

Hornsea Project Three
Offshore Wind Farm



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Safety Zone Statement
PINS Document Reference: A7.1
APFP Regulation 6(1)(b)(ii)

Date: May 2018

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Orsted

Additional Application Information

Safety Zone Statement

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This report is also downloadable from the Hornsea Project Three offshore wind farm website at:
www.hornseaproject3.co.uk

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Glossary

Term	Definition
Applicant	Orsted Hornsea Project Three (UK) Ltd.
Hornsea Project One	The first offshore wind farm project within the former Hornsea Zone. It has a maximum capacity of 1.2 GW (1,200 MW) and includes all necessary offshore and onshore infrastructure required to connect to the existing National Grid substation located at North Killingholme, North Lincolnshire. Referred to as Project One throughout the Environmental Statement.
Hornsea Project Two	The second offshore wind farm project within the former Hornsea Zone. It has a maximum capacity of 1.8 GW (1,800 MW) and includes offshore and onshore infrastructure to connect to the existing National Grid substation located at North Killingholme, North Lincolnshire. Referred to as Project Two throughout the Environmental Statement.

Acronyms

Acronym	Description
APFP	Regulation 6(1)(b)(ii) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009
BEIS	Department Of Business, Energy and Industrial Strategy
DCO	Development Consent Order
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
MMO	Marine Management Organisation
MCA	Maritime and Coastguard Agency
NSIP	Nationally Significant Infrastructure Project
PINS	Planning Inspectorate

Units

Unit	Description
GW	Gigawatt (power)
MW	Megawatt

1. Introduction

- 1.1.1.1 This Safety Zone Statement has been prepared in accordance with Regulation 6(1)(b)(ii) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the 'APFP Regulations') which requires the applicant for a Development Consent Order (DCO), for the construction of an offshore generating station, to provide a statement as to whether an application will be made for safety zones. This statement outlines the legislative requirements relating to an application for safety zones for offshore wind turbines and associated infrastructure, under Section 95 of the Energy Act 2004 (the '2004 Act'), the Applicant's approach and the scope of the works for which the DCO is being sought.
- 1.1.1.2 The safety zone application will provide all of the information required by paragraph 3 of Schedule 16 to the 2004 Act and Regulation 3 of the Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007 (the '2007 Regulations'). In accordance with Section 95 of the 2004 Act, the application will be made to the Secretary of State for Business, Energy and Industrial Strategy ('BEIS') (the 'Secretary of State'). Should a two phased approach to the Project be adopted then this process would be repeated, with separate applications being made for both phases.
- 1.1.1.3 The safety zone application will be made once the final number and precise location of the wind turbines, offshore accommodation platforms, offshore High Voltage Alternating Current (HVAC) collector substations, offshore High Voltage Direct Current (HVDC) converter substations and offshore HVAC booster stations have been determined (for each phase if a phased approach to development is taken). An application for safety zones is likely to be made during 2020.

2. Safety Zone Statement

- 2.1.1.1 Orsted Power (UK) Ltd., on behalf of Orsted Hornsea Project Three (UK) Ltd., is promoting the development of the Hornsea Project Three Offshore Wind Farm (hereafter referred to as Hornsea Three). Hornsea Three is a proposed offshore wind farm located in the southern North Sea.
- 2.1.1.2 Hornsea Three will consist of an offshore generating station(s) with a capacity of greater than 100 MW and therefore is a Nationally Significant Infrastructure Project (NSIP), as defined by Section 15(3) of the Planning Act 2008, as amended. As such, there is a requirement to submit an application for a DCO to the Planning Inspectorate (PINS) to be decided by the Secretary of State for BEIS.
- 2.1.1.3 The Hornsea Three array area (i.e. the area in which the turbines are located) is approximately 696 km², and is located approximately 121 km northeast off the Norfolk coast and 160 km east of the Yorkshire coast (Figure 2.1). The Hornsea Three array area lies to the east of Hornsea Project One and Hornsea Project Two offshore wind farms.
- 2.1.1.4 Regulation 6(1)(b)(ii) of the APFP Regulations requires the applicant for a DCO for an offshore generating station to provide a statement as to whether an application will be made for safety zones in respect of that offshore generating station.
- 2.1.1.5 The Applicant intends to apply for a standard 500 m safety zone, as per the definition in Regulation 2 of the 2007 Regulations, around each of the wind turbines, offshore accommodation platforms, offshore HVAC collector substations, offshore HVDC converter substations and offshore HVAC booster stations whilst construction works are ongoing (identified by the presence of a large construction vessel). Safety zones of 50 m may be sought for pre commissioned structures at which construction activity may be temporarily paused (and therefore the 500 m safety zone has lapsed as there is no longer a construction vessel on site) such as installed monopiles without transition pieces or where construction works are completed but the wind farm has not yet been commissioned. It is anticipated that the application will also request a standard 500 m safety zone for works of major maintenance during the operational phase of the project. This is in order to ensure the safety of the wind turbines, offshore accommodation platforms, offshore HVAC collector substations, offshore HVDC converter substations and offshore HVAC booster stations, the individuals working thereon, the wind farm related vessels and other vessels navigating in the area whilst works take place.
- 2.1.1.6 In addition, the Applicant intends to apply for a 500 m safety zone around each of the offshore accommodation platforms during the operational phase of Hornsea Three in order to ensure the safety of the individuals on the platforms, protect against electrical hazards and the danger of spillage in addition to ensuring the safety of operation and maintenance vessels and other vessels navigating in the area. Given that these safety zones would be required throughout the life of the project, an application would need to include a safety case.

- 2.1.1.7 Prior to the end of life of Hornsea Three, consultation with BEIS and any other relevant bodies, e.g. the Marine Management Organisation (MMO), Trinity House and the Maritime and Coastguard Agency (MCA), would be carried out to determine whether a safety zone will be required for the decommissioning of Hornsea Three. A further safety zone application will be submitted for decommissioning works, if required, at the relevant time.

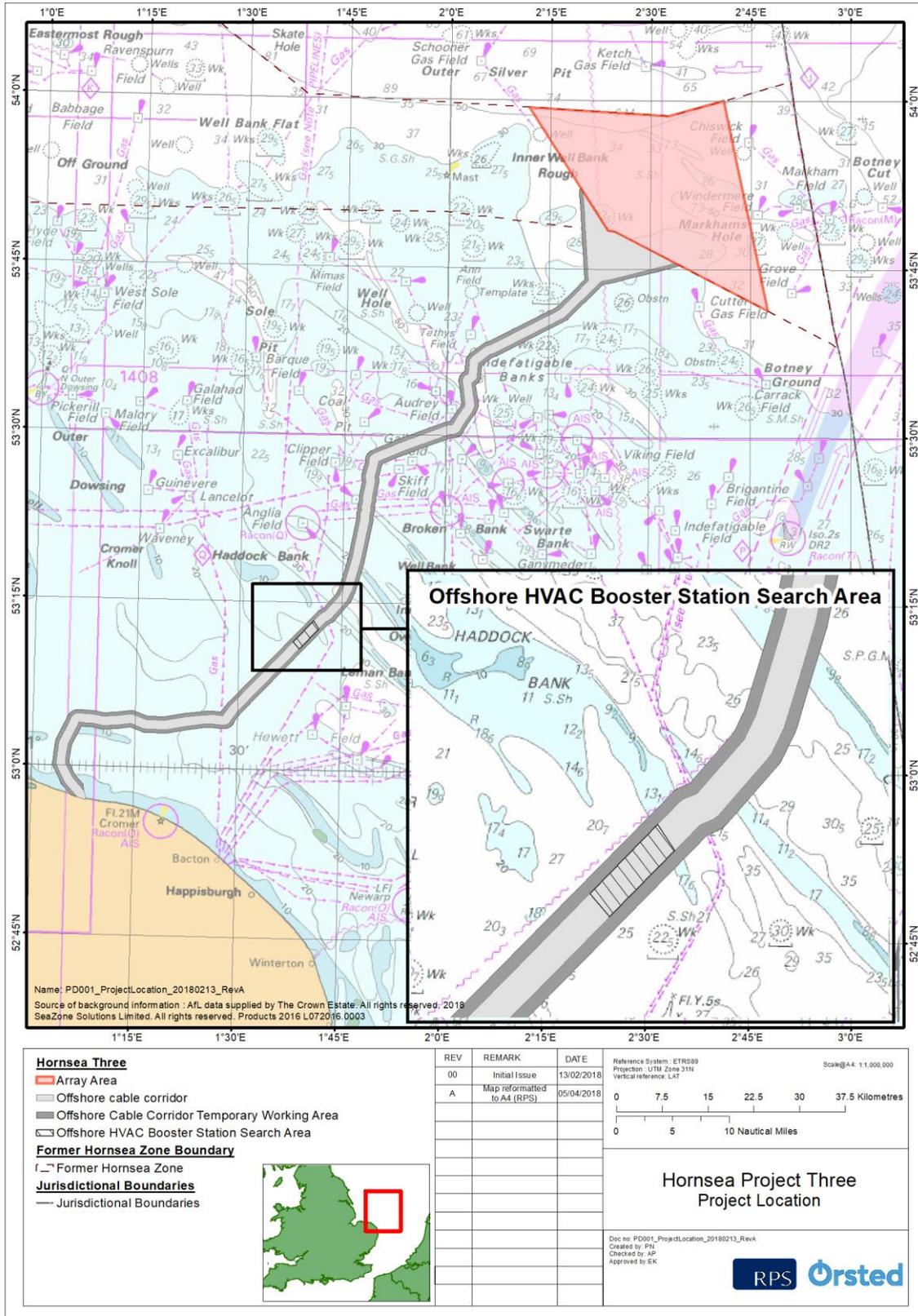


Figure 2.1: Location of Hornsea Project Three array area and offshore cable corridor.

3. Scope of Hornsea Three Application

3.1.1.1 The Hornsea Three DCO seeks, among other things, consent for the following offshore works, as set out in Part 1 of Schedule A to the DCO (document reference number A3.1) and included below:

Work No.1 —

- (a) an offshore wind turbine generating station with a gross electrical output of over 100 megawatts comprising up to 300 wind turbine generators each fixed to the seabed by either monopile foundation, mono suction bucket foundation, jacket foundation or gravity base foundation;
 - (b) up to three offshore accommodation platforms fixed to the seabed within the area shown on the works plan by monopile foundation, mono suction bucket foundation, jacket foundation, or gravity base foundation and which may be connected to each other or one of the offshore substations within Work No. 2 by an unsupported bridge; and
 - (c) a network of cables between the wind turbine generators and between the wind turbine generators and Work No. 2 including one or more cable crossings;
- and associated development within the meaning of section 115(2) of the 2008 Act comprising—

Work No.2 —

- (a) in the event that the mode of transmission is HVDC or HVAC, up to 12 offshore collector substations each fixed to the seabed by either monopile foundation, mono suction bucket foundation, jacket foundation, gravity base foundation or box-type gravity base foundations and which may be connected to each other or one of the offshore accommodation platforms within Work No.1(b) by an unsupported bridge;
- (b) in the event that the mode of transmission is HVDC, up to four offshore HVDC converter substations each fixed to the seabed by either monopile foundations, mono suction bucket foundations, jacket foundations, gravity base foundations, jacket foundations, box-type gravity base foundations, pontoon gravity base 1 foundations, or pontoon gravity base 2 foundations and which may be connected to each other or one of the offshore accommodation platforms within Work No.1(b) by an unsupported bridge;
- (c) a network of cables;
- (d) up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No.5 consisting of offshore export cables along routes within the Order limits seaward of MLWS including one or more cable crossings; and
- (e) up to eight temporary horizontal directional drilling exit pits.

Work No. 3 —

(a) in the event that the mode of transmission is HVAC, up to four HVAC booster stations fixed to the seabed within the area shown on the works plan by either monopile foundation, mono suction bucket foundation, jacket foundation, gravity base foundation, or box-type gravity base foundations;

(b) in the event that the mode of transmission is HVAC, up to six subsea HVAC booster stations fixed to the seabed by either monopile foundation, mono suction bucket foundation, jacket foundation, gravity base foundation, or box-type gravity base foundations;

(c) in the event that the mode of transmission is HVAC, a network of cables between HVAC booster stations or subsea HVAC booster stations; and

(d) in the event that the mode of transmission is HVAC, up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No.5 consisting of offshore export cables along routes within the Order limits seaward of MHWS including one or more cable crossings.

Work No. 4 — a temporary work area associated with Work No.2 and Work No.3 for vessels to carry out intrusive activities alongside Work No.2 or Work No.3.

Work No. 5 — landfall connection works comprising up to six cable circuits and ducts and onshore construction works within the Order limits seaward of MHWS and landward of MLWS.

3.1.1.2 Offshore works relevant to the Safety Zone Statement are Work Nos. 1 to 3. All other offshore works are not relevant to the Safety Zone Statement.

4. Safety Zone Application

4.1.1.1 Regulation 3 of the 2007 Regulations and paragraph 3 of Schedule 16 to the 2004 Act require that the following information should be included within a written application for safety zones in respect of an offshore generating station:

- A map showing:
 - The place where the relevant renewable energy installation is to be, or is being, constructed, extended, operated or decommissioned; and
 - The waters in relation to which any declaration applied for will establish a safety zone;
- A description of the installation and its proposed or existing location and dimensions (including an explanation of how much of it is (or is expected to be) visible above the water line and how much below it), supported by drawings;
- A description of how the installation operates (or is to operate);
- A description of the location (or proposed location) of:
 - Any electric line used (or proposed to be used) for the conveyance of electricity to or from the installation;
 - Any connection to such an electric line;
 - A description of the location (or proposed location) of any offshore sub-station housing connection equipment;
 - Where the safety zone is sought in respect of more than one relevant renewable energy installation, the proposed or existing distances between such installations; and
 - Details of any navigational marking that has been specified for use with an installation of the description in question by a general lighthouse authority.
- Whether the safety zone relates to the construction, extension, operation or decommissioning of the relevant renewable energy installation;
- Whether the applicant seeks the declaration of a standard safety zone, or if not, what dimensions are sought for the zone;
- A description of those works or operations in respect of which the safety zone is being applied for and their estimated date and duration;
- Whether the applicant proposes that the area of the safety zone will vary and any factors or determinations by reference to which the applicant proposes that such variation may take place;
- Whether the safety zone relates to major maintenance works in respect of a relevant renewable energy installation which has become operational;
- A statement setting out what steps, if any, the applicant proposes to take to monitor vessels and activities within the safety zone;

- Except where the Secretary of State has notified the applicant that it is not required, an up to date shipping traffic survey for the waters comprising the safety zone; and
- An assessment of the extent to which navigation might be possible or should be restricted, and whether restrictions would cause navigational problems, within or near waters where the relevant renewable energy installation is to be, or is being, constructed, extended, operated or decommissioned, as the case may be.

4.1.1.2 The Applicant's safety zone application will contain the information required by Regulation 3 of the 2007 Regulations and paragraph 3 of Schedule 16 to the 2004 Act. The application is intended to be for standard safety zones of:

- A 500 m radius around each wind turbine, offshore accommodation platform, offshore HVAC collector substation, offshore HVDC converter substation, offshore HVAC booster station and associated foundation structures whilst work is being performed as indicated by the presence of construction vessels; and
- A 500 m radius around all major maintenance works being undertaken around the wind turbines, offshore accommodation platforms, offshore HVAC collector substation, offshore HVDC converter substations, offshore HVAC booster stations and associated foundation structures.

4.1.1.3 In addition, it is anticipated that the application will request safety zones of:

- A 500 m radius around each offshore accommodation platform during operation; and
- A 50 m radius around each wind turbine, offshore accommodation platform, offshore HVAC collector substation, offshore HVDC converter substation, offshore HVAC booster station and associated foundation structures installed, complete or incomplete but waiting to be commissioned as part of Hornsea Three.

4.1.1.4 "Major maintenance works" is defined by Regulation 2 of the 2007 Regulations as works relating to any renewable energy installation which has become operational, requiring the attachment to, or anchoring next to, such an installation of a self-elevating platform, jack-up barge, crane barge or other maintenance vessel.

4.1.1.5 Where a safety zone relates to a NSIP, the appropriate decision maker for safety zones is the Secretary of State, who has delegated that function to BEIS. The safety zone application will therefore be made to BEIS, which may, if it is considered appropriate to do so, issue a notice declaring that such areas as are specified or described in the notice are to be safety zones.

4.1.1.6 Pursuant to section 95(2) of the 2004 Act, the purposes for which BEIS may consider it appropriate to issue such a notice are for the purposes of securing the safety of: the renewable energy installation or its construction, extension or decommissioning; other installations in the vicinity of the installation or the place where it is to be constructed or extended; individuals in or on the installation or other installations in that vicinity; or vessels in that vicinity or individuals on such vessels.

- 4.1.1.7 The safety zone application will be made to BEIS once the final number and precise location of the wind turbines, offshore accommodation platforms, offshore HVAC collector substations, offshore HVDC converter substations and offshore HVAC booster stations has been determined and before construction works commence. Should a two phased approach to the Project be adopted then this process would be repeated, with separate applications being made for both phases.