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Head of Energy Infrastructure Planning Delivery
Head of Energy Planning & Cyber Policy
Department for Energy Security and Net Zero
1 Victoria Street, London, SW1H 0ET

29th March 2024

Dear [REDACTED],

Request for a Direction

This is a Request for a Direction by the Secretary of State under Section 35 of Planning Act 2008 (PA 2008) relating to the **IceWind Hinkley Point Project** (the "**Project**") on behalf of Hecate Offshore Wind Limited (**HOW**).

The Project is a 1,000-megawatt (**MW**) offshore wind generation project which commenced in 2020, aiming to connect Iceland with the United Kingdom through a high voltage direct current (**HVDC**) transmission system using dedicated sub-sea cables. It will be a one-way DC connection, supplying captive power exclusively for UK customers. It will NOT be an interconnector since Iceland refuses to permit interconnectors to be connected to their national grid. Instead, it will take wind capacity from Icelandic offshore wind farms straight to Britain without going onshore in Iceland.

The Project under HOW is a joint development between Hecate Energy from the U.S.A and Independent Power Corporation PLC (**IPC**), a British power developer.

On 25 October 2021 a Bilateral Connection Agreement was signed between National Grid ESO and HOW for the first IceWind Icelandic offshore wind farm to be directly connected at the Hinkley Point B 400kV substation (contract reference: A/HIPL/21/0106-EN(0)).

The Project will provide offshore wind capacity in the North Atlantic which will complement existing North Sea and Irish Sea wind projects since it taps into 60 per cent wind availability (versus 40 per cent in the North Sea) from a completely different climate zone where the wind blows when UK coastal waters are calm. This will help to provide a grid balancing solution by diversifying the UK's renewable energy supply from a different meteorological catchment area.

Since May 2023, the Project has included a co-located Battery Energy Storage Solution (**BESS**) component, which is regarded as a consolidated connection under the existing Construction Agreement for which a Modification Application has been submitted. The hybrid energy storage solution, which will be located onshore near Hinkley Point B substation will add further system reliability and balancing power to the grid by providing up to 75% availability of low carbon energy supply to UK customers.

The UK element of the Project for which we would like to request a Direction under Section 35 of Planning Act 2008 is the onshore converter station and its associated development, including onshore HVDS cables and offshore HVDC sub-sea cables and high voltage alternating current ("**HVAC**") cables connecting the converter station to the joint substation for the offshore wind and BESS assets.

The Energy Storage plant will be located 400 meters south of Hinkley Point B Substation. The joint substation itself and the subsequent HVAC cables connecting the plant to the substation and on to National Grid's 400kV substation are excluded from this request for a Direction. John Burton, the Planning Officer at Somerset Council, is supportive of this scheme and for the BESS project component to be awarded full planning consent under the Town and Country Planning Act 1990. A letter of support from Sommerset Council is attached to this Request.

This is a major infrastructure project which includes multiple complex elements such as 1,880 kilometres (1,175 miles) of HVDC cable crossing Icelandic, Danish, Scottish and English territorial waters with a UK cable length of around 800 kilometres (500 miles). The Project also includes two high voltage converter stations: one situated in offshore Icelandic waters and the second one situated onshore in the UK, as well as a shared substation for hybrid assets.

HOW believes that the UK onshore converter station with a transmission rating of 1,000 MW and transmission voltage of 400 kilovolts which converts HVDC to HVAC electricity to feed into Britain's electricity transmission system is of national significance and should be considered eligible for a Development Consent Order (DCO).

The converter station along with the UK land-based elements of the Project proposed for consideration as associated development do not fall within the existing Planning Act 2008 definition of a Nationally Significant Infrastructure Project (**NSIP**).

This is why HOW now requests the Secretary of State to exercise the Direction under Section 35 subsections (2)(a)(i) and (3)(b) of Planning Act 2008 for the following Project elements:

- **Main Project Element for S.35 request**
  High Voltage DC/AC onshore converter station with a transmission rating of 1,000 MW and transmission voltage of 400 kilovolts, and its associated development.
- **Associated Development**
  1. Offshore HVDC sub-sea cables in UK waters (with a length of approximately 500 miles excluding the part of a Renewable Energy Zone in relation to which the Scottish Ministers have functions, Under S.35(3)(b));
  2. Onshore HVDC cables stretching from Hinkley Point beach all the way to the DC/AC converter station (with a length of approximately 700 meters);
  3. Onshore HVAC cables connecting the converter station to the shared substation for offshore wind and BESS assets (less than 100 meters).

HOW believes that the elements listed under **Associated Development** in this document are of national significance since they comprise power transmission capacity for 1 Gigawatt (**GW**) with a substantial and material impact on the economics and overall efficiency of the Project. Accordingly, HOW requests that elements listed under Associated Development should be considered a fundamental part of the DCO under S.115(1), (2) and (3)(c) of the Planning Act 2008.

The UK onshore element of the Project is located in the local authority area of Somerset Council, who will be formal consultees under S.43(1). HOW has officially engaged with Somerset Council, who have given a "double thumbs up" to the Project. John Burton, the Planning Officer of Somerset Council has been informed of HOW's plans and confirmed his approval and readiness to support the Secretary of State in giving the requested Direction.

The Project

Hecate Offshore Wind is an Anglo-American partnership between Hecate Energy LLC, a leading developer of renewable energy projects and Independent Power Corporation PLC, a leading British developer of independent power projects. HOW was formed in 2020 with the intention of developing large scale offshore wind projects bringing Iceland's wind capacity into the United Kingdom without connecting to the Icelandic grid, from which the Project takes its name, IceWind.

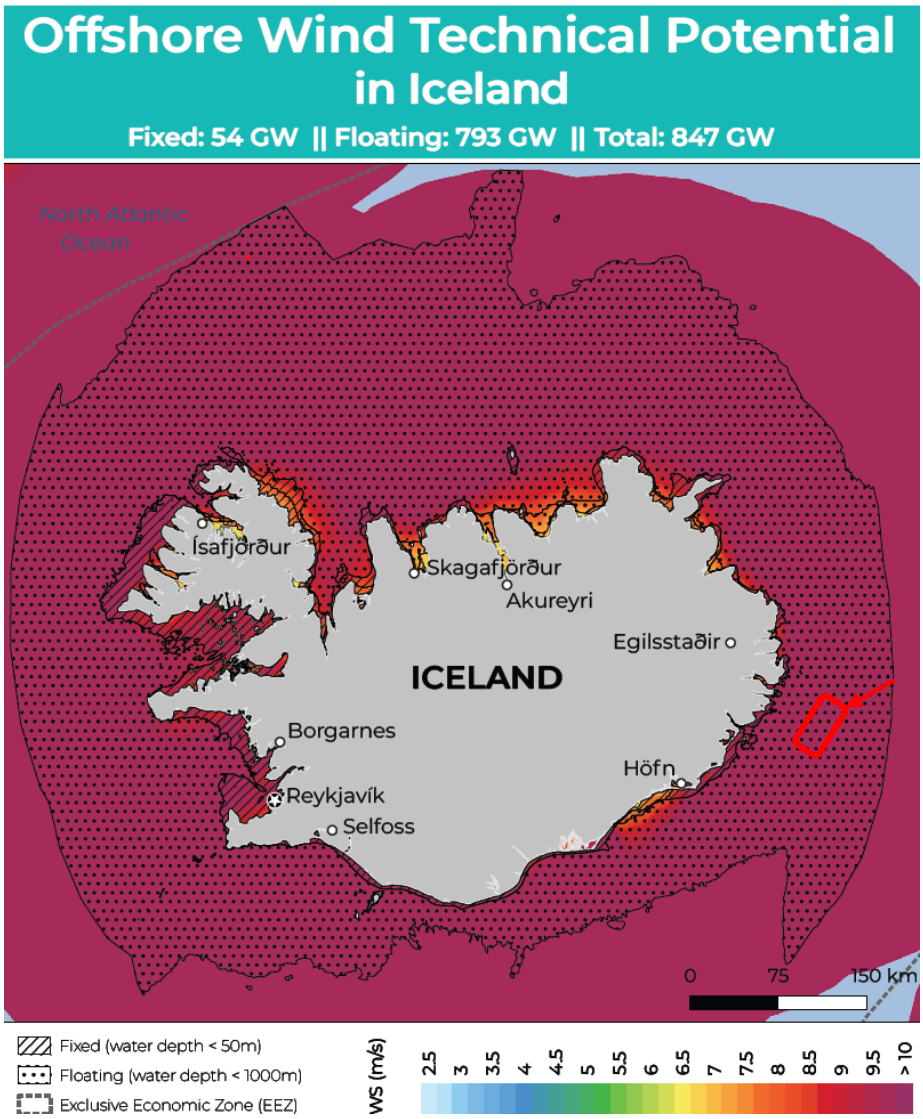
The Project is part of the development of over 4,000 MW of offshore wind capacity which commenced in 2020, aiming to connect Iceland with four strategic locations in Britain through an HVDC cable system using dedicated sub-sea cables. It will be a one-way DC connection, supplying captive power exclusively to Britain.

HOW has negotiated four Bilateral Connection Agreements with the National Grid ESO to enable the connection of 4,000 MW of total power into the UK grid. During discussions with the National Grid, multiple 400 kilovolt UK connection points were discussed and considered for strategic locations to complement soon to be decommissioned nuclear and coal fired power plants' capacity. As a result, the following four locations were selected:

- **Hinkley Point** **400kV substation, 2028 connection date, 1,000 MW capacity**
- Hawthorn Pit, Tyneside 400kV substation, 2031 connection date, 1,000 MW capacity
- Blyth 400kV substation, 2031 connection date, 1,000 MW capacity
- Connah's Quay 400kV substation, 2033 connection date, 1,000 MW capacity

IceWind Hinkley Point is the first of the four project developments for requested consent by the Secretary of State for a Development Consent Order for classification as a Nationally Significant Infrastructure Project (**NSIP**).

The Project will bring 60 percent wind capacity versus 40 percent local wind capacity from an entirely different meteorological zone, which complements the UK's offshore wind profile rather than competing with it. Below is a map showing Iceland's offshore wind potential, both for fixed and floating bottom wind farms, highlighting the preferred HOW wind farm area.



HOW Preferred Wind Farm Location

Figure 1: Offshore Wind Technical Potential Iceland

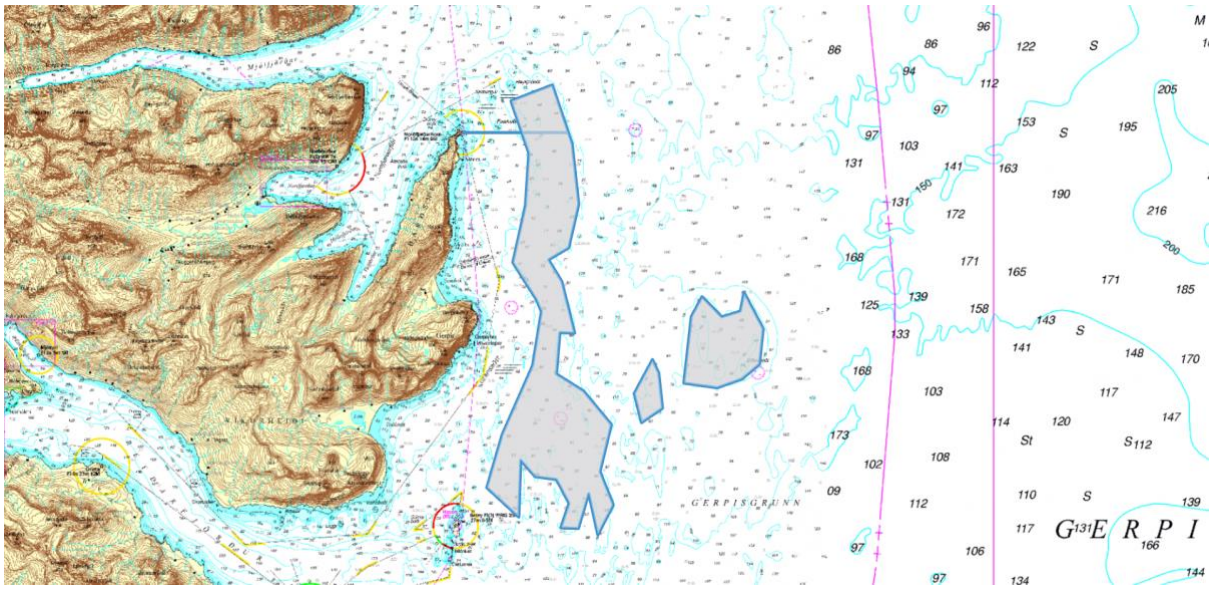


Figure 2: East Iceland Offshore Wind Farm Area

The Project will use an onshore UK battery storage facility (which is outside of the requested Direction) to balance wind energy and by doing so achieve 75 percent combined renewable energy availability, which will enable it to compete successfully with high CO2 emission base-load thermal plants.

IceWind will be based on the latest wind turbine generator technology using the 16.5 MW General Electric Haliade-X turbines, one of the largest if not the largest turbine technology available on the market today.

The offshore wind generation assets will be located in Eastern Icelandic waters, occupying approximately 200 square kilometres by area. A double bi-pole 525kV extruded HVDC cable system will transmit the generated power to the UK through an offshore route of approximately 1,175 miles. This innovative and record-breaking technology allows for unprecedented transmission capacity allowing connection between Iceland and UK with low line losses.

Below is the simplified power transmitting diagram:

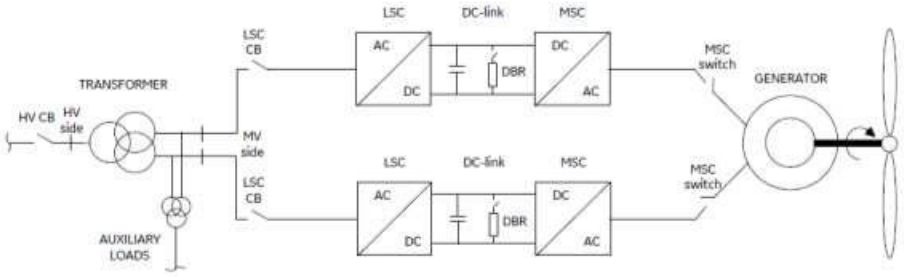


Figure 3: Power Transmission Diagram

HVDC and HVAC Cables

Laying sub-sea power cables from the United Kingdom to Iceland constitutes a major part of the Project. The 525 kilovolt HVDC cable system is the most efficient technology today for transmitting large amounts of power over long distances with minimal power losses and allowing compensation for fluctuations in power, voltage and frequency contributing to more grid stability. HVDC transmission lines have been successfully deployed in countries where large power plants are far from the centres of demand.

Overview map of underground and sub-sea cable route:

Figure 4: Map of Cable Route

Cable routes will be laid as follows:

- Approximately 300 km of route length between Hinkley Point substation and the part of Renewable Energy Zone in relation to which the Scottish Ministers have functions;
- Approximately 450 km between Scottish territorial waters and Danish territorial waters;
- Approximately 850 km between Danish territorial waters and the wind farm in East of Iceland.
- The Flagford substation as shown in Figure 2; and of approximately 132 km route length between the North Mayo and the Cashla substations.

The final cable route will be selected taking into consideration environmental impact and ease of access to the cable for installation and maintenance purposes.

Converter Station

At the onshore administrative area of Somerset a single converter station will be erected immediately to the south of Hinkley Point B 400KV substation.

The HVDC converter station will be based on one of two existing technologies – LCC or VSC. The selection will be based on detailed engineering studies and calculations considering advantages and shortcomings of each technology and greatest suitability for the purposes of the Project. The technical specification of each type of converter technology is outside the scope of this document.

Below is an illustration of a typical converter station layout based on VSC technology:

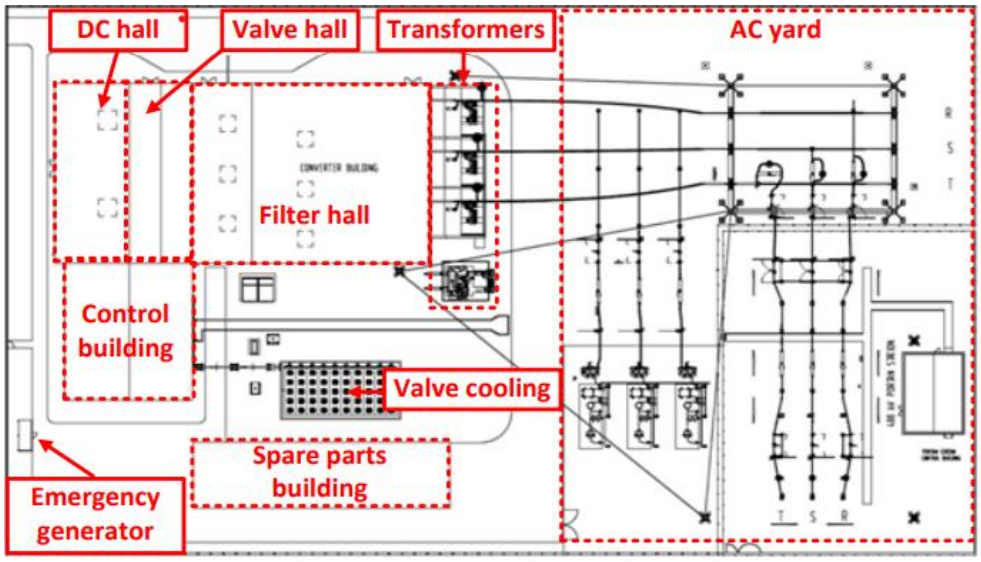


Figure 5: VSC Converter Station Components

A typical space requirement for VSC converter is illustrated below:

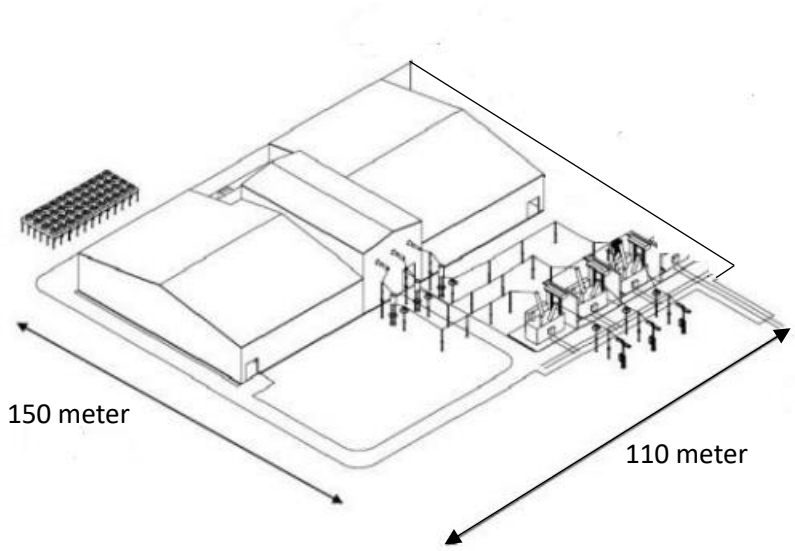


Figure 6: VSC Converter Station Land Requirements

The space requirement for a typical VSC converter of 1,000 MW rating is around 4.1 acres. A typical LCC converter will require close to 5 acres of space.

Below is a 3D graphical representation of a typical similar size converter station from another projects that IPC is developing east of Cardiff which also includes a battery storage plant:

Figure 7: 3D Image of a 1,000 MW Converter Station for a Site in Cardiff

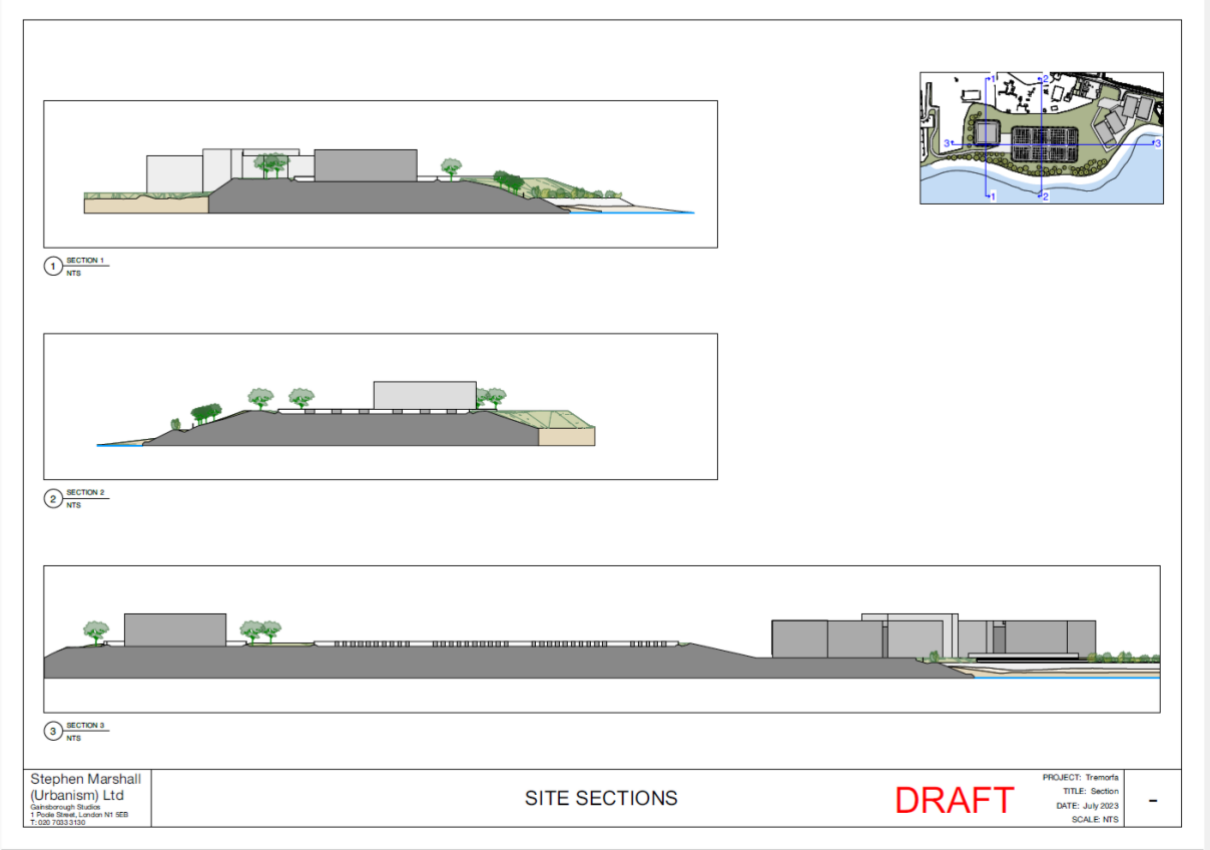


Figure 8: Sectional View of a 1,000 MW Converter Station

A single converter station will be located onshore UK near the 400 kV Hinkley Point substation on 40 acres of land which will be utilised for joint purposes of BESS and the converter station. The land is near the existing Hinkley Energy Park and will be screened from view by cut-and-fill earthworks and comprehensive landscaping. The area proposed for this converter station is some 400 metres aways from Hinkley Point B substation and is shown below:

Associated Development

Offshore 300 km of HVDC sub-sea cables will stretch between Hinkley Point Scottish Renewable Energy Zone.

Offshore HVDC cables come onshore from Hinkley Point beach (the exact onshore point will be clarified as a result of our discussions with the Crown Estate) to go into the converter station with a cable length of around 1 km.

AC cables from the converter station to the joint substation combining BESS and offshore wind farm energy under a hybrid connection, will be on adjacent land to the converter station and will stretch for less than 100 meters.

Temporary or permanent access roads for construction, operation and maintenance, including environmental mitigation and compensation measures will be part of the scope.

Why NSIP

The converter station is the largest investment piece of the Project and has the most complex form and function in the Project. HOW believes that a 1,000 MW converter station is comparable to those elements of other UK NSIP projects in the field of electricity for which development consent is required with 50 MW to 100 MW threshold for onshore and offshore generation assets in the UK that qualify for NSIP. A 1,000 MW converter station is significantly larger scale project then many generation stations that fall under S.15 of the Planning Act 2008.

Associated development is an equally important and complex part of the Project that HOW believes will benefit from being included under NSIP qualification as per S.115 of the Planning Act 2008.

The BESS part of the Project and associated joint substation and transmission works do not require DCO process as under the Infrastructure Planning (Electricity Storage Facilities) Order 2020 since the Government removed BESS from the NSIP procedure making qualifying for planning permission subject to approval from the Local Planning Authority.

This is a request to give a Direction under S.35(1) within section 35(2)(a)(i) for a project in the energy field. Furthermore, this request qualifies under S.35ZA(1) procedural matters according to which no application for a consent or authorisation has been made for the Project, being also compliant with S.33(1) or (2) of PA 2008. The request also specifies the Project and explains why the conditions under S.35(2)(a) are met as per S.35ZA(11) requirement.

HOW respectfully invites the Secretary of State, after having considered all the facts presented in this letter, to grant the Project an NSIP status for which a Development Consent Order is required.

Yours Sincerely,

[REDACTED]

CEO Hecate Offshore Wind