Hornsea Project Three
Offshore Wind Farm

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Statement of Common Ground between Hornsea Project Three and Maritime and Coastguard Agency

Date: October 2018

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Ørsted

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

Revision History

Version	Date	Author	Context
00	June 2018	Ørsted	First draft (pre-examination) for review
1.0	July 2017	Ørsted	Issued to MCA for comment
1.1	August 2018	Ørsted	Review following comments from MCA
1.2	October 2018	Ørsted	Review following comments from MCA

Signatories

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Acronyms

Acronym	Description
AC	Alternating Current
AIS	Automatic Identification System
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ERCoP	Emergency Response Cooperation Plan
Ex.A	Examining Authority
FSA	Formal Safety Assessment
HVAC	High Voltage Alternating Current
IHO	International Hydrographic Organisation
IMO	International Maritime Organization
km	Kilometre
km^2	Square Kilometre
m	Metre
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MSC	Maritime Safety Council
MW	Megawatt
nm	Nautical Mile
NRA	Navigation Risk Assessment
OREI	Offshore Renewable Energy Installation
SAR	Search and Rescue
SoCG	Statement of Common Ground
TH	Trinity House
UK	United Kingdom

1. Introduction

1.1 Overview

1.1.1.1 This Statement of Common Ground (SoCG) has been prepared by Hornsea Project Three ('the Applicant') and the Maritime and Coastguard Agency (MCA) (together 'the parties') as a means of clearly stating the areas of agreement, and any areas of disagreement, between the two parties in relation to the proposed Development Consent Order (DCO) application for the Hornsea Project Three offshore wind farm ('the Project'). This SoCG does not deal with or extend to any development other than the Project.

1.2 Approach to SoCG

1.2.1.1 This SoCG has been developed during the pre-examination phase of the Project. In accordance with discussions between the Applicant and the MCA, the SoCG is focused on those issues raised by the MCA within its response to Scoping, Section 42 consultation and as raised through the Evidence Plan process that has underpinned the pre-application consultation between the parties.

1.2.1.2 The structure of this SoCG is as follows:

- Section 1: Introduction;
- Section 2: Consultation;
- Section 3: Agreements Log; and
- Section 4: Summary.

1.2.1.3 It is the intention that this document will help facilitate post application discussions between both parties and also give the Examining Authority (Ex.A) an early sight of the level of common ground between both parties from the outset of the examination process.

1.3 The Development

1.3.1.1 Hornsea Three is a proposed offshore wind farm located in the southern North Sea, with a total capacity of up to 2,400 Megawatts (MW) and will include all associated offshore (including up to 300 turbines) and onshore infrastructure.

1.3.1.2 The key components of Hornsea Three include:

- Turbines and associated foundations;
- Array cables;
- Offshore substation(s) and associated foundations;
- Offshore accommodation platform(s) and associated foundations;
- Offshore export cable(s);

- Offshore and/or onshore High Voltage Alternating Current (HVAC) booster station(s) (Alternating Current (AC) transmission option only);
- Onshore cables; and
- Onshore High Voltage Direct Current (HVDC) converter/HVAC substation.

1.3.1.3 The Hornsea Three array area (i.e. the area in which the turbines are located) is approximately 696 square kilometres (km^2), and is located approximately 121 kilometres (km) northeast off the Norfolk coast and 160 km east of the Yorkshire coast.

1.3.1.4 The Hornsea Three offshore cable corridor extends from the Norfolk coast, offshore in a north-easterly direction to the western and southern boundary of the Hornsea Three array area. The Hornsea Three offshore cable corridor is approximately 163 km in length.

1.3.1.5 From the Norfolk coast, underground onshore cables will connect the offshore wind farm to an onshore HVDC converter/HVAC substation, which will in turn, connect to an existing National Grid substation. Hornsea Three will connect to the Norwich Main National Grid substation, located to the south of Norwich. The onshore cable corridor is 55 km in length at its fullest extent.

2. Consultation

2.1 Application Elements Under the Maritime and Coastguard Agency's Remit

2.1.1.1 Work Nos. 1 to 5 (offshore works), detailed in Part 1 of Schedule 1 of the draft DCO describe the elements of Hornsea Three which may affect the interests of the MCA.

2.1.1.2 The MCA implements the government's maritime safety policy in the United Kingdom (UK) and works to prevent the loss of life on the coast and at sea. As well as provision of emergency response, salvage and counter pollution within UK waters the MCA also develops and maintains guidance and regulations for the navigational safety including the provision of navigation risk assessment guidance to ensure that offshore developments maintain safe navigation around the waters of the UK.

2.2 Consultation Summary

2.2.1.1 This section briefly summarises the consultation that Hornsea Project Three has undertaken with the MCA. Those technical components of the DCO application of relevance to the MCA (and therefore considered within this SoCG) comprise:

- Chapter 7: Shipping and Navigation; and
- Annex 7.1: Navigational Risk Assessment (NRA); and
- Annex 3.7: Design Layout Principles.

2.2.1.2 Table 2.1 summarises the consultation undertaken between the parties during the pre-application phase, and Table 2.2 the post application consultation.

Table 2.1: Pre-Application Consultation with the Maritime and Coastguard Agency

Date	Detail
July 2016 Consultation Meeting	Meeting to discuss methodology for the NRA and marine traffic survey.
September 2016 Consultation Meeting	Meeting to discuss proposed navigational corridor.
November 2016 Consultation Meeting	Meeting to discuss and agree the proposed navigational corridor following review of the technical assessment submitted.

Date	Detail
November 2016 Scoping Opinion	The NRA and Environmental Statement should comply with Marine Guidance Note (MGN) 543. The NRA should consider routeing particularly in heavy weather so that vessels can make safe passage without significant larger scale deviations. The MCA require that a Cable Burial Protection Index study should be undertaken in respect to export cabling. Reductions in water depth, particularly nearshore should be assessed. Any application for safety zones would need to be carefully assessed and supported by experience at the development and construction stages. Assessment of impacts on Search and Rescue (SAR) capability within the region must be undertaken. An Emergency Response Cooperation Plan (ERCoP) will be required within the draft DCO. Hydrographic data (International Hydrographic Organisation Order 1a) should be supplied to the MCA as per MGN 543.
February 2017 Consultation Meeting	Meeting to agree results of the marine traffic surveys and to discuss proposal for assessing the risk associated with non-standard layouts. Meeting also considered the inclusion of subsea offshore HVAC booster stations and the impact on emergency response within the array.
February 2017 Hazard Workshop	Hazard Workshop which was attended by the MCA.
December 2017 Consultation Meeting	Meeting to discuss changes to the design envelope post preliminary Environmental Impact Assessment (EIA) and the proposed Layout Development Principles designed to ensure the final layout post consent satisfactorily meets the MCA requirements. A safety case (the NRA) for the single line of orientation was discussed.
September and December 2017 Section 42 consultation response	MGN 543 Annex 2 Paragraph 6 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. This information will need to be submitted, ideally at the Environmental Statement stage. Export cable routes, Cable Burial Protection Index and cable protections are issues that are yet to be fully developed. However due cognisance needs to address cable burial and protection, particularly close to shore where impacts on navigable water depth may become significant. Any consented cable protection works must ensure existing and future safe navigation is not compromised. The MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum. Existing charted anchorage areas should be avoided. The array layout will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and SAR aircraft operating within the site. As such, MCA will seek to ensure all structures are aligned in straight rows and columns. Any additional navigation safety and/or SAR requirements, as per MGN 543 Annex 5, will be agreed at the approval stage. Safety zones during the construction, operation and maintenance and decommissioning phases are supported; however it should be noted that operational safety zones may have a maximum 50 m radius from the individual turbines. A detailed justification would be required for a 50 m operational safety zone, with significant evidence from the construction phase in addition to the baseline NRA required supporting the case. An ERCoP is required to meet the requirements of MCA guidance. The template is available on the MCA website at www.gov.uk. An approved ERCoP will need to be in place prior to construction. A study should be undertaken/updated which establishes the electromagnetic deviation affecting vessels' compasses and other navigating system due to the cable route to the satisfaction of the MCA.

Date	Detail
March 2018 Consultation Meeting	Meeting to further discuss proposed Layout Development Principles and the SoCG.

2.2.1.3 Consultation was previously undertaken with the MCA prior to 2016 in relation to Hornsea Project One and Hornsea Project Two, as well as zonal consultation in 2011/2012. As Hornsea Project Three is located in a similar area and subject to similar issues any relevant consultation has been considered as part of the NRA and the Environmental Statement.

Table 2.2: Post Application Consultation with the Maritime and Coastguard Agency

Date	Detail
August 2018	Meeting to discuss Revision 1 of the SoCG and the MCAs relevant representation. Overview of technical information relating to the Development Principles and a justification for the Hornsea Three position was presented. The MCA requested that the following clarification was added to the SoCG. The MCA requested clarification on text in appendix 3.7 of the application which stated that the MCA would not be involved in the layout sign off process, however the intention is that the MCA will get to view and comment on the layout but that lengthy negotiation would be avoided as long as the layout complies with the development principles that are being agreed as part of the DCO process.

3. Agreements Log

3.1.1.1 The following section of this SoCG identifies the level of agreement between the parties for each relevant component of the application material (as identified in Section 2). In order to easily identify whether a matter is “agreed”, “under discussion” or indeed “not agreed” a colour coding system of green, yellow and orange is used in the “final position” column to represent the respective status of discussions.

3.2 Shipping and Navigation

3.2.1.1 The Project has the potential to impact upon Shipping and Navigation and these interactions are duly considered within volume 2, chapter 7: Shipping and Navigation of the Hornsea Project Three Environmental Statement. Table 3.1 identifies the status of discussions relating to this topic area between the parties.

Table 3.1: Shipping and Navigation

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency Position	Final Position
Environmental Impact Assessment			
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment.	It is agreed that the shipping and navigation baseline environment has been adequately addressed in volume 2, chapter 7: Shipping and Navigation as per the methodology (section 7.6). This includes the marine traffic survey data which is considered appropriate for the assessment and demonstrates a good representation of vessels' movements within the Hornsea Three shipping and navigation study areas (including the array area, offshore cable corridor and offshore HVAC booster station search area).	Agreed
Assessment methodology	The potential effects identified within the chapter represent a comprehensive list of potential effects on shipping and navigation from the Project	It is agreed that the Applicant has comprehensively identified navigational safety impacts on shipping and navigation receptors from the Project.	Agreed
	The evidence based approach to the assessment of effects is deemed appropriate for the purposes of predicting changes to the receiving environment.	It is agreed that the approach adopted in volume 2, chapter 7: Shipping and Navigation is appropriate to assess navigational safety impacts from the proposed Project on shipping and navigation receptors.	Agreed
	The definitions used for magnitude and sensitivity are appropriate.	It is agreed that the magnitude and sensitivity are appropriate for shipping and navigation as shown in section 7.9 of volume 2 chapter 7: Shipping and Navigation.	Agreed
	The worst case scenarios identified for each effect are appropriate based on the information presented in the Project Description.	It is agreed that the design parameters of the Project (as per section 1.3.1.2) would result in a worst case scenario for shipping and navigation impacts	Agreed

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency Position	Final Position
	The list of projects screened into the cumulative assessment are appropriate.	It is agreed that the Applicant has adequately assessed impacts on shipping and navigation receptors, together with other projects and activities within the southern North Sea.	Agreed
Assessment conclusions	The assessment of potential changes to shipping and navigation is appropriate and no impacts from the construction, operation and maintenance and/or decommissioning of the Project will be significant in EIA terms.	It is agreed that, in accordance with the outcome of the assessment presented in volume 2, chapter 7: Shipping and Navigation of the Environmental Statement that the adopted measures for impacts on shipping and navigation receptors are sufficient to bring risk to tolerable levels. Based on the information provided within volume 2, chapter 7: Shipping and Navigation, it is agreed that the main shipping route deviations caused by the Project in isolation are tolerable and that any directly affected regular operators have been consulted effectively (see Appendix E of volume 5, annex 7.1: NRA).	Agreed
	The cumulative assessment of potential changes to shipping and navigation is appropriate and no cumulative impacts will be significant in EIA terms.	Based on the information provided within volume 2, chapter 7: Shipping and Navigation it is agreed that cumulative impacts including main route deviations caused by the project cumulatively are unlikely to be significant assuming that the measures presented in section 7.10 are implemented. It is agreed that the proposed navigational corridor between Hornsea Project Three and Hornsea Project One/Hornsea Project Two meets safety requirements set out by the MCA assuming that the measures presented in section 7.10 of volume 2, chapter 7:Shipping and Navigation are implemented.	Agreed

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency Position	Final Position
Development Principles	The development principles, written in conjunction with MGN 543, will effectively manage layout design post consent. Hornsea Three has reached agreement with the MCA on layout development principles 1 through 4 and 6, 7, 9,10,12 and 13	Layout development principles 1 through 4, 6,7,9,10, 12 and 13 have been agreed.	Agree
	Principle 5 - SAR refuge areas are not required to safely manage search and rescue operations.	MCA are concerned that the length of the lanes will be up to 22nm in length, which may take a SAR helicopter approximately 20 minutes to transit. Considering there is just one line of orientation, this would not allow a SAR aircraft to turn and manoeuvre down an adjacent lane, which is fundamental for SAR capabilities. The lack of a Helicopter Refuge Area restricts access options and the MCA strongly recommended that an assessment be made into the feasibility of one perpendicular Helicopter Refuge Area, half way along the development.	Under Discussion
	The development principles, written in conjunction with MGN 543, will effectively manage layout design post consent. Principle 8 – 300 m development lanes do not restrict a SAR responder's ability to undertake a search and rescue operation.	The MCA considers 300 m development lanes to be excessive and it will likely create surface infrastructure which are not in line and/or curved. A 300m lane of surface infrastructure which is not in line effectively creates a 300m corridor, which is not searchable. This principle is not considered to be micro-siting but part of a determination on layout design, and as a result the MCA does not find this reasonable.	Under Discussion

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency Position	Final Position
	The development principles, written in conjunction with MGN 543, will effectively manage layout design post consent. Principle 11 – curved boundary development lanes do not prevent search and rescue operations being undertaken, and given the additional restriction on exposed peripheral turbines do not create a risk to surface navigation.	As per comment on Principle 8, the tolerance of 150m is excessive and would lead to non-linear surface infrastructure, which may have an adverse impact on SAR and navigation safety. The MCA do not agree with curved boundary development lanes.	Under Discussion
	The Navigational Risk Assessment supports the case for a single line of orientation within the array given the low levels of vessel activity within the area and the extensive consultation undertaken.	As the principles stand, there is scope for only one line of orientation, and although MCA understands that other factors may need to be accounted for, a reduction from MGN 543 would need to be fully justified before the MCA would support it.	Under Discussion
	Following feedback from the MCA on Development Principle 8, it was agreed that word 'straight' should be reinserted as follows '*The position of Surface Infrastructure within a straight Development Lane shall, be arranged to a tolerance of ±150m from the centre line of the Development lane'.*	The principles allow for an irregular layout of turbines within a 300m development corridor, which are not in straight lines.	Agreed
Safety zones	Application and use of safety zones of up to 500 metres (m) during construction, major maintenance and decommissioning phases	It is agreed that that the requirement for use of construction, major maintenance and decommissioning safety zones (see Table 7.14 of volume 2, chapter 7: Shipping and Navigation) is noted and supported by the MCA. It is also agreed that the MCA acknowledges that an application may be made for 500m safety zones around offshore accommodation platforms and offshore HVAC booster stations within the Hornsea Three offshore cable corridor during the operation and maintenance phase in order to ensure the safety of the individuals on the platforms.	Agreed

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency Position	Final Position
Emergency response	Emergency Response Cooperation Plan (ERCoP)	It is agreed that an ERCoP will need to be in place and agreed with the MCA prior to any offshore construction (and during the operation and maintenance phase) being undertaken to mitigate risk associated with increased activity and coordinating responses (see Table 7.14 of volume 2, chapter 7: Shipping and Navigation).	Agreed
Draft Development Consent Order			
Monitoring	Construction Traffic Monitoring (*details of vessel traffic monitoring by automatic identification system for the duration of the construction period including obligations to report annually to the MMO and the MCA during the construction phase of the authorised development*.)	It is agreed that construction traffic monitoring (Automatic Identification System (AIS) only) will be undertaken during the construction phase to ensure that the lighting and marking measures put in place (see Table 7.14 of volume 2, chapter 7: Shipping and Navigation) are effective. A bi-annual report of the AIS data collected will be issued to the MCA.	Agreed
Standard Conditions	Standard conditions have been included within the Hornsea Three DCO application, where applicable.	MCA are content with the DCO conditions which have been included, where applicable, but that additional conditions may be required.	Under Discussion

3.3 Navigational Risk Assessment

3.3.1.1 The Project has the potential to impact upon shipping and navigation and these interactions are duly considered within the technical document volume 5, annex 7.1: NRA of the Hornsea Project Three Environmental Statement, which is designed to specifically meet the requirements of the MCA guidance. Table 3.2 identifies the status of discussions relating to this topic area between the parties.

Table 3.2: Navigational Risk Assessment

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency's Position	Final Position
Navigational Risk Assessment			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to the NRA and has given due regard to them within the assessment.	It is agreed that the NRA (volume 5, annex 7.1) satisfactorily meets the requirements of the Methodology for Assessing Marine Navigational Safety Risks of Offshore Wind Farms (MCA, 2015) and MCA Marine Guidance Note (MGN) 543 (Merchant and Fishing) Safety of Navigation Offshore Renewable Energy Installations (OREIs) – Guidance on United Kingdom (UK) Navigational Practice, Safety and Emergency Response (MCA, 2016) as shown in the MGN 543 Checklist contained within Appendix D of volume 5 annex 7.1: NRA.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment.	It is agreed that the shipping and navigation baseline environment has been adequately addressed in volume 5, annex 7.1: NRA. This includes the marine traffic survey data which is considered to meet the requirements of MGN 543 and is appropriate for use within the NRA (see Table 5.1 in the NRA).	Agreed
	The potential effects identified within the chapter represent a comprehensive list of potential effects on shipping and navigation from the Project	It is agreed that relevant shipping and navigation receptors have been identified as required by the Methodology for Assessing Marine Navigational Safety Risks of Offshore Wind Farms (MCA, 2015) and the MCA's MGN 543.	Agreed

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency's Position	Final Position
Assessment methodology	The Formal Safety Assessment (FSA) approach to the assessment of effects is deemed appropriate for the purposes of predicting potential effects on shipping and navigation receptors.	It is agreed that volume 5, annex 7.1: NRA satisfactorily meets the requirement of the International Maritime Organization's (IMO) FSA approach as per Guidelines for FSA – Maritime Safety Council (MSC)/Circular 1023/MEPC/Circular 392 (IMO, 2002).	Agreed
	The mathematical models used to assess collision and allision risk are appropriate and meet requirements of relevant guidance.	It is agreed that the mathematical modelling undertaken for Hornsea Three meets the requirements of the Methodology for Assessing Marine Navigational Safety Risks of Offshore Wind Farms (MCA, 2015) and that all values output from the models were within broadly acceptable parameters as detailed within section 18 and Appendix A of volume 5, annex 7.1: NRA.	Agreed
	The Hazard Workshop was undertaken allowing adequate local consultation and the hazard log was an effective tool to feed into the NRA.	It is agreed that the Hazard Workshop undertaken meets the requirements of the MCA's Methodology for Assessing Marine Navigational Safety Risks of Offshore Wind Farms (MCA, 2015) and that the hazard log (see Appendix B of volume 5, annex 7.1) allowed local users' input into the impacts assessed within the NRA.	Agreed

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency's Position	Final Position
	The list of projects included within the cumulative assessment (in the NRA) are appropriate	The projects listed within section 21 of volume 5, annex 7.1: NRA are inclusive of all those likely to cause any cumulative effects on shipping and navigation receptors, which is then assessed within section 22 (as per the methodology defined in section 3.3 of the NRA).	Agreed
Assessment conclusions	The assessment of potential effects on shipping and navigation is appropriate and no impacts from the construction, operation and maintenance and/or decommissioning of the Project will be unacceptable as per the FSA.	It is agreed that, in accordance with the outcome of the assessment presented in volume 5, annex 7.1: NRA that the impacts on shipping and navigation receptors and that measures adopted as part of Hornsea Three are sufficient to bring risk to tolerable levels.	Agreed
	Within in the context of the NRA no further mitigation to those embedded measures identified is necessitated as a result of the assessment conclusions.	Agreed that no further measures are required to be adopted as part of the Hornsea Three application, unless any new information is presented to MCA which requires the reassessment of risk and any need for additional mitigation.	Agreed
Draft Deemed Marine Licence			

Discussion Point	Hornsea Project Three Position	Maritime and Coastguard Agency's Position	Final Position
Monitoring	Construction Traffic Monitoring (*details of vessel traffic monitoring by automatic identification system (AIS) for the duration of the construction period including obligations to report annually to the MMO and the MCA during the construction phase of the authorised development*.)	It is agreed that construction traffic monitoring (AIS only) will be undertaken during the construction phase to ensure that the lighting and markings mitigations put in place (see Table 7.14 in volume 2, chapter 7: Shipping and Navigation) are effective. A bi-annual report of the AIS data collected will be issued to the MCA.	Agreed
Standard Conditions	Standard conditions have been included within the Hornsea Three DML application, where applicable.	MCA are content with the DCO conditions which have been included, where applicable, but that additional conditions may be required	Under Discussion

4. Summary

4.1.1.1 This summary section identifies those matters raised by the MCA during the pre-application consultation that have yet to be resolved and are subject to ongoing discussion as of the last consultation meeting held with the MCA.

4.1.1.2 The MCA require the inclusion of a 1 nautical mile (nm) minimum helicopter refuge area. It was noted that a helicopter refuge area would only be required if alignment differed or the SAR access lanes were over 10nm length

4.1.1.3 Principle 8 remains unsatisfactory to the MCA, given that the 300m width could create two separate rows in their opinion.

4.1.1.4 Principle 11 remains unsatisfactory given the 300m width of peripheral development lanes and the potential for extreme curved layouts unless wording can be modified to further define the degree of the curve.

4.1.1.5 Proposed DCO and DML conditions are still under discussion.

4.1.1.6 There then remains no further matter of disagreement between the MCA and Hornsea Project Three.