fire) (Scottish Government, 2021).

**Construction**

- 2.66 This section outlines the approach to construction as anticipated at this time and is therefore the likely case.
- 2.67 With regard to the construction programme, subject to being granted consent and a subsequent Final Investment Decision, the earliest date that construction could start would be in 2022. Advance enabling works that do not require consents or licences may be required to establish the conditions (e.g. through grass mix planting) for providing land for habitat creation. There may also be a further period of preliminary works to undertake further enabling activities such as geo-environmental and archaeological excavations.

2.68 The duration of the construction phase is anticipated to be approximately 24 months. Connection to the grid is anticipated to be achieved by 2025.

**Construction Environmental Management**

2.69 Construction of the Project would be managed through a Code of Construction Practice (CoCP) that sets out the principles of good environmental management to be followed in order to avoid or minimise environmental impacts. This includes principles for the management of construction noise, dust, traffic, materials storage and waste management, drainage and ecological protection. An outline CoCP is provided at Appendix 2.1. The outline CoCP will be developed into a final CoCP, which will be agreed with South Lanarkshire Council prior to the commencement of construction. The final CoCP shall include the measures set out in the outline CoCP, together with any further detail available at that time.

2.70 The CoCP will be supported by detailed Construction Method Statements to be produced by the lead construction contractor, which will provide method statements for construction activities detailing how the requirements for the CoCP are met.

2.71 A Construction Traffic Management Plan (CTMP) will be produced prior to the commencement of construction.

**Construction Activities and Plant**

2.72 Construction activities at the Project site would comprise:

- pre-construction work to provide suitable development platforms;
- construction of access and temporary laydown area(s);
- site clearance and provision of temporary/permanent drainage;
- earthworks and construction of foundations;
- construction of building(s);
- erection and mechanical and electrical fit-out of buildings and enclosures;
- installation of pre-manufactured components i.e. batteries and control equipment;
- landscape planting and habitat creation, secure fencing, restoration of temporary construction areas and ongoing habitat creation and management; and
- commissioning.

2.73 Typical construction plant to be used would include excavators, graders and haulage vehicles, mobile and tower cranes, heavy and light goods vehicles.

2.74 Piling may be required for foundations of structures on the Project site. If required, this would be continuous flight auger piling or equivalent (impact/driven piling is not anticipated to be required).

**Construction Working Hours**

2.75 Normal construction working hours would be Monday to Friday 08:00-18:00 and Saturday 08:00-13:00. No Sunday, bank holiday or night working is proposed except as described below.

2.76 Up to an hour before and after the normal construction working hours, the following activities may be undertaken:

- arrival and departure of the workforce at the site and movement around the Project site that does not require the use of plant;
- site inspections and safety checks; and
- site housekeeping that does not require the use of plant.

- 2.77 Non-noisy activities such as fit-out within buildings may be undertaken outside of those hours where these would not cause disturbance off-site.
- 2.78 It is possible that certain construction activities that cannot be interrupted, such as a continuous concrete pour, may be required for the foundation slabs of the development platforms.

### **Construction Working Areas and Laydown**

- 2.79 The main construction working and laydown areas would be contained within the Project site.

### **Construction Workforce and Access**

- 2.80 Construction traffic would use the primary access route via the B7078. Access to the Project site would be required for HGVs, abnormal loads for certain items (steel work for the buildings, transformers, large cranes or construction plant) and for construction workforce traffic.
- 2.81 The construction workforce is expected to average at 20 workers per day, peaking at 35 workers per day, for a single-phase construction programme of up to 24 months.

### **Construction Waste**

- 2.82 The Project would largely be assembled from components that have been pre-manufactured off-site, such as the batteries. Construction waste from assembling and installing these components on-site would be minimal.
- 2.83 The outline CoCP provides details of the broad types of waste produced during construction and includes good practice measures for managing waste generated during construction. All waste generated would be disposed of by a suitably licensed waste contractor.
- 2.84 Excavations at the Project site are estimated to require the excavation of spoil, depending on the final site arrangement and foundation design. This is expected in part to be accommodated on site, as part of the site cut/fill balance. In the event that any material from the site is identified as not being suitable for use on site, some material may need to be transported away from the site to a suitably licensed site.

### **Use of Natural Resources – Construction**

- 2.85 The CoCP requires the contractor to identify the main types and quantities of materials required for the Project in order to assess potential for sourcing materials in an environmentally responsible way. The construction specification would place preference, when options are available, on the use of materials with a high recycled content.
- 2.86 The Considerate Contractors Scheme includes measures relating to the use of resources, including categories in relation to minimising the use of water. All timbers used as primary structural elements would be required to be Forest Stewardship Council (FSC) certified.
- 2.87 The construction process would take into account the principles of good practice in soil handling and restoration set out in the following documents, wherever possible, to reduce the possibility of damage to soil materials during the construction process:
- Ministry of Agriculture, Fisheries and Food (MAFF) (2000) Soil Handling Guide; and
  - Department for Food and Rural Affairs (Defra) (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (including the Toolbox Talks).
- 2.88 The EIA Regulations also refer to the use of land and biodiversity resources. Further details are provided in Chapter 5: Ecology and Nature Conservation and Chapter 9: Hydrogeology, Geology and Ground Conditions of this EIA Report.

### Residues and Emissions during Construction

- 2.89 Details of residues and emissions in relation to water, soil and noise and vibration are set out in Chapter 8: Hydrology and Flood Risk, 9: Hydrogeology, Geology and Ground Conditions and 11: Noise and Vibration of this EIA Report. Details of the soil resources found within the Project site are presented in Appendix 2.2. Dust emissions generated during the construction period can be effectively mitigated through the use of recognised mitigation measures. Details of these measures are presented in Appendix 2.4.
- 2.90 Details of lighting are provided within this chapter and considered within Chapter 5: Ecology and Nature Conservation and 7: Landscape and Visual Effects where relevant. As set out in Chapter 4 of this report, the Project is not likely to give rise to heat or radiation emissions during its construction phase.

### Construction Lighting

- 2.91 Directional lighting may be required during normal construction hours in winter. Outside normal construction working hours, motion-activated directional security lighting may be used at the Project site.
- 2.92 As far as possible, task lighting would be used for specific works to direct light towards the working areas during the night time. Such task lighting would be positioned at low level on posts around the site and directed at the most frequently used areas of work. However, some floodlighting would be required for accesses and walking routes. Solid fencing would be used to limit light escaping beyond the boundaries. Site offices would be lit internally, and shutters could be closed at night.

### Construction Drainage

- 2.93 The construction phase would incorporate pollution prevention and flood response measures to ensure that the potential for any temporary effects on water quality or flood risk are reduced as far as practicable.
- 2.94 Such measures would be implemented through the CoCP and subsequent Construction Method Statements, which require the following:
- installation of wheel washing facilities at the entrance to the construction compounds;
  - use of sediment fences along existing watercourses/waterbodies when working nearby to prevent sediment being washed into them;
  - covers for lorries transporting materials to/from site to prevent releases of dust/sediment to watercourses/drains;
  - bulk storage areas to be secured and provided with secondary containment (in accordance with the Oil Storage Regulations and best practice);
  - storage of oils and chemicals away from existing watercourses, including drainage ditches or ponds;
  - concrete to be stored and handled appropriately to prevent release to drains;
  - treatment of any runoff water that gathers in the trenches would be pumped via settling tanks or ponds to remove any sediment;
  - obtain consent for any works (e.g. discharge of surface water) that may affect an existing watercourse. The conditions of the consent would be specified to ensure that construction does not result in significant alteration to the hydrological regime or an increase in fluvial risk;
  - use of a documented spill procedure and use of spill kits kept in the vicinity of chemical/oil storage;

- storage of stockpiled materials on an impermeable surface to prevent leaching of contaminants and use of covers when not in use to prevent materials being dispersed and to protect from rain; and
- stockpiles to be kept to minimum possible size with gaps to allow surface water runoff to pass through.

### **Vulnerability to Accidents and Disasters – Construction Phase**

- 2.95 During construction, normal construction good practice would be followed to ensure on-site safety of the workforce in accordance with the Construction (Design and Management) Regulations 2015. Independent health and safety advisors would be employed by the contractor/s during construction to report on the site's safety. It would be required that these reports take place monthly with the reports being provided to the Applicant.
- 2.96 Overall, the Project is not of a type to give rise to potential for any unusual accidents or disasters during its construction phase. Therefore, construction legislation and good practice would be sufficient to control risks to an acceptable level.
- 2.97 Measures have been proposed as part of the Project to control dust emissions during construction and to ensure that runoff from the site is controlled. These measures are set out in Appendix 2.4 and Chapter 8 of this EIA Report. These measures would ensure that there would be no significant risk of effects on the nearby SAC.

## **Measures Adopted as Part of the Project**

- 2.98 In order to avoid or reduce the environmental effects, a number of measures have been designed into the Project. Details of these can be found within each topic chapter of the EIA Report and a schedule of mitigation measures is provided in Appendix 2.5.

## **References**

Chartered Institution of Building Services Engineers (CIBSE) (2018) Society of Light and Lighting (SLL) Lighting Handbook.

Department for Food and Rural Affairs (Defra) (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites

Ministry of Agriculture, Fisheries and Food (MAFF) (2000) Soil Handling Guide

Scottish Government (2021) Building Standards Technical Handbook 2020: Non-domestic Buildings (Section 2: Fire).