AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 3.1 Proposed Development Design Flexibility

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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APPENDIX 3.1 PROJECT DESIGN FLEXIBILITY

1.1. INTRODUCTION

1.1.1.1. The Proposed Development Envelope consists of the Order Limits, with design parameters and design principles for a number of key project components. The final design of the Proposed Development (which in some instances will be confirmed post consent in accordance with defined and consented spatial and design parameters) will lie within the area currently identified.

1.1.1.2. Some aspects of the detailed design work for the Proposed Development will occur post the issuing of the decision on the Development Consent Order ('DCO') Application (the 'Application') and following the appointment of the Principal Contractors. This is necessary to ensure there is sufficient flexibility in the proposals to provide the appointed contractors scope for value engineering through innovative design and/or construction techniques. All design and construction techniques employed will be in accordance with the development parameters assessed and for which development consent is sought.

1.1.1.3. Pre-installation surveys and site investigations will be undertaken to further inform the detailed design. The project components that are likely to require the greatest level of flexibility are listed below:

1.2. MARINE

- Marine Cable Route installation – whilst a preferred Marine Cable Corridor has been identified, micro-routing within the corridor will be required based on the requirements of the appointed contractors and pre-installation surveys;
- Marine Cable Route preparation and clearance – what is required will be dependent upon results of the marine Geophysical and Geotechnical Surveys, Cable Burial Risk Assessment ('CBRA'), contractor requirements and pre-installation surveys. The works will likely include the need for clearance of mobile bedforms (e.g. sandwaves), boulders, seabed debris, Out of Service ('OOS') cables and the disposal of excavated material;
- Marine Cable Burial Depth – the recommended burial depth of the Marine Cable will be informed by the results of the marine survey and the CBRA. The final burial depth will be dependent upon the pre-installation surveys and the requirements of the contractor, including selected installation/burial techniques;

- Marine Cable Crossings – the final design of cable crossings will be dependent on the Geophysical and Geotechnical Surveys, CBRA, Contractors' requirements, pre-installation surveys and the Crossing Agreements to be signed with the relevant cable operators;
- Landfall Horizontal Direction Drilling ('HDD') installation – installation methodology and location of permanent and temporary works;

1.3. ONSHORE

- Onshore Cable Route – a cable corridor has been identified for the High Voltage Alternating Current ('HVAC') and High Voltage Direct Current ('HVDC') cables, in which the following items require the greatest level of flexibility:
  - HDD, Trenchless and ducted crossings of waterways and major infrastructure,
  - Service crossings, of which there will be a considerable number, including high- and intermediate- pressure gas pipelines, high- and medium-voltage power cables, water and telecoms
  - Interfaces with other construction projects, such as the East Solent Coastal Partnership,
  - Location of joint bays and link boxes/link pillars
  - Programming of the installation to minimise disruption with appropriate mitigation;
- Converter Station design – a preferred site with a footprint of 200 m x 200 m (4 ha) has been identified to be a suitable for the Converter Station. A maximum parameter has been defined for the Converter Station, allowing flexibility for siting, orientation and massing within this parameter which accords with the consented design and environmental parameters; and
- Converter Station Area – This is the area of land identified to include but not be limited to:
  - the connection between the HVAC Cables and the National Electricity Transmission System ('NETS') at Lovedean Substation
  - the Cable Corridor to accommodate the HVAC Cable Route (and Fibre Optic Cables ('FOC')) between the Converter Station and Lovedean Substation,
  - the Converter Station and associated equipment,
  - Telecommunications Buildings and associated equipment,
  - the HVDC Cables (including FOC) from Converter Station southwards,
  - incoming utilities including potable water, electricity and telecom,
  - the Work Compound and Laydown areas,

- the Access Road;
- Mitigation Measures, for example additional planting and attenuation pond; and
- Optical Regeneration Station(s) ('ORS') design – a preferred site with a footprint of up to 18 m x 35 m has been identified in the Landfall area for the ORS compound.