

## Neart na Gaoithe Offshore Wind Farm

Onshore Works Design and Access Statement  
November 2012

## **1 Introduction**

- 1 This Design and Access Statement has been prepared by LUC on behalf of Neart na Gaoithe Offshore Wind Limited (NnGOWL); a subsidiary of International Mainstream Renewable Power Ltd (hereinafter referred to as 'Mainstream'. It has been prepared to accompany an application for permission to construct and operate onshore electricity grid connection infrastructure (the 'Onshore Works') associated with the Neart na Gaoithe Offshore Wind Farm. The Onshore Works, comprising onshore buried cables 12.3 km in length and a new substation, are located wholly within the administrative boundary of East Lothian Council, between Mean Low Water Springs (MLWS) at Thorntonloch and the connection point at Crystal Rig II Onshore Wind Farm (see **Figure 1**).
- 2 NnGOWL is applying to East Lothian Council for planning permission under the Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. Act (Scotland) 2006. The application is categorised as a 'Major Development' under the Town and Country Planning (Hierarchy of Development) (Scotland) Regulations 2009 on the basis that the area of the development exceeds two hectares.
- 3 The Design and Access Statement has been prepared in accordance with regulation 13 (1) of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008.
- 4 This Design and Access Statement should be read in conjunction with the Neart na Gaoithe Offshore Wind Farm: Onshore Works Environmental Statement (ES) (LUC for Mainstream, November 2012), which also contains information on the project design strategy and access related effects.

### **1.1 Purpose of the Design and Access Statement**

- 5 The purpose of this Design and Access Statement is to provide information on the principles and approach that have guided the design process and to respond to the requirement to demonstrate observance of equal opportunity requirements for access. This Design and Access Statement demonstrates how the cable route and substation location have been appraised fully to ensure that the final design solution is the most suitable for the development. It describes the starting point for the cable route and substation design, and subsequent alterations that were made in response to the environmental and technical issues that were identified through the appraisal process. Details are also provided on the access arrangements for the Onshore Works during both construction and operation.

### **1.2 Development Description Summary**

- 6 The Onshore Works comprise three principal elements as described below.

#### **1.2.1 Cable Landfall**

- 7 Either a single or two adjacent 'transition pits' will be required within the 'landfall area'<sup>1</sup>, at Thorntonloch. These are underground structures that house the joints between the offshore and onshore cables, with the ground reinstated post construction. The precise cable route and method of installation within the landfall area will be dependent on the results of detailed geotechnical investigations of the landfall area.

#### **1.2.2 Onshore Cable**

- 8 The underground cable<sup>2</sup> runs from Thorntonloch to Crystal Rig II Wind Farm mainly within private land, with some sections running alongside public roads to facilitate ease of access. The majority of the cable corridor is 30m wide. In some locations, this widens to allow for vehicle turning or where extra space may be required. It is anticipated that only a 20m working width will be required for the majority of the cable route which allows 10m for micrositing purposes. The 20m wide temporary working corridor will accommodate

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<sup>1</sup> Where the offshore cable reaches the land.

<sup>2</sup> The cable trench will contain six electric cables and two communications (fibre optic) cables. The electrical cables are split into two groups of three and each group is called a 'circuit'. Each group of 'electrical' cables also contains one of the communication cables. The two circuits and communication cables are collectively named 'The (Onshore) Cable'.



contingency space to avoid the trench collapsing, vehicle access, turning and car parking, areas for the laydown of equipment, materials and spoil and temporary fencing.

### **1.2.3 Onshore Substation**

- 9 The onshore substation will be located to the north of the existing substation at Crystal Rig II Wind Farm. The substation will be an open air compound, similar to the existing Crystal Rig II substation, consisting of items of electrical plant as well as a control building. The substation will, at its longest and widest points, have approximate dimensions of 255m (length) and 166m (width), with a maximum height of 15m. The area of the substation is approximately 3.3 ha (33,300m<sup>2</sup>). A palisade security fence of up to 3m height will be erected around the perimeter of the substation site and warning signs posted. The substation layout is shown on **Figure 2**.

## **1.3 Applicant Details**

- 10 NnGOWL is a wholly owned subsidiary of International Mainstream Renewable Power Limited (Mainstream). Mainstream is the promoter of the Neart na Gaoithe offshore wind farm project. Mainstream was founded by Eddie O'Connor in 2008 to develop wind and solar plants around the world. The company has a global development portfolio of over 15,000 MW, consisting of both onshore (wind and solar) and offshore wind projects across four continents.
- 11 The company is developing the up to 4,000 MW Hornsea Zone off the east coast of England with its joint venture partner Siemens Projects Ventures and investor, Dong Energy. Mainstream was awarded the rights to develop the Zone by TCE in December 2009 and plans to start construction in 2014.



## **2 The Design Statement**

### **2.1 The Area within the Application Boundary and Its Surroundings**

#### **2.1.1 Within the Application Boundary**

12 The landfall area is located on Thorntonloch Beach, a wide sandy beach backed by shallow dunes and used for recreational purposes. The cable corridor crosses lowland areas of agricultural land before then traversing higher ground and areas of open grazing land and moorland. Features within the cable corridor include small burns and ditches, stone walls, hedgerows, post and wire fences, deciduous shelterbelts, small woodlands, individual trees, the A1 trunk road, the East Coast Main Line Railway and the access track and overhead electrical lines. The substation site lies within an upland region of the Lammermuir Hills, adjacent to the existing wind farm substation, with key habitats including marshy grassland, scrub and heath.

#### **2.1.2 The Surrounding Area**

13 The coast of East Lothian comprises an alternating mix of broad sandy beaches, rugged cliffs, raised shore platforms and dune systems. Cliffs and dune systems provide important wildlife habitats supporting a diverse array of flowering plants and an important assemblage of birds, butterflies, moths and other invertebrates. The coast line is popular recreationally, with picnic spots, caravan parks and walking routes, including the John Muir Way. The golf courses in the area are a major attraction, as well as the coastal towns of North Berwick and Dunbar, offering a variety of entertainment options for day trips out. Torness Nuclear Power Station lies on the coast to the north of the Onshore Works, 8km south-east of Dunbar.

14 The area traversed by the cable corridor contains a wide range of farming enterprises with varied land capability for agriculture. Near the coast, the land is used to grow vegetables and potatoes as well as cereals and oilseeds. As the cable route progresses inland and uphill, the land is capable of a more limited range of crops and the proportion of grass increases, stocked with cattle and sheep. West and uphill from the Woodhall Farm area, the agriculture is based on permanent pasture and rough grazing used for extensive livestock systems. The largest area of woodland is High Wood, situated at the western extent of the cable route. Other areas of trees follow a linear form and are concentrated within the mid-section of the cable corridor. The area is sparsely populated with mainly scattered farmhouse properties and more residential dwellings located within village areas, including properties located in Thorntonloch, Skateraw, Thurston Manor, Innerwick and Woodhall. Innerwick is the nearest settlement, located approximately 100m to the south-east of the Onshore Works at the closest point.

15 The proposed substation is located within the northern Lammermuir Hills, which mark a division between the land to the north, a low-lying landscape with strong coastal associations, and the 'wilder' hilltop moorland to the south. Existing operational wind farms in proximity to the proposed substation include Crystal Rig (I and II) and Aikengall.

### **2.2 Development of the Design Considerations**

#### **2.2.1 Scope of the Design Work**

16 A number of potential grid connection points in the east of Scotland were considered by National Grid Electricity Transmission (NGET), including locations in Angus, Fife and East Lothian. Following completion of a high level study by NGET in 2009, a connection point was offered for Neart na Gaoithe Offshore Wind Farm at Crystal Rig II, on the basis of the electricity network capacity and the proposed connection date. Key design decisions have therefore been made by the developer in relation to the:

- Onshore transmission infrastructure (overhead line versus underground cable);
- Cable landfall area;
- Onshore cable route;
- Substation location.

17 Xero Energy Ltd assisted the developer with the technical design considerations whilst LUC and associated specialists undertook a review of potential planning and environmental considerations.



## 2.2.2 Planning Policy Context

- 18 The design of the Development has taken account of design planning policies and guidance of relevance. Full details of the policy framework are provided in the Planning Statement<sup>3</sup> which also accompanies the application for planning permission.
- 19 The Development Plan comprises the Edinburgh and Lothians Structure Plan 2015, adopted in 2004 and the East Lothian Local Plan, adopted in 2008. With respect to the East Lothian Local Plan, *Policy DC1: Development in the Countryside and Undeveloped Coast* states that development will be acceptable in principle in such areas where it is directly related to agriculture, horticulture, forestry and countryside recreation. Other development proposals of an appropriate scale and character may be considered if they can prove that there will be no significant impacts on traffic or the environment. The policy states a number of factors that should be considered for the case of any development proposed for the countryside or undeveloped coast. A development should:
1. With regard to its nature and scale, be integrated into the landscape, reflect its character and quality of place, and be compatible with its surroundings.
  2. Be sited so as to minimise visual intrusion and landscape impact and respect/make use of the setting provided by landform or existing landscape features.
  3. Have no significant adverse impact on nearby uses.
  4. Minimise the loss of prime agricultural land.
  5. Take account of the design policy framework contained in Chapter 13 of the Local Plan.
  6. Ensure suitable access and infrastructure is or can be made available.
- 20 With respect to (5.) the design policy framework contained in Chapter 13 of the Local Plan, *Policy DP 1: Landscape and Streetscape Character* requires all new built development to be integrated into its surroundings and designed in order to retain important existing natural and physical features. *Policy DP14: Trees on or Adjacent to Development Sites* requires the design of a new development to be sensitive to trees and hedgerows that contribute to the setting, amenity, or nature conservation of an area. If the loss of such trees was permitted, appropriate replacement planting may then be made a condition of planning permission.
- 21 In December 2010, East Lothian Council published '*Planning Guidance for the Location and Design of Wind Turbines in the Lowland Areas of East Lothian*'. This is a stand-alone document and is not supplementary to the Development Plan. Whilst specifically related to onshore wind farm turbines, the guidance also makes reference to supporting infrastructure. The guidance states that the colour of wind farm related infrastructure should relate to the colours of their landscape setting. The guidance also refers to the impact of any overhead lines from the turbines to control cabinets and to grid connections and states that "*such power lines should be placed underground where possible*".

## 2.2.3 Design Considerations

- 22 Chapter 4 of the ES ('Site Selection, Alternatives and Design Considerations') sets out the rationale for key design decisions in relation to the type of onshore transmission infrastructure, the cable landfall area, the cable route and the substation location. This is summarised below.

### 2.2.3.1 Onshore Transmission Infrastructure

- 23 The most technically simple means of connecting overland between Thorntonloch and Crystal Rig would be via an overhead line; supported either on steel lattice towers ('pylons') or on wooden poles. However, due to the potential for adverse landscape and visual effects, as well as potential effects on the setting of heritage features such as the Innerwick Conservation Area, a buried cable was considered to be the preferred option.

### 2.2.3.2 Cable Landfall Area

- 24 To land cables in a safe, cost efficient manner, with minimal environmental impact, it is desirable to have a smooth intertidal and near bathymetry<sup>4</sup> profile with deep enough sediment cover to allow the cables to be

<sup>3</sup> Neart na Gaoithe Offshore Wind Farm: Onshore Works Planning Statement, LUC for Mainstream, November 2012.

<sup>4</sup> Bathymetry is the underwater equivalent to topography.



buried and protected in trenches and with deep enough water for large cable laying vessels to approach shore. Beaches or sheltered bays provide safer and more reliable locations for landfall operations.

- 25 Four options considered to provide the required beach conditions were progressed as possible cable landing areas: Skateraw; Thorntonloch; Belhaven Bay; and White Sands. Analysis of potential routes for the offshore cable identified either Thorntonloch or Skateraw as potential landing points. Although technically feasible, Skateraw was considered to be more technically challenging due to exposed rock on the beach and more environmentally sensitive due to the presence of a Site of Special Scientific Interest (SSSI). Thorntonloch is more suitable for cable landing due to the increased sediment cover. As a result, the developer selected Thorntonloch as the landfall area.
- 26 Four possible landing points at Thorntonloch were then identified between Thorntonloch Caravan Park and the cliffs to the south. Proximity to the caravan park restricted consideration of additional landfall points at the northern end, whilst options further south were restricted by the encroachment of offshore rock. Two of these four options were discounted due to technical difficulties including poor access and the presence of steep banks /cliffs (south of Thornly dwelling and the cliff top to the south). The remaining two options, north and south of Thornton Burn, were both considered feasible. However, due to the reduced risk of disturbance to residents of the caravan park and neighbouring properties, the option south of Thornton Burn was considered to be the most appropriate landing point. This option was also preferable in terms of reducing the potential for adverse effects on the Thornton Burn.

### 2.2.3.3 Cable Route

- 27 Following selection of the preferred landfall point, work was undertaken to identify the onshore cable route between the landfall point at Thorntonloch and the substation at Crystal Rig II. Whilst there were a number of possible route options that could feasibly be considered, four options were taken forward to more detailed assessment:
- **Route Corridor Option 1:** Initially running south from Thorntonloch to Branxton and south of Oldhamstocks Mains, then turning south west across Sheeppath Hill and Bransly Hill.
  - **Route Corridor Option 2:** Running south west from Thorntonloch to Thornton, south of Innerwick, Thurston Mains to Elmscleugh Wood, Sheeppath Hill and Bransly Hill.
  - **Route Corridor Option 3:** As for Option 2 to just north of Thurston Mains, then following local roads past Birky Bog to Woodhall Farm and along Crystal Rig Wind Farm access track.
  - **Route Corridor Option 4:** As for Option 1 to Oldhamstocks Mains, continuing south to Cromwell Cottage, then turning south west over Wrightman Hill, Wester Dod and Bransly Hill.
- 28 A high level environmental appraisal of each of these options was undertaken by LUC. This included consideration of the following:
- **Landscape and Visual Amenity:** Potential effects on areas designated for their landscape quality including the Lammermuir Hills Area of Great Landscape Value (AGLV) and potential visibility of construction works from the surrounding landscape.
  - **Nature Conservation:** Proximity to areas designated for their ecological value including Sites of SSSIs and Ancient Woodland. Extent to which route travels along existing roads, thereby limiting potential habitat loss.
  - **Cultural Heritage:** Potential effects on areas designated for their cultural heritage value including Scheduled Monuments, Conservation Areas and Gardens and Designed Landscapes. Consideration given to the potential for both direct effects and effects on the setting of cultural heritage features.
  - **Recreation and Access:** Potential effects on long distance footpaths including the John Muir Way and on adopted and aspirational Core Paths.
- 29 Following the assessment of the individual cable route options, a route was chosen for further progression which combined parts of several of the individual routes to further minimise effects. Crossing the A1 and the East Coast Main Line are unavoidable for any route between the coast and Crystal Rig. The selected cable corridor did however provide opportunities for benefits with respect to:
- avoiding environmental designations;
  - avoiding local population centres;



- good construction and maintenance access all along the route, thereby minimising construction disruption to the local road network and agricultural land; and
- good use of existing infrastructure including the A1, minor public roads and the Crystal Rig II access track.

30 This 'preferred route corridor' was the subject of an EIA Scoping Report submitted to East Lothian Council in January 2012. Following the receipt of a Scoping Opinion, more detailed work was undertaken to select the most appropriate planning application boundary within the preferred route corridor. Work undertaken included environmental site surveys and desktop studies, as well as civil and electrical engineering studies. The studies informed the definition of the application boundary for the cable corridor and the choice of appropriate construction techniques, such as trenchless crossing methods.

#### 2.2.3.3.1 Environmental Studies

31 Key environmental and technical topics considered at this stage are summarised below:

- ecology: avoiding sensitive or protected sites and species;
- arboriculture: avoiding tree root protection zones;
- landscape and visual amenity: avoiding protected sites and important landscape features;
- cultural heritage: avoiding protected features and observed archaeology potential;
- transport and access: minimising disruption to the local road network;
- noise and vibration: avoiding close proximity to residential properties;
- hydrology: minimising impacts on sensitive watercourses;
- agriculture: limiting land take and fragmentation; and
- land use and access: minimising severance of public footpaths.

#### 2.2.3.4 Engineering and Technical Studies

32 The engineering and technical work included the following:

- a desktop geotechnical assessment;
- a review of cable installation methodologies;
- an underground services assessment;
- a construction compound assessment;
- a discrete route section cost benefits analysis report; and
- cable rating studies

#### 2.2.3.5 Consultation

33 Consultation was undertaken with the following stakeholders:

- East Lothian Council (including planning policy, development management, transportation, landscape, ecology, archaeology, environmental health and flood risk departments);
- Torness Power Station (via EDF energy);
- Network Rail, BEAR<sup>5</sup> and Transport Scotland;
- telecommunication and service providers;
- land owners across the route; and
- SNH, the Scottish Environment Protection Agency (SEPA) and Historic Scotland.

#### 2.2.3.6 Substation Location

34 In developing the preferred substation, it was necessary to select a preferred location close to the existing substation at Crystal Rig II. Selection of the preferred location was informed by environmental and topographical surveys, in addition to consultation with the existing occupier and with Scottish Power Transmission (SPT), the body responsible for connecting Neart na Gaoithe Wind Farm to the national electricity grid.

35 Key considerations included the following:

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<sup>5</sup> Responsible for managing and maintaining the trunk road network in this area.



- Environmental: proximity to a public Right of Way, ‘the Herring Way’; proximity to Woodhall Dean SSSI; the presence of sensitive habitats including blanket bog; the presence of nearby watercourses.
- Existing and planned infrastructure: e.g. planned extensions to Crystal Rig II Wind Farm.
- Engineering and construction: the presence of peat across the site; the need for extensive earthworks to provide a level area; the need to take account of potential flood risk areas; the need for storage of spoil during construction.

- 36 Land immediately to the south of the Crystal Rig II substation is congested with existing infrastructure for the Crystal Rig II wind farm, with very little land available that does not violate the topple distance of the existing wind turbines.
- 37 Furthermore, the eastern side of the existing Crystal Rig II substation is bounded by the site access track and the 440kilovolt (kV) overhead lines, running north-south. The land at this location is low lying with standing water. It is also within close proximity of the 400kV overhead lines, creating difficulties with access and construction clearances. Finally, it would require two relatively long 400kV circuits to run between SPT’s proposed connection point at and this location.
- 38 Areas to the south and east of the existing substation were ruled out on this basis. Areas to the north and north west of the existing substation were selected and taken forward for layout design. The layout presented in the final Application Boundary was further informed by a desire to reduce earthworks and limit drainage impacts, as well as a requirement to avoid a buffer around existing turbines (refer to **Figure 2: Substation Layout**).

**2.2.3.7 Confirmation of the Application Boundary**

- 39 On the basis of the design work outlined above, a number of refinements were made prior to confirming the application boundary. These are outlined in **Table 2.1** below.

Revision	Comments/reasons
I	<ul style="list-style-type: none"> <li>● First issue based on desktop work and on-site surveys.</li> </ul>
II	<ul style="list-style-type: none"> <li>● Route alternative identified at Thurston Manor to avoid technical constraints near Hunter Steading;</li> <li>● Short route alternative east of Croft Angry removed due to civil engineering difficulties; and</li> <li>● Other minor revisions.</li> </ul>
III	<ul style="list-style-type: none"> <li>● Removed construction access point near Skateraw Gate due to potential for impacts on residents in terms of access and disturbance; and</li> <li>● Increased area required near Birky Bog.</li> </ul>
IV	<ul style="list-style-type: none"> <li>● Route alternative proposed south of Woodhall Farm to minimise impact on Crystal Rig access track.</li> </ul>
V	<ul style="list-style-type: none"> <li>● Minor adjustments to widen length;</li> <li>● Minor access point changes;</li> <li>● Alteration east of Croft Angry to avoid area of Ancient Woodland;</li> <li>● Substation search area refined due to further substation design work;</li> <li>● Route alternative along road, near Thurston Manor removed to:               <ul style="list-style-type: none"> <li>○ Reduce impact on local roads;</li> </ul> </li> </ul>



Revision	Comments/reasons
	<ul style="list-style-type: none"> <li>○ Avoid risk of impact on Scheduled Monument; and</li> <li>○ Reduce cable route length.</li> </ul>
VI	<ul style="list-style-type: none"> <li>● Route moved to south of Ogle Lodge to minimise impact on local residential properties and to avoid technical difficulties associated with crossing the gully north of the property;</li> <li>● Associated route revisions west of Ogle Lodge; and</li> <li>● Preferred construction compound location (and associated field access) identified.</li> </ul>
VII	<ul style="list-style-type: none"> <li>● Minor edits to development boundary.</li> </ul>
VIII	<ul style="list-style-type: none"> <li>● Revised crossing methodology proposed for Whittley Strip to avoid impacts on local roads and Ancient Woodland; and</li> <li>● Revisions to development boundary around substation due to detailed substation design work.</li> </ul>
IX	<ul style="list-style-type: none"> <li>● Large scale background data added, along with associated revisions to Application Boundary;</li> <li>● Extra areas added at strategic locations for safe vehicle movement/turning and to accommodate wheel washing facilities;</li> <li>● Extra allowance provided at rail crossing to allow for compliance with Network Rail crossing guidance;</li> <li>● Extra space provided alongside route, east of Smithy Row, to accommodate safe working on sloping gradient;</li> <li>● Construction compound access point moved to avoid infringing on tree root protection zone; and</li> <li>● Development boundary revisions around substation to allow for further construction works:               <ul style="list-style-type: none"> <li>○ Removal of existing access track;</li> <li>○ Temporary construction spoil storage; and</li> <li>○ Allowance for earth berms around substation and drainage.</li> </ul> </li> </ul>
X	<ul style="list-style-type: none"> <li>● Minor revisions based on feedback from landowner negotiations.</li> </ul>

Table 2.1: Design Iterations

40 Mainstream and LUC are of the opinion that the proposed Onshore Works, as defined in the planning application, strike the most appropriate balance between environmental, technical and land ownership considerations.



## **3 The Access Statement**

### **3.1 Introduction**

41 This section outlines:

1. The proposed access arrangements for construction and operation of the Onshore Works;
2. Any implications of the construction and operation of the Onshore Works for public access.

### **3.2 Access to the Onshore Works**

42 Chapter 14 of the ES ('Access, Traffic and Transport') outlines the proposed access arrangements for the Onshore Works and considers the potential effects of construction and operational traffic associated with the project on the road and rail network and on other road users. Consultation was undertaken with East Lothian Council and BEAR Scotland.

#### **3.2.1 Access during Construction**

43 The Onshore Works are located in East Lothian to the south and east of Dunbar. The nearest trunk road is the A1(T), a strategic route that connects Edinburgh with the east coast of the UK to the south. It is proposed that the majority of the construction traffic will access the Onshore Works via existing junctions from the A1(T) and the local road network leading to the substation location at Crystal Rig II Wind Farm and the landfall at Thorntonloch.

44 A temporary access track will be required along the length of the cable route and an allowance for this has been made within the planning application boundary. There will be 18 points of access from the local road network to this temporary access track and access will also be provided to the landfall site and to the substation at Crystal Rig II Wind Farm. These access points are illustrated on Figure 5.4 of the ES and summarised in Table 14.7 (Chapter 14 of the ES).

45 There are likely to be some minor delays due to the transportation of abnormal loads required for the substation. The nature and extent of these delays will be dependent on the timing of the vehicle movements and it is anticipated that abnormal loads will be escorted by the police.

46 Temporary closures (whether full or lane specific) will be required on several roads. For crossing local roads during the open cut trenching process, construction will generally take two shifts resulting in each road being closed for two days, based on normal working hours. This will be managed through temporary road diversions. Roads likely to be affected include the Innerwick Station Road, the Corsick Hill Road, the Innerwick-Dovecote Brae Road, the Innerwick to Oldhamstocks Road, the Thurston Mains to Elmscleugh Road and the Woodhall to Elmscleugh Road. Lane closures on the A1(T) will also be required during the open cut trenching process. These closures will be managed by traffic signals, as agreed in advance with BEAR Scotland and in consultation with East Lothian Council.

47 During construction, the East Coast Main Line will also need to be crossed, using trenchless construction techniques. Network Rail is obliged to verify whether all possible risks have been properly identified and then assess how such risks might be safety-managed and also to ensure that the scheme proposals comply with all appropriate Railway Group Standards. This means that Network Rail is required to go through a thorough vetting process of the proposed permanent and temporary works design and installation methodology.

#### **3.2.2 Access during Operation**

48 Annual checks of the cable system will be required during operation of the wind farm. Access would normally be by foot along the agreed cable route wayleave. The substation will not be permanently manned, but will need to be visited infrequently for inspections. There will also be a requirement for scheduled maintenance.

### **3.3 Public Access**

49 Given the nature of the proposed development, the requirement to demonstrate observance of equal opportunity requirements for access is of limited relevance. However, this section seeks to demonstrate that the implications of the construction and operation of the Onshore Works for public access have been given careful consideration. Consultation was undertaken with the East Lothian Council Access Officer, the Scottish Rights of Way and Access Society (ScotWays), and the John Muir Trust.

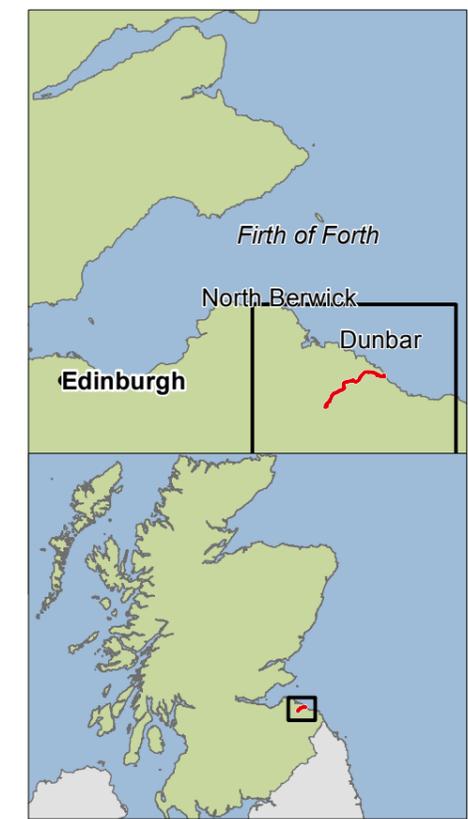


- 50 There are several Rights of Way (RoW) close to the application boundary, one of which crosses it (RoW LE211). These RoWs provide a link to the wider network of paths within the Council boundaries and beyond (see Figure 17.1 of the ES). There are also several Core Paths that fall close to the application boundary, and three that encroach into it, with many of these correlating with the RoWs in the area. These are concentrated near Thorntonloch at the coast, several of which correspond with the John Muir Way, a popular coastal path that originates in Musselburgh, close to Edinburgh, and travels south to the East Lothian border near Cockburnspath (see Figure 17.1 of the ES). Thorntonloch Beach has two main access points, one to the north via the coastal walkway from Skateraw Harbour, the other from the car park behind the Thorntonloch Caravan Park. These access routes are utilised by visitors to the beach who participate in a number of activities including surfing and bathing. The entry point near the caravan park is that most commonly used by recreational users of the beach due to the proximity to the car park.
- 51 The construction method to be used for cable laying at the landfall point is undetermined at this stage, pending further investigation of the ground conditions in the inter-tidal area. If a trenchless technique is used at the beach area to install the cable, then this short section of the John Muir Way is unlikely to be closed during construction and access maintained throughout the period of the landfall works. If an open trenching technique is applied, it is likely that this section of the path will need to be closed temporarily. Should this be the case, an alternative route will be agreed with the East Lothian Council Access Officer and appropriate signage put in place prior to, and during, the time the route is affected, to ensure that the diversion is clearly marked for any users
- 52 Access to the beach from Thorntonloch car park will be retained for the duration of construction, irrespective of the construction method used. The extent to which the beach in this area will be out of bounds will depend on the extent of the 'exclusion zone'. The exclusion zone will be a marked area that will indicate where access is not permitted, the extent of which will vary depending on the construction method used. For a trenchless technique, this will be during the period of cable 'pull in' and burial. This is typically two days, but some access can be allowed as the burial process progresses. Under open trench construction, and particularly if rock excavation is required, the exclusion zone could be required for several months. Access would be restricted during this period, however, access to the majority of the beach would still be possible.
- 53 During operation of the Onshore Works, there will be no public access restrictions.



► **Site Location**

Application Boundary



Map Scale: 1:100,000

**Figure 1**



► **Substation Layout**

- Application Boundary
- Construction Compound
- Proposed Substation
- Crystal Rig access track diversion
- Existing Crystal Rig II Substation
- ⏏ Cut
- ⏏ Fill
- Existing overhead lines
- Existing hardstanding
- Existing buildings
- Existing turbines

NB: Separate consent is being sought by Scottish Power Transmission to connect Neart na Gaoithe to the National Grid.

Map Scale: 1:2,500

**Figure 2**

