



Hornsea Project Three Offshore Wind Farm

Statement of Common Ground between Hornsea Project Three (UK) Ltd. and Spirit Energy

Date: 7th November 2018

**Hornsea 3**
Offshore Wind Farm

**Orsted**

Statement of Common Ground between Ørsted Hornsea Project Three (UK) Ltd. and Spirit Energy

Ørsted

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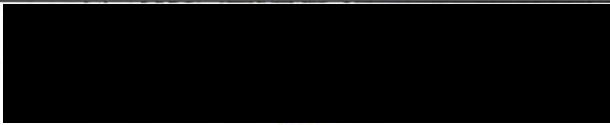
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Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2018.

Revision History

Version	Date	Author	Context
1	August 2018	Ørsted	Pre-examination: Initial draft for discussion with Spirit Energy
2	October 2018	Spirit Energy	Revised structure agreed at meeting 10/10/18
3	16 th October	Ørsted	Revised structure populated with Applicant Position.
4	6 th November	Spirit Energy	Revised structure populated with Spirit Energy positions

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Acronyms

Acronym	Description
DCO	Development Consent Order
CAA	Civil Aviation Authority
CoCP	Code of Construction Practice
CPA	Closest Point of Approach
EIA	Environmental Impact Assessment
Ex.A	Examining Authority
HMR	Helicopter Main Routes
HVAC	High Voltage Alternating Current
HVDC	High Voltage Directional Current
MHWS	Mean High Water Springs
NATS	National Air Traffic Control System
NUI	Normally Unmanned Installation
PEIR	Preliminary Environmental Information Report
REWS	Radar Early Warning Systems
SoCG	Statement of Common Ground
TCPA	Time to Closest Point of Approach

1. Introduction

Overview

1.1 This Statement of Common Ground (SoCG) has been prepared by Orsted Hornsea Project Three (UK) Ltd. ('the Applicant') and Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V (hereafter referred to as Spirit Energy) (together 'the parties') as a means of clearly stating the areas of agreement, and any areas of disagreement, between the parties in relation to the proposed Development Consent Order (DCO) application for the Hornsea Project Three offshore wind farm (Hornsea Three). This SoCG does not deal with or extend to any development other than Hornsea Three except for the cumulative effects in relation to all Hornsea projects.

Approach to SoCG

1.2 This SoCG has been developed during the pre-examination phase of Hornsea Three. In accordance with discussions between the parties, the SoCG is therefore primarily focused on those issues raised by Spirit Energy in their Letter of Representation dated 20 July 2018.

1.3 The structure of this SoCG is as follows:

- Section 1: Introduction;
- Section 2: Consultation;
- Section 3: Agreements Log

1.4 It is the intention that this document will help facilitate post-application discussions between the 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.

Hornsea Three

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

1.6 The key components of Hornsea Three include:

- Turbines and associated foundations;
- Turbine foundations;
- Array cables;
- Offshore substation(s), and platform(s) and associated foundations;
- Offshore accommodation platform/s and associated foundations;
- Offshore export cable/s;
- Offshore and/or onshore HVAC booster station/s (AC transmission option only);
- Onshore cables; and
- Onshore HVDC converter/HVAC substation.

- 1.7 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.
- 1.8 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.
- 1.9 From the Norfolk coast, underground 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 existing Norwich Main National Grid substation, located to the south of Norwich. The Hornsea Three onshore cable corridor is approximately 55 km in length at its fullest extent.

Spirit Energy Assets

- 1.10 At the time of the application, Spirit Energy had equity interests in the assets listed in Table 1.1

Table 1.1: Spirit Assets in proximity to Hornsea Three

At Time of Environmental Statement		Current Status (1 st Nov)
Asset	Location	Change
<i>Platforms</i>		
Chiswick	1.45 nm to Hornsea Three array area	
Markham ST-1	4.48 nm to Hornsea Three array area	
J6A/J6A-CT	6.9 nm to Hornsea Three array area	
Grove	2.43 nm to Hornsea Three array area	
Audrey B Audrey XW 2	48/15a (Block coincident with offshore cable corridor)	
Audrey 1WD Audrey A	49/11a (Block coincides with offshore cable corridor)	
<i>Licensed Blocks</i>		
49/3 (P2286)	Coincident with Hornsea Three array area	Surrendered*.
49/4a (P468)	Coincident with Hornsea Three array area	
49/4b (P1186)	Coincident with Hornsea Three array area	
49/4c (P1186)	Within 9 nm of Hornsea Three array area	
49/4d (P2286)	Coincident with Hornsea Three array area	Surrendered.*

At Time of Environmental Statement		Current Status (1 st Nov)
49/5a (P455)	Within 9nm of Hornsea Three array area	
49/5b (P1186)	Within 9nm of Hornsea Three array area	
49/5c (P1186)	Within 9nm of Hornsea Three array area	
49/9c (P901)	Coincident with Hornsea Three array area	
49/9d (P2286)	Coincident with Hornsea Three array area	Surrendered.*
49/10a (P83)	Within 1 km of Hornsea Three array area	
J03b and J06	Within 9 nm of Hornsea Three array area	
Subsea Infrastructure		
Kew Subsea Well Head 49/04c/7z and 49/04c-7Z	3 nm from Hornsea Three array area**	
Grove West Well Head 49/10a-6Y and Choke Valve	1.5 nm from Hornsea Three array area**	
Gas Fields		
Grove	Within Hornsea Three array area	
Chiswick	Within Hornsea Three array area	
Audrey	Within Hornsea Three offshore cable corridor	
Pipelines		
Audrey WD to Loggs PP Meoh Line (OID_36)	Crossing within offshore cable corridor	
Audrey WD to Loggs PP Gas Line (OID_37)	Crossing within offshore cable corridor	
Ann XM to Loggs PR (OID_41)	Crossing within offshore cable corridor	
Ensign NPAI to Audrey WD gas export	Within 1 km of the offshore cable corridor	
Audrey to Ensign methanol line	Within 1 km of the offshore cable corridor	

*Work has confirmed the likelihood of gas reservoir(s) but opportunity does not currently fit into Spirit's drilling programme therefore Spirit is unable to progress to drill at this time. Acreage likely to be offered in 32nd licensing round and may be applied for by Spirit or other operator(s).

**At time of Environmental Statement the assessment identified that the asset was within 9 nm of Hornsea Three array area.

2. Consultation

Application elements relevant to Spirit Energy

- 2.1 Work Nos. 1 to 5 (offshore works) detailed in Part 1 of Schedule 1 of the draft DCO (APP-027) describe the elements of Hornsea Three which may affect the interests of Spirit Energy.

Consultation Summary

- 2.2 This section briefly summarises the consultation that the Applicant has undertaken with Spirit Energy. The consultation has focussed on assessing and seeking to mitigate the impacts arising from the close proximity of the Hornsea Three array area to Spirit Energy's licenced areas, infrastructure and operations. The technical topics of the DCO application of relevance to Spirit Energy comprise:
- Aviation, Military and Communication;
 - Infrastructure and Other Users;
 - Shipping and Navigation; and
 - Seascape and Visual Resources.
- 2.3 Table 2.1 summarises the consultation undertaken between the parties during the pre-application phase.

Pre-Application

- 2.4 The Applicant engaged with Spirit Energy on Hornsea Three during the pre-application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to section 42 of the Planning Act 2008. The Applicant and Spirit Energy have both shown themselves committed to seeking ways to cooperate and collaborate to facilitate the proposed development but have, as yet, been unable to agree appropriate mitigation measures that resolve both parties' legitimate concerns. This SoCG focusses solely on areas of agreement and disagreement in relation to the proposed DCO application for Hornsea Three and does not cover any commercial discussions between the parties. It should however be noted that the Applicant and Spirit Energy have made significant progress in agreeing principles that would govern future collaboration and cooperation between the Applicant and Spirit Energy.
- 2.5 Table 2.1 summarises the consultation undertaken between the parties during the pre-application phase, including consultation through scoping and section 42 consultation on the Preliminary Environmental Information Report (PEIR).

Table 2.1: Pre-application consultation with Spirit Energy¹.

Date	Detail
19 September 2016	Meeting to introduce Hornsea Three and discuss Spirit Energy assets and operations that have the potential to interact with Hornsea Three.
26 October 2016	Scoping report published for consultation by the Applicant.
05 December 2016	Meeting to discuss Spirit Energy recently acquired licence P2286. Discussed the requirement for further consultation at a later stage when further information would be available from both parties.
12 December 2016	Meeting to discuss Radar Early Warning Systems (REWS).
23 February 2017	Navigational Risk Assessment meeting of which Spirit Energy was a participant.
14 March 2017	Meeting to discuss helicopter operational requirements.
24 March 2017	Information provided by email on Spirit Energy aviation operational requirements.
20 April 2017	Telecom with Spirit Energy and their helicopter provider to discuss the operational requirements to Spirit Energy platforms.
26 July 2017	PEIR published by the Applicant for consultation (section 42).
20 September 2017	Spirit Energy written response to PEIR identifying issues of concern in the PEIR, including REWS, proximity and crossing of assets, risk assessment methodology, maximising economic recovery, and helicopter operations.
31 October 2017	Meeting with Spirit Energy and their helicopter provider to discuss the methodology used in the assessment on the potential effect of Hornsea Three on airborne radar approach to Spirit Energy operated platforms.
31 October 2017	Aviation workshop of which Spirit Energy was a participant. To update aviation stakeholders on the former Hornsea Zone development and Hornsea Three construction timeline and project description. To agree the assessment principles for impacts on aviation stakeholders in regard to Helicopter Main Routes (HMRs) and cross-zone traffic.
10 April 2018	Meeting to discuss response to PEIR and consultation during the post-application phase.

¹ Spirit Energy began trading as an independent oil and gas operator in December 2017, following the combination of Centrica plc's Exploration and Production business with Bayerngas Norge AS. For simplicity, all references in this SoCG are to Spirit Energy, although early Hornsea Three consultation was with Centrica.

Post-Application

2.6 Table 2.2 summarises the consultation undertaken between the parties during the post-application phase.

Table 2.2: Post-application consultation with Spirit Energy

Date	Detail
9 July 2018	Pre-application consultation signposting document provided to Spirit Energy by the Applicant.
10 July 2018	Stakeholder Engagement Plan provided to Spirit Energy by the Applicant.
1 August 2018	Meeting to discuss pre-Examination and Examination phase engagement overview of Hornsea Three DCO application, response to Spirit Energy issues previously raised (microwave links, Cygnus platforms, vessel rerouting, Closest Point of Approach (CPA) assessment, visual impact on personnel on unmanned platforms, marine processes assessment), Spirit Energy’s Relevant Representation and the draft Statement of Common Ground.
10 th October, 2018	Ongoing discussion on relevant technical matters, focussing on technical aviation issues and Racon/AIS issues to discuss and resolve outstanding areas raised through consultation. Discussion regarding SoCG content, format and delivery timetable.
18 th October, 2018	Conference call to discuss Statement of Common Ground
6 th November, 2018	Conference call to discuss Statement of Common Ground

3. Agreements Log

- 3.1 The following section of this SoCG identifies the level of agreement between the parties relating to the main issues raised in Spirit Energy’s Relevant Representation. In order to easily identify whether a matter is “agreed”, “under discussion” or “not agreed” a colour coding system of green, yellow and red is used, respectively, in the “final position” column to represent the respective status of discussions.
- 3.2 Tables 3.1 sets out the current status of the main issues that have been under discussion between the parties. A five-column format has been adopted for each topic identified in column 1, with agreed matters set out in column 2. Column 1 is also used to cross reference the topic to the relevant sections of the Environmental Statement. In columns 3 and 4 the Applicant and Spirit Energy each set out their respective positions and in column 5 the current status of the topic is indicated.
- 3.3 It is noted that the Applicant’s and Spirit Energy’s position in Table 3.1 below have been populated for submission to the Examining Authority at Deadline 1, without knowledge of the outputs of the additional technical studies that Spirit Energy have commissioned (as referred to in the Table below). These additional technical studies will be discussed between the parties, if and as required, following Deadline 1, and some refinement of the SoCG is anticipated. Both parties reserve their positions accordingly.

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Proximity of Hornsea Three to Spirit Energy existing platforms in regard to aviation access.</p> <p>(Refer to the assessment: Wind turbines will form a physical obstruction and may disrupt helicopter access including requirements for decommissioning to oil and gas platforms, paragraph 8.11.2.29 of the Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement (APP-068)).</p>	<p>The Spirit Energy existing platforms include the Chiswick platform (NUI) located at 1.5 nm, the Grove platform (NUI) located at 2.4 nm and the J6A platform (manned) located at 6.9 nm, from the Hornsea Three array area boundary.</p> <p>The main parameters used to inform the assessment as detailed in Section 7.4 of Volume 5, Annex 8.1: Aviation, Military and Communication Technical Report (APP-113) have been agreed to be appropriate by the helicopter service provider for Spirit Energy.</p> <p>Subject to pilot judgement, any restrictions to helicopter operations serving Spirit Energy operations will be greater under instrument meteorological conditions rather than under visual meteorological conditions.</p>	<p>The Applicant carried out an assessment on helicopter access to the Spirit Energy operated platforms using aviation specialists Osprey, following guidance presented in Civil Aviation Authority (CAA) Publication (CAP) 764 (paragraph 1.2.1.2 of Volume 5, Annex 8.1: Aviation, Military and Communication Technical Report.</p> <p>The EIA methodology used is described in Volume 1, Chapter 5: Environmental Impact Assessment Methodology of the Environmental Statement (APP-060) and satisfies the requirements of the Environmental Impact Assessment regulations. The Environmental Impact Assessment methodology has been adapted to consider aviation interests and uses an approach developed and implemented in the Hornsea Project One and Hornsea Project Two Environmental Statements to support their respective DCO applications and refined through consultation (see table 8.4 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement)</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>Pending the outcome of ongoing technical studies commissioned by Spirit Energy we do not agree with the Applicant's assessment of the significance of effects.</p> <p>While the EIA methodology adopted is considered to be generally appropriate for the purposes of an EIA exercise, the EIA contains certain omissions and/or flawed assumptions.</p> <p>For example, the EIA does not adequately consider helicopter access to vessels, including but not limited to: drilling rigs, diving support vessels, seismic vessels, heavy lift crane barges or accommodation units necessarily operating in the vicinity – but potentially outside the 500 m zone of our platforms.</p> <p>Hornsea Three will give rise to or increase the risk of certain impacts on Spirit's current and future operations which are not recognised or fully recognised in the EIA process. These impacts are material considerations in the determination of the DCO application. See further comments below in respect of risk assessment methodology.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
		<p>The outcome of the assessment indicates that the impact of the Hornsea Three array area would be to prevent instrument approaches in instrument meteorological conditions:</p> <ul style="list-style-type: none"> to the Chiswick platform on approximately 0.17 to 0.40 days per month (up to 3.49 days per year) with the greatest impact seen in April when 1.35% of flights may be precluded and the lowest impact seen in August when 0.56% of flights may be precluded; to the J6/J6a-CT platform on approximately 0.01 to 0.06 days per month (up to 0.45 days per year) with the greatest impact seen in April when 0.216% of flights may be precluded and the lowest impact seen in August when 0.05% of flights may be precluded; and to the Grove platform on approximately 0.12 to 0.25 days per month (up to 2.18 days per year) with the greatest impact seen in April when 0.83% of flights may be precluded and the lowest impact seen in August when 0.39% of flights may be precluded (paragraph 8.11.2.40 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement). <p>The Environmental Statement concluded that the effect will be of minor adverse significance, which is not significant in Environmental Impact Assessment terms (paragraph 8.11.2.64 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement).</p> <p>Based on the above, the Applicant does not agree that these are material considerations in the determination of the DCO Application.</p>	<p>For example, the EIA does not adequately consider helicopter access to vessels, including but not limited to: drilling rigs, diving support vessels, seismic vessels, heavy lift crane barges or accommodation units necessarily operating in the vicinity – but potentially outside the 500m zone of our platforms.</p> <p>Hornsea Three will give rise to or increase the risk of certain impacts on Spirit's current and future operations which are not recognised or fully recognised in the EIA process. These impacts are material considerations in the determination of the DCO application. See further comments below in respect of risk assessment methodology.</p>	<p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Proximity of Hornsea Three to sub-sea infrastructure and vessels and rigs supporting Spirit Energy operations, in regard to aviation access.</p> <p>(Refer to the assessment: Wind turbines will form an aerial obstruction and may disrupt helicopter access to helideck equipped drilling rigs and vessels conducting operations at subsea infrastructure and well locations, paragraph 8.11.2.67 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement.</p>	<p>Spirit Energy has sub-sea infrastructure located from 1.5 nm (Grove G5 wellhead) to 3 nm (Kew wellhead) from the Hornsea Three array area boundary, in addition to (including pipelines and umbilicals between the above wells and platforms).</p>	<p>Subsurface infrastructure and wells, that have not been permanently decommissioned or plugged and abandoned, may at some time, require access from a rig or vessel with a helideck. A 9 nm consultation zone exists around offshore helicopter operations. All licences which overlap the 9 nm buffer around Hornsea Three have been identified as the study area for this assessment. The assessment of this potential impact is complicated by the fact that future oil and gas plans have varying degrees of certainty associated with them (for example whether or not an exploitable resource will be found and if so, where any infrastructure associated with this will be located). For this reason, as noted in paragraphs 8.9.2.7 to 8.9.2.10 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement., the assessment has only been able to consider those licenced blocks with potential for spatial and temporal interactions, which are licenced beyond the start of the Hornsea Three operation and maintenance phase (i.e. assumed to be 2030 and beyond) and:</p> <ul style="list-style-type: none"> • The licence operator has the appropriate licences and consents needed to undertake the specific activity which is being assessed; and/or • There is sufficient information in the public domain (available either through consultation or publicly available documents) regarding the future activity for an assessment to be undertaken. <p>The Environmental Impact Assessment methodology used is described in Volume 1, Chapter 5: Environmental Impact Assessment Methodology of the Environmental Statement and satisfies the requirements of the EIA regulations. The Environmental Impact Assessment methodology has been adapted to consider aviation interests and uses an approach developed for Hornsea Project One and Hornsea Project Two and refined through consultation (see table 8.4 of Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement.)</p> <p>The Spirit Energy licenced blocks 49/10a (including the location of Grove West wellhead), 49/4c (including the location of Kew subsea wellhead), 49/4c and J03b and J6 have been assessed.</p> <p>The overall significance of effect for the Spirit Energy licenced blocks was considered to be minor adverse significance.</p> <p>Based on the above, the Applicant does not agree that these are material considerations in the determination of the DCO Application.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>Pending the outcome of ongoing technical studies commissioned by Spirit Energy we do not agree with the Applicant's assessment of significance of effects.</p> <p>While the EIA methodology adopted is considered to be generally appropriate for the purposes of an EIA exercise, the EIA contains certain omissions and/or flawed assumptions.</p> <p>For example, the EIA focusses on helicopter access to platforms. It must be recognised that some vessels, including but not limited to: drilling rigs, diving support vessels, seismic vessels, heavy lift crane barges or accommodation units, could be required to operate anywhere within the licenced areas and not necessarily within the 500m zone of our platforms.</p> <p>Hornsea Three will give rise to or increase the risk of certain impacts on Spirit's current and future operations which are not recognised or fully recognised in the EIA process. These impacts are material considerations in the determination of the DCO application. See further comments below in respect of risk assessment methodology.</p> <p>The adverse impact of Hornsea Three on Spirit's future operations is a material consideration in the determination of the DCO application, whether such impacts are subject to EIA or not.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Future oil and gas activity (Refer to the approach taken in the Environmental Statement for oil and gas assessments with uncertainty associated with future activities described in paragraph 11.9.2.6 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement (APP-071).</p>	<p>Spirit Energy has licensed acreage with exploration potential within and close to the Hornsea Three array area (P.468P.1186; P.901;P.83). Spirit Energy has recently surrendered licence P2286 (August 2018)</p>	<p>The Applicant has identified the approach taken for oil and gas assessments with uncertainty associated with future activities (paragraph 11.9.2.6 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement).</p> <p>The Environmental Statement has only been able to consider those licenced blocks with potential for spatial and temporal interactions, and specific activities for which the licence operator has the appropriate licences and consents needed to undertake the specific activity which is being assessed; and/or there is sufficient information in the public domain (available either through consultation or publicly available documents) regarding the future activity for an assessment to be undertaken.</p> <p>Where this criteria has been met the potential interaction has been assessed for example in paragraph 11.11.1.35 "Hornsea Three infrastructure, safety zones and advisory safety distances associated with the Hornsea Three array area may restrict potential seismic survey activity"; in paragraph 11.11.1.62 "Safety zones around the offshore HVAC booster stations and advisory safety distances associated with activities underway along the offshore cable corridor may restrict potential seismic survey activity"; and in paragraph 11.11.1.73 "Drilling and the placement of infrastructure has the potential to be restricted within the offshore cable corridor and within 1 km from the boundary of the offshore cable corridor" of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement.</p> <p>Where this criteria does not apply, the potential operational activity within that licence or any future licence, is outside the scope of the Environmental Statement.</p> <p>Based on the above, the Applicant does not agree that these are material considerations in the determination of the DCO Application.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>The Applicant has excluded from the EIA potential future exploration, appraisal and development activity. We expect to conduct such further activity and any adverse impact (especially within Hornsea Three array area) on our ability to do so is a material consideration in the determination of the DCO application whether included within the scope of the EIA or not.</p> <p>Pending a proper evaluation, we believe that Hornsea Three may prevent the maximisation of economic recovery from the UKCS (MERUK).</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Proximity of Hornsea Three to Spirit Energy infrastructure and vessels and rigs supporting SE operations in regard to Shipping and Navigation.</p> <p>(Section 15 Volume 5, Annex 7.1; Navigational Risk Assessment of the Environmental Statement (APP-112))</p>	<p>Vessels supporting both Spirit platforms, subsea infrastructure and pipelines and Hornsea Three infrastructure each require sufficient sea room to operate. 'Drift on' positions must not endanger wind farm or oil & gas infrastructure.</p>	<p>From experience of other oil & gas and wind farm projects on the UKCS, the vessels involved (which frequently work for both industries) are used to working in restricted sea room due to the presence of nearby offshore structures, for example, within a wind farm array or at an oil & gas field comprising multiple platforms. This proximity risk is managed through having a safety management system which covers elements such as chartering appropriate vessels (e.g., with redundancy in manoeuvring equipment), having suitably trained and experienced crew, and applying appropriate marine operating procedures for the area, taking into account any local restrictions and weather effects. Most activity tends to be within the 500 m safety zone.</p> <p>The impact of the construction of Hornsea Three on existing cables and pipelines, or restricting access to cables and pipelines is assessed in paragraphs 11.11.1.14 to 11.11.1.22 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement (APP-071).</p> <p>The impact of operation and maintenance activities of Hornsea Three restricting access to cables and pipelines is assessed in paragraph 11.11.2.10 to 11.11.2.10, Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement (APP-071).</p> <p>Decommissioning activities are identified in 11.7.11.4. No identified activities have a temporal or spatial overlap with Hornsea Three or 1 km buffer.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>Pending the outcome of ongoing technical studies commissioned by Spirit Energy we do not agree with the Applicant's assessment of significance of effects.</p> <p>While the EIA methodology adopted is considered to be generally appropriate for the purposes of an EIA exercise, the EIA contains certain omissions and/or flawed assumptions. See also section below on risk assessment methodology.</p> <p>We note the Applicants comments with regard to experience of vessel operations being carried out with restricted sea room. Whilst it is accepted that, where no other option exists, vessel operations may be conducted with reduced sea room, such operations would never-the-less carry increased risks of collision. Collision is a Major Accident Hazard identified and mitigated in each platform's Safety Case and operations in close proximity may require substantial revision of each platform's safety case.</p> <p>We note that access for the maintenance or decommissioning of subsea infrastructure and pipelines is not adequately considered in the application. This may be for a short notice intervention of days or a managed campaign of several months.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

<p>Collision risk due to vessels being deviated by Hornsea Three and the potential interference of Hornsea Three on platform anti – collision safety systems.</p> <p>Refer to the assessments: The presence of new wind turbines in previously open sea areas may cause interference with the performance of the REWS located on oil and gas platforms, paragraph 11.11.2.67 Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement, and: The presence of new wind turbines in previously open sea areas will deviate vessels which may cause a change in CPA and time to closest point of approach (TCPA) alarms on oil and gas platforms protected by REWS, paragraph 11.11.2.79 Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement.</p>	<p>Spirit Energy's assets in the Markham complex are not currently protected by a REWS.</p> <p>The J6A platform has a Racon and AIS system to assist ship collision avoidance.</p>	<p>The information provided by Centrica (subsequently Spirit Energy) during the preparation of the Environmental Statement was that the J6A platform had a REWS system. The Hornsea Three Environmental Statement assessed the potential effect of Hornsea Three alone (paragraph 11.11.2.67 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement and in combination with other projects and plans on the J6A platform REWS system (paragraph 11.13.3.50 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement).</p> <p>This information has been superseded by new information provided by Spirit Energy, in that the J6A platform has a Racon and AIS system and not a REWS. In light of this information, a technical note has been completed and will be included in Appendix 13 of the Applicant's Deadline 1 response.</p> <p>Whilst the Environmental Statement also assessed the potential effect of Hornsea Three on vessel routes, and the subsequent effect of the route deviations on CPA and TCPA alarms on the REWS on oil and gas platforms (paragraph 11.11.2.79 of Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement), it did not include the J6A Platform as the predicted shipping lanes are expected to either remain unchanged or move further away from these platforms (see Volume 5, Annex 11.1: Radar Early Warning Systems Technical Annex of the Environmental Statement (APP-119)) and so has not been affected by the new information provided by Spirit Energy.</p> <p>Based on the revised assessment that considers the new information provided by Spirit Energy, no significant effects have been identified on the Racon and AIS installed on the J6A platform to assist ship collision avoidance. Overall the effect is considered to be of minor adverse significance. This is the same significance of effect as predicted in Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement.</p> <p>With respect to the risk to the Grove platform from passing shipping, based on the predicted re-routeing within section 18.2.2 of Volume 5, annex 7.1: Navigational Risk Assessment Technical Annex of the Environmental Statement, this is anticipated not to increase post Hornsea Three development as the wind farm will shield the Grove location from east-west shipping. Vessels bound for more northerly destinations were mainly predicted to re-route to pass north of the wind farm (well away from Grove) rather than deviating to the south of the wind farm before turning northwards.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>Pending the outcome of ongoing technical studies commissioned by Spirit Energy we do not agree with the Applicant's assessment of significance of effects.</p> <p>While the EIA methodology adopted is considered to be generally appropriate for the purposes of an EIA exercise, the EIA contains certain omissions and/or flawed assumptions. See also section below on risk assessment methodology.</p> <p>We are particularly concerned that the Grove platform will be at greater risk from shipping (which would be hidden from any future REWS) turning northwards at the south-eastern edge of the Hornsea Three array area. Whilst we note the Applicant's conclusion that Grove would be shielded from east-west shipping traffic, we contend that significant traffic may elect to pass through the wind farm which would be difficult to detect/monitor and would give little warning of any impending collision. The Applicant has little basis to assume that vessels bound for more northerly destinations would mainly be predicted to re-route to pass north of the wind farm and so our concern stands.</p> <p>We reserve our position further until the applicant's technical note is available.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>
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Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>The area of Hornsea Three alone and its cumulative effect with Hornsea Project One and Two will form an aerial obstruction resulting in disruption to flights from the East of England to the Markham area.</p> <p>(Refer to the assessment: Wind turbines and hoist operations will form an aerial obstruction resulting in disruption to cross – zone transit helicopter traffic, and Hornsea Three infrastructure will form an aerial obstruction resulting in disruption to helicopters using HMRs, paragraph 8.13.3.1 Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement).</p>	<p>The cumulative effect of Hornsea Project One, Hornsea Project Two and Hornsea Three may result in flights from the east of England to the Markham group of platforms being required to take alternative routes when flight below MSA 2,100 ft is required which may occur in certain weather conditions (e.g., due to icing).</p> <p>Further discussion on this matter will take place following the conclusion of technical studies commissioned by Spirit Energy. Based on discussions to date, the parties currently anticipate some scope for agreement on this matter.</p>	<p>Cross-zone transit flights can be flown in Visual Meteorological Conditions (VMC) or in instrument meteorological conditions (IMC) when the icing level is high enough.</p> <p>When flying in instrument flight rules a 1,000 ft vertical separation distance is required from obstacles. The presence of the Hornsea Project One and Hornsea Project Two and Hornsea Three turbines will require helicopters that are transiting to fly at an MSA of 2,100 ft (considering the potentially tallest of the three projects turbines, that being Hornsea Three). When flight below an MSA of 2,100 ft is required (in certain weather conditions, e.g. due to icing) a deviation around Hornsea Project One, Hornsea Project Two and Hornsea Three will be required.</p> <p>Consultation advice from helicopter operators is that icing conditions may occur from November to April for up to 1 % of the time.</p> <p>Consultation advice from Spirit Energy is that the Markham group of platforms is predominantly serviced from flights from Den Helder which will not be affected by Hornsea Three. For flights from Norwich to the Markham group of platforms there will be no cumulative effect from Hornsea Project one and Hornsea Project Two. For flights from Humberside to the Markham group of platforms there will be a cumulative effect from Hornsea Project One, Hornsea Project Two and Hornsea Three. The overall effect is considered to be of minor adverse significance for Spirit Energy.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>Pending the outcome of ongoing technical studies commissioned by Spirit Energy we do not agree with the Applicant's assessment of significance of effects. Flights currently operated from Norwich to the drilling rig stationed at the Markham platform are already payload constrained. Re-routing flights would add 10.6nm or 20km to the round-trip.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>The cumulative effect of Hornsea Three and Hornsea Project One and Two will form an aerial obstruction resulting in disruption to flights from the East of England to the Cygnus area.</p> <p>(Refer to the assessment: Wind turbines and hoist operations will form an aerial obstruction resulting in disruption to cross – zone transit helicopter traffic, and Hornsea Three infrastructure will form an aerial obstruction resulting in disruption to helicopters using HMRs, paragraph 8.13.3.1 Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement).</p>	<p>The cumulative effect of Hornsea Project One, Hornsea Project Two and Hornsea Three will result in flights from the Norwich airfield in the east of England to the Cygnus group of platforms being required to take alternative routes under certain weather conditions (e.g. due to icing).</p>	<p>Hornsea Three are currently engaging with Neptune Energy on this issue. Neptune are the operator of the Cygnus platforms. Hornsea Three have separately submitted a “letter of comfort” jointly with Neptune Energy (HOW03_LoC_Neptune as submitted at Deadline I).</p> <p>The Applicant notes that flights from the Humberside airfield in the east of England to the Cygnus group of platforms will not be affected by Hornsea Three</p>	<p>Spirit Energy North Sea Limited and Spirit Energy Resources Limited:</p> <p>We understand that the Applicant and Neptune are close to agreeing appropriate measures and will make separate submissions to the Planning Inspectorate on this matter.</p> <p>We reserve our position pending conclusion of and our review of such agreement.</p>	<p style="background-color: yellow;">Spirit Energy North Sea Limited: Under discussion</p> <p style="background-color: yellow;">Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Not applicable</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Hornsea Three helicopter operations may affect the available airspace for Spirit Energy helicopter operations.</p> <p>(Refer to the assessment: Hornsea Three helicopter operations may affect the available airspace for other users, paragraph 8.11.1.3 Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement).</p>	<p>Whilst increased traffic is likely to affect available airspace at times, the effects are likely to be manageable,</p>	<p>Hornsea Three have provided estimated numbers for helicopter movements (paragraph 8.11.1.3 Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement) however they are the maximum design scenario with regard to helicopter use and Hornsea three will be considering alternative methods such as having up to three accommodation platforms to reduce transfer of personnel and the use of vessels for personnel transfer. The numbers are small none the less in comparison to the baseline figure.</p> <p>The North Sea offshore oil and gas industry is served by approximately 100 flights a day (equivalent to 36,500 flights a year). It is very difficult to predict how the baseline air traffic will change over the course of Hornsea Three.</p> <p>The provision of a helicopter service by one service provider to Hornsea Three is not considered to affect the provision of a service by that provider or another provider, to another user of the airspace. Overall, the effect is considered to be of minor adverse significance</p>	<p>Spirit Energy North Sea Limited [and Spirit Energy Resources Limited:]</p> <p>No further comment</p>	<p>Spirit Energy North Sea Limited: Agreed</p> <p>Spirit Energy Resources Limited: Agreed</p> <p>Spirit Energy Nederland B.V: Agreed</p>
<p>Potential interference of Hornsea Three turbines with microwave links disrupting Spirit Energy communications.</p> <p>(Refer to Table 8.9: Impacts scoped out of the assessment for aviation, military and communication, Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement).</p>	<p>Spirit Energy operate a microwave link between the Chiswick platform and the J6A platform.</p> <p>There are no other Spirit Energy operated microwave links within 30 km of Hornsea Three array area.</p> <p>As microwave links operate on a line of sight basis, no Spirit Energy microwave links are affected by Hornsea Three.</p>			<p>Spirit Energy North Sea Limited: Agreed</p> <p>Spirit Energy Resources Limited: Agreed</p> <p>Spirit Energy Nederland B.V: Agreed</p>
<p>Proximity of wind farm piling interfering with the safety of diving operations that may be required at any of the Spirit Energy assets</p>	<p>There will need to be consultation and close coordination of activities to ensure that piling does not pose a risk to diving operations.</p>	<p>The issue raised by Spirit Energy in regard to windfarm piling interfering with diving operations was discussed at a consultation meeting between Hornsea Three and Spirit Energy on 1 August 2018. Spirit Energy advised that they had experience of managing this issue through stakeholder engagement. This is an operational issue that can be managed through consultation at the appropriate time.</p>	<p>Spirit Energy North Sea Limited, Spirit Energy Resources Limited and Spirit Energy Nederland B.V:</p> <p>We reserve our position pending the outcome of ongoing discussions.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>

Issue (cross-ref. to Environmental Statement)	Matters upon which the parties are agreed	The Applicant's position	Spirit Energy's Position	Status
<p>Risk assessment methodology</p> <p>The Environmental Impact Assessment methodology used is described in Volume 1, Chapter 5: Environmental Impact Assessment Methodology of the Environmental Statement.</p>		<p>The Environmental impact Assessment methodology used is described in Volume 1, Chapter 5: Environmental Impact Assessment Methodology of the Environmental Statement and satisfies the requirements of the Environmental Impact Assessment regulations.</p> <p>Spirit Energy raised a concern with regard to the methodology used and subsequently shared a copy of their risk assessment matrix used within their organisation during a consultation meeting (10th April 2018).</p> <p>The Hornsea Three Environmental Impact Assessment methodology evaluates and interprets the likely impacts, and subsequent effects, of the development on a range of physical, biological and human receptors. The overall significance of an effect is determined by correlating the magnitude of the impact alongside the sensitivity of receptor.</p> <p>The Applicant notes that Spirit Energy use a risk assessment matrix which is a commonly used method for assessing operational risk looking primarily at the probability of an unintended event occurring.</p> <p>The Applicant's position is that both methodologies are relevant and applicable for the intended purpose.</p> <p>Based on the above, the Applicant does not agree that these are material considerations in the determination of the DCO Application.</p>	<p>Spirit Energy North Sea Limited and Spirit Energy Resources Limited:</p> <p>We note that the Applicant's risk assessment methodology, in particular the risk matrix employed, may be generally appropriate for EIA purposes. We are however under legal obligations to conduct our operations in a manner that is as safe as reasonably practicable (ALARP) and have to demonstrate this to the UK Health and Safety Executive as part of our safety case. Thus a risk that may be analysed in the EIA as having a minor adverse effect, may in fact be unacceptable in a safety context. The EIA analysis is in some cases misleading as it does not reflect the full (health and safety) impact of the effect being analysed.</p> <p>These matters are material considerations in the determination of the DCO application.</p>	<p>Spirit Energy North Sea Limited: Under discussion</p> <p>Spirit Energy Resources Limited: Under discussion</p> <p>Spirit Energy Nederland B.V: Under discussion</p>
<p>Ongoing Engagement and Cooperation</p> <p>(Refer to the Hornsea Three consultation with Spirit Energy in Table 8.4, Volume 2, Chapter 8: Aviation, Military and Communication of the Environmental Statement; and Table 11.4, Volume 2, Chapter 11: Infrastructure and Other Users of the Environmental Statement; and Table 2.2 Post-application consultation with Spirit Energy, Statement of Comment Ground.</p>	<p>Hornsea Three and Spirit Energy (formerly Centrica) have engaged throughout the pre-examination period</p> <p>Hornsea Three and Spirit Energy also are engaging in the development of a proposed commercial cooperation agreement between the two parties which sits outside the Environmental Statement.</p> <p>Hornsea Three and Spirit Energy have an Engagement Plan in place to guide ongoing consultation during the Examination phase.</p>	<p>Hornsea Three acknowledges Spirit Energy's commitment in time and effort spent and willingness to engage with the Applicant to resolve any outstanding issues such that the two parties are able to mutually coexist.</p>	<p>Spirit Energy North Sea Limited and Spirit Energy Resources Limited:</p> <p>We acknowledge the Applicant's commitment in time and effort spent and willingness to engage to resolve any outstanding issues such that the two parties are able to mutually coexist.</p>	<p>Spirit Energy North Sea Limited: Agreed</p> <p>Spirit Energy Resources Limited: Agreed</p> <p>Spirit Energy Nederland B.V: Agreed</p>