

Hornsea Project Three
Offshore Wind Farm



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Environmental Statement:
Volume 4, Annex 3.6 – Offshore Operation and Maintenance Licensable Activities

PINS Document Reference: A6.4.3.6
APFP Regulation 5(2)(a)

Date: May 2018

Hornsea 3
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Orsted

Environmental Impact Assessment

Environmental Statement

Volume 4

Annex 3.6 - Offshore Operation and Maintenance Licensable Activities

Report Number: A6.4.3.6

Version: Final

Date: May 2018

This report is also downloadable from the Hornsea Project Three offshore wind farm website at:

www.hornseaproject3.co.uk

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Front cover picture: Kite surfer near a UK offshore wind farm © Orsted Hornsea Project Three (UK) Ltd., 2018.

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Glossary

Term	Definition
Development Consent Order (DCO) as made	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Hornsea Project Three offshore wind farm	The third offshore wind farm project within the former Hornsea Zone. It includes offshore and onshore infrastructure to connect to the existing National Grid substation located at Norwich Main, Norfolk. Referred to as Hornsea Three throughout the Environmental Statement.
Impact	Change that is caused by an action; for example, land clearing (action) during construction which results in habitat loss (impact).
Project Description	A summary of the engineering design elements of Hornsea Three.

Acronyms

Unit	Description
DCO	Development Consent Order
O&M	Operations and Maintenance

1. Defining Scope of Licensable Activities

1.1 Approach to defining scope of application

1.1.1.1 This Development Consent Order (DCO) application has been informed by a screening exercise to identify the activities to be included in relation to the offshore operation and maintenance (O&M) activities. This screening exercise involved developing a generic schedule of O&M activities, which identified and described typical O&M activities for offshore wind farms, informed by experience from work on existing O&M projects and reference to other publicly available O&M Marine Licence applications and DCO applications. This generic schedule was then tailored to and reviewed by the Hornsea Project Three team through a detailed discussion of activities, methods and frequencies.

1.1.1.2 Each identified O&M activity was then assigned to one of the categories presented in Table 1.1 and divided between Table 1.2 for generator assets and Table 1.3 for transmission assets, based on reference to the relevant sections of the: Marine and Coastal Access Act (2009), the Marine Licensing (Exempted Activities) Order 2011 and the Marine Licensing (Exempted Activities) (Amendment) Order 2013, experience from work on O&M projects, and from reference to other publicly available O&M Marine Licence applications.

1.1.1.3 A full description of the foreseeable planned and unplanned maintenance activities at Hornsea Three is provided in section 3.9 of volume 1, Chapter 3: Project Description. Maintenance due to unexpected occurrences have not been described and are not included within the application for Development Consent. In addition, some activities which could be needed in the O&M phase of the project have not been included in this application as it is considered that these would be best applied for at a later date, if needed, once specific details of the requirements are understood.

Table 1.1: Categorising O&M activities.

Category	Description	Examples
Grey	An activity that does not require any further action from a licencing perspective (i.e. not licensable).	Routine inspections, replacement of consumables, minor repairs, replacements or retrofits within the WTGs, transfer of personnel and equipment offshore. The environmental effects of these activities are covered by standard procedures, e.g. Risk Assessment Method Statements (RAMS) and/or wider legislation.
Green	An activity that would need a licence and is included in this application (i.e. licensable).	Major component replacement. See Section 2.
Yellow	An activity for which a separate Marine Licence or other approval will be required, but an application would be made at the point of the activity being required and so is not included in the O&M licence application. Includes activities that are currently not foreseeable.	Placement of additional scour protection, large scale structural repairs, campaign of major component replacements across entire site.

1.2 Scope of activities subject to the marine licence application

Table 1.2: Hornsea Project Three O&M Activities - generator assets

Activity	Activity description	Possible environmental impact	Mitigation measures	Licensable status
Personnel transfer	Technicians moving between workboats and wind turbines	None	None	Not licensable
Wind turbine inspection	Technicians deployed from crew transfer vessel working within wind turbines	None	None	Not licensable
Small equipment transfer	Transfer of handheld equipment between workboat and wind turbines	Dropped objects to seabed	Dropped object reporting form	Not licensable
Liquids transfer	Transfer of oils or lubricants between workboat and wind turbines	Spill event to marine environment	Marine Pollution Contingency Plan	Not licensable
Generator refuelling	Transfer of fuel between workboat and wind turbines	Spill event to marine environment	Marine Pollution Contingency Plan	Not licensable
Seabed geophysical survey	Geophysical side-scan sonar or multibeam echo sounding survey	None	Voluntary notification for geophysical and acoustic surveys	Not licensable
Seabed visual survey	Drop-down video or ROV seabed survey	Minor seabed disturbance	None	Not licensable
Scuba seabed visual survey	Scuba diver or ROV inspect foundations or cables	Minor seabed disturbance	MMO guidance on scuba activities	Not licensable
Seabed grab survey	Benthic grab sampling	Minor seabed disturbance	None	Not licensable
Aerial survey	Aerial photography sampling	None	See Civil Aviation Authority Regulations and Heli Operator Procedures	Not licensable
Measurement buoys	Deploying and recovering meteorological measurement buoy	Minor seabed disturbance Hazard to navigation	MMO Exemptions guidance	Exempt
Service of measurement buoy	Servicing meteorological measurement buoy	Minor seabed disturbance	MMO Exemptions guidance	Exempt

Activity	Activity description	Possible environmental impact	Mitigation measures	Licensable status
Raising a jack-up vessel	The activity of jacking-up at sea	Minor seabed disturbance; Temporary habitat loss; Hazard to navigation	Notice to Mariners; Start/end of works notices	Not licensable
[Activity 1] Major WTG Component Replacement	Planned movement of heavy equipment between jack-up vessel and wind turbines	Dropped objects to seabed; Minor seabed disturbance; Temporary habitat loss; Hazard to navigation	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable
[Activity 2] Painting Wind Turbines	Application of coatings to wind turbines to prevent corrosion Full (external and internal) repaint of transition pieces	Spill event to marine environment	Marine Pollution Contingency Plan	Licensable
[Activity 3] Removal of Organic Build-up	Physical removal of marine growth and guano from wind turbines using brush and seawater pressure washer	None	None	Licensable
Scuba seabed visual survey	Scuba divers inspect foundations or cables	Minor seabed disturbance	See MMO guidance on scuba activities	Not licensable
Moving scour protection	Temporary movement of wind turbine scour protection	Seabed disturbance	Update to Scour Protection Management Plan	Not licensable
[Activity 4] Array cable remedial burial	Scuba diver or ROV mounted jetting tool	Seabed disturbance	Notice to Mariners; Start/end of works notices	Licensable
[Activity 5] Array cable repair and replacement	Array cable extraction and replacement	Seabed disturbance Temporary habitat loss; Hazard to navigation	Notice to Mariners; Start/end of works notices	Licensable
Addition of array cable rock protection	Placement of additional rock protection	Seabed disturbance; Introduction of hard substrate	Notice to Mariners; Start/end of works notices	Licensable, but EXCLUDED FROM THIS APPLICATION

Activity	Activity description	Possible environmental impact	Mitigation measures	Licensable status
[Activity 6] Replacement of access ladders	Replacement of access ladders, e.g. due to damage or corrosion	Dropped objects to seabed; Jack-up footprint; Safety of navigation to other sea users	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable
[Activity 7] Replacement of wind turbine anodes	Additional anode installation required for wind turbine corrosion protection	Dropped objects to seabed; Jack-up footprint; Safety of navigation to other sea users	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable

Table 1.3: Hornsea Project Three O&M Activities - transmission assets.

Activity	Activity Description	Possible Environmental Impacts	Mitigation Measures	Licensable Status
Personnel transfer	Technicians moving between workboats and substations	None	None	Not licensable
Offshore substation inspection	Technicians deployed from crew transfer vessel working within offshore substations	None	None	Not licensable
Small equipment transfer	Transfer of handheld equipment between workboat and substations	Dropped objects to seabed	Dropped object reporting form	Not licensable
Liquids transfer	Transfer of oils or lubricants between workboat and substations	Spill event to marine environment	Marine Pollution Contingency Plan	Not licensable
Generator refuelling	Movement of fuel between workboat and substation	Spill event to marine environment	Marine Pollution Contingency Plan	Not licensable
Seabed geophysical survey	Geophysical side-scan sonar or multibeam echo sounding survey	None	Voluntary notification for geophysical and acoustic surveys	Not licensable
Seabed visual survey	Drop-down video or ROV survey	None	None	Not licensable
Scuba seabed visual survey	Scuba diver or ROV inspect foundations or cables	Minor seabed disturbance	MMO guidance on scuba activities	Not licensable
Seabed grab survey	Benthic grab sampling	Minor seabed disturbance	None	Not licensable
Aerial survey	Aerial photography sampling	None	See Civil Aviation Authority Regulations and Heli Operator Procedures	Not licensable
Measurement buoys	Deploying and recovering meteorological measurement buoy	Minor seabed disturbance Hazard to navigation	MMO Exemptions guidance	Exempt

Activity	Activity Description	Possible Environmental Impacts	Mitigation Measures	Licensable Status
Service of measurement buoy	Servicing meteorological measurement buoy	Minor seabed disturbance	MMO Exemptions guidance	Exempt
Raising a jack-up vessel	The activity of jacking-up at sea	Minor seabed disturbance; Temporary habitat loss; Hazard to navigation	Notice to Mariners; Start/end of works notices	Not licensable
[Activity 8] Offshore Substation Component Replacement	Planned movement of heavy equipment between jack-up vessel and offshore substations	Dropped objects to seabed; Jack-up footprint; Safety of navigation to other sea users	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable
[Activity 9] Offshore Substation Painting	Application of coatings to substation to prevent corrosion Full (external and internal) repaint of offshore substations	Spill event to marine environment	Marine Pollution Contingency Plan	Licensable
[Activity 10] Removal of Organic Build-up	Physical removal of marine growth and guano from substation using brush and seawater pressure washer	None	None	Licensable
Scuba seabed visual survey	Scuba divers inspect foundation or cables	Minor seabed disturbance	See MMO guidance on scuba activities	Not licensable
Moving scour protection	Temporary movement of substation scour protection	Seabed disturbance	None	Update to Scour Protection Management Plan
Aerial access to offshore substation	Transfer of technicians between substation via helicopter transfer	None	See Civil Aviation Authority Regulations and Heli Operator Procedures	Not licensable
Replacement of navigational equipment	Repairs and replacement of electrical equipment such as fog horns, navigation lights and transponders	None	See Trinity House and Civil Aviation Authority guidance	Not licensable

Activity	Activity Description	Possible Environmental Impacts	Mitigation Measures	Licensable Status
[Activity 11] Export cable remedial burial	Scuba diver or ROV mounted jetting tool	Seabed disturbance	Notice to Mariners; Start/end of works notices	Licensable
[Activity 12] Export cable repair and replacement	Export cable extraction and replacement	Seabed disturbance Temporary habitat loss; Hazard to navigation	Notice to Mariners; Start/end of works notices	Licensable
Addition of export cable rock protection	Placement of additional rock protection	Seabed disturbance; Introduction of hard substrate	Notice to Mariners; Start/end of works notices	Licensable, but EXCLUDED FROM THIS APPLICATION
Addition of substation scour protection	Placement of additional rock protection	Seabed disturbance; Introduction of hard substrate	Update to Project Scour Protection Management Plan Notice to Mariners; Start/end of works notices	Licensable, but EXCLUDED FROM THIS APPLICATION
[Activity 13] Replacement of offshore substation anodes	Additional anode installation required for corrosion protection	Dropped objects to seabed; Jack-up footprint; Safety of navigation to other sea users	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable
[Activity 14] J-tube repair or replacement	Offshore substation j-tube repairs	Dropped objects to seabed; Jack-up footprint; Safety of navigation to other sea users	Dropped object reporting form; Notice to Mariners; Start/end of works notices	Licensable