



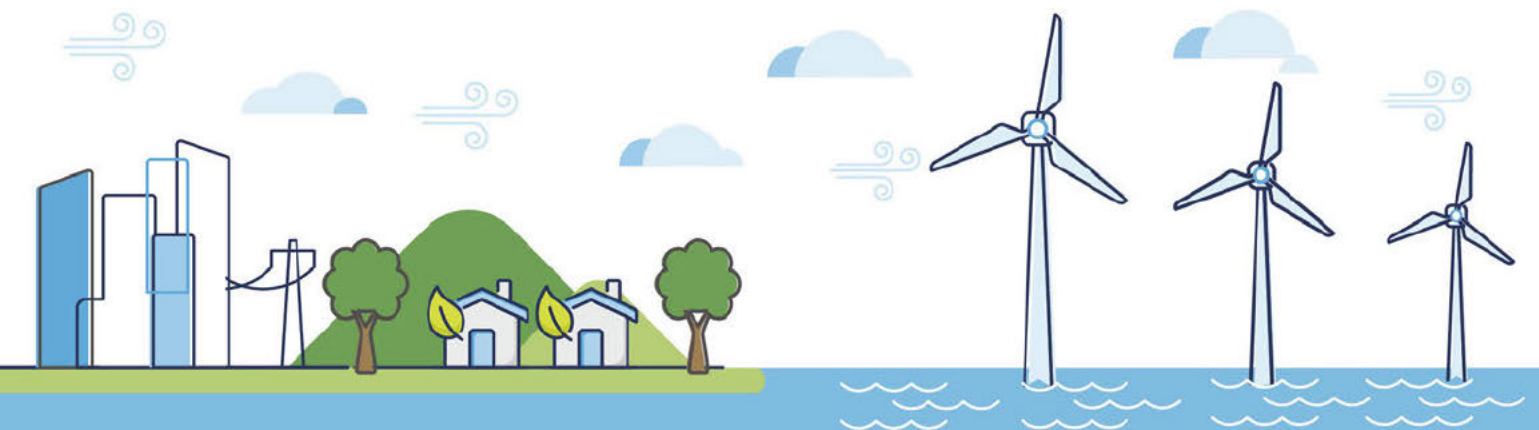
# **Morecambe Offshore Windfarm: Generation Assets Examination Documents**

## **Volume 9**

### **The Applicant's Response to Spirit Energy's Deadline 4 submission**

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## Glossary of Acronyms

AfL	Agreement for Lease
ALARP	As Low As Reasonably Practicable
AltMoC	Alternative Means of Compliance
AMC	Acceptable Means of Compliance
CAA	Civil Aviation Authority
CCUS	Carbon Capture Usage and Storage
CfD	Contract for Difference
CO <sub>2</sub>	Carbon Dioxide
COP	Cessation of Production
CPC	Central Processing Complex
CRNRA	Cumulative Regional Navigation Risk Assessment
DESNZ	Department for Energy Security and Net Zero
DCO	Development Consent Order
EERV	Emergency Evacuation and Rescue Vessel
EU	European Union
ExA	Examining Authority
HSE	Health and Safety Executive
IMC	Instrument Meteorological Conditions
MCA	Maritime and Coastguard Agency
MNZ	Morecambe Net Zero
NTSA	North Sea Transition Authority
NPS	National Policy Statements
NUI	Normally Unmanned Installation
ORA	Operational Risk Assessment
OSPs	Offshore Substation Platforms
OWES	Offshore Wind Environmental Standards
PEIR	Preliminary Environmental Impact Report
REWS	Radar Early Warning System
SAR	Search and Rescue
SEAA	Strategic Environmental Assessment Approach
SECEs	Safety & Environmental Critical Elements
SoCG	Statement of Common Ground
TCE	The Crown Estate
UK	United Kingdom
USA	United States of America
VCRA	Vessel Collision Risk Assessment
WTGs	Wind Turbine Generators

## Glossary of Units

nm	nitric metre
km <sup>2</sup>	square kilometre
km	kilometre
m	metre
MW	Megawatt

## Glossary of Terminology

Applicant	Morecambe Offshore Windfarm Ltd
Agreement for Lease (AfL)	Agreements under which seabed rights are awarded following the completion of The Crown Estate tender process.
Evidence Plan Process (EPP)	A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA) for certain topics. The EPP provides a mechanism to agree the information required to be submitted to the Planning Inspectorate as part of the Development Consent Order (DCO) application. This function of the EPP helps Applicants to provide sufficient information in their application, so that the Examining Authority (ExA) can recommend to the Secretary of State whether or not to accept the application for examination and whether an appropriate assessment is required.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.
Generation Assets (the Project)	Generation assets associated with the Morecambe Offshore Windfarm. This is infrastructure in connection with electricity production, namely the fixed foundation wind turbine generators (WTGs), inter-array cables, offshore substation platform(s) (OSP(s)) and possible platform link cables to connect OSP(s).
Other infrastructure projects	The offshore windfarm projects detailed in Appendix D of the Rule 6 Letter (PD-007).
Inter-array cables	Cables which link the WTGs to each other and the OSP(s).
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The Transmission Assets for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. Also referred to in this report as the Transmission Assets, for ease of reading.
Offshore substation platform(s)	A fixed structure located within the windfarm site, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable form for export to shore.
Platform link cable	An electrical cable which links one or more OSP(s).
Windfarm site	The area within which the WTGs, inter-array cables, OSP(s) and platform link cables will be present.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.



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# 1 Executive Summary

## 1.1 Introduction

1. This submission, together with its Appendices, provides the Applicant's comprehensive position (as it stands at Deadline 5) with regards to the Project's anticipated impacts on both Spirit Energy's (Spirit) and Harbour Energy's (Harbour) oil and gas assets and operations – in particular the Calder and CPP-1 platforms. Calder is a normally unmanned installation (NUI) and CPP-1 is part of the central processing complex (CPC-1) (which is manned). CPC-1 also serves other NUIs, and Calder, CPC-1, DP-6, DP-8 and DPPA are collectively referred to by Spirit as the Affected Assets.

## 1.2 Background

### 1.2.1 Aviation access under Visual (VMC) and Night / Instrument (IMC) Conditions

2. The background is that helicopter pilots need space between obstacles such as wind turbines and helidecks situated on oil and gas platforms, to allow for safe take-off and approach. They need less space when flying in visual conditions (VMC) and more at night or flying with instruments (IMC). Currently the distances are governed by regulations and guidance so there are not clearly identifiable distances (see **Section 5** below), but the CAA is considering a new 'acceptable means of compliance' (AMC) which would limit flights to day VMC only within 3nm of a wind turbine. The Protective Provisions included in the Draft Development Consent Order Rev 05 Clean (Document Reference 3.1) secure 1.5nm buffers around the Calder and CPP1 platforms.
3. Full day VMC access (which is used the vast majority of the time) is completely unaffected by the Project (see **Section 5.3.1** below). This has been demonstrated unequivocally by the Applicant's experts Anatec (**Appendix A**). The calculation of a 1.5nm buffer incorporates all industry guidance and best practice and is appropriate and applicable for this Application.<sup>1</sup> Spirit state that a 1.9nm buffer is required for day VMC but this position is simply unjustifiably cautious and relies on 'professional judgement' (of experts less qualified and

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<sup>1</sup> Further, precedent has been established elsewhere; for example the Beatrice complex with distance between turbines and platform operating daily shuttle flights was 0.75nm; secondly the Blyth platform located 0.65nm from the Dudgeon Offshore Windfarm and lastly the Hornsea One and Two windfarm with wind turbines situated 0.65nm from the helideck; also operating with the AW169 helicopter. Fundamentally, for aviation, a separation distance must be sufficient and if so deemed safe; then it is safe. All the foregoing examples are deemed safe.

experienced in the UK than the Applicant's experts) as the reason to layer on additional precaution rather than guidance, regulations and best practice.

4. It has been consistently acknowledged by the Applicant that a consequence of the Project is residual restricted helicopter access during night and IMC conditions. The Applicant considers that the loss of IMC and night access is an operational and logistical impact, and not a safety concern (discussed below). Spirit's current position is that it should not have to consider accommodating any restrictions resulting from neighbouring infrastructure and so it should retain the current level of access – by Spirit's calculations a buffer zone is needed around each platform of 3.76nm to maintain night and IMC access. A 3.76nm buffer around both platforms would leave the Project unviable and fail to satisfy the minimum requirements of the Agreement for Lease (AfL) the Project holds from The Crown Estate (TCE) as part of Round 4, and would lead to determination of the lease.
5. The Protective Provisions also provide for an additional wind turbine generator (WTG) aviation corridor into the prevailing wind (which would reinstate around half of night and IMC flights). It is acknowledged that an approval from the CAA would be needed to use this corridor in night and IMC conditions (AltMoC) if the new 3nm AMC is brought in – this would require demonstrating an equivalent level of safety, which the Applicant's experts consider to be feasible.
6. The detailed analysis of the aviation impacts is set out in **Section 5** below (supported by the report by aviation experts Anatec at **Appendix A**), however some key highlights from the analysis are as follows:
  - Of the 10,022 flights made between 2018 and 2022; 92% (or 9175) of those were day VMC flights.
  - For those non Day VMC flights; 8% remaining, including Night VMC, Night IMC and Day IMC; 4% would be mitigated by the IMC Corridor.
  - Thus, the resultant impact to aviation operations is as low as 4% (or approximately 400 flights over five years, or indeed a maximum of 80 flights annually).
  - It is also noted that since the removal of DP3 and DP4 in 2023 and the anticipated removal of Calder; the above are expected to be maximum figures. The Applicant's analysis of DP8 shows that between 2018 and 2022, a total of 1067 flights were flown. As such, it could be reasonably assumed that similar numbers of flights were also flown to DP3 and DP4.

## 1.2.2 The Structure of the Executive Summary and the Report

7. The safety implications of the aviation access restrictions (in other words, how the Project will co-exist with the Affected Assets in the short-term) are summarised in **1.4.1 of this Executive Summary** with a fuller discussion in **Section 7** and in the DNV report at **Appendix B** and two independent peer reviews at **Appendices F and G**. The implications for decommissioning (how the Project will co-exist in the medium-term) are summarised in **1.4.2 of this Executive Summary**, with a fuller discussion in **Section 8** and in the Xodus report at **Appendix D**. Long term co-existence with future CCUS ambitions are summarised in **1.4.3 of this Executive Summary** with a fuller discussion in **Section 9** and in the Xodus report at **Appendix C**. Shipping and navigation implications are also considered in **Section 6** with and the NASH Maritime report at **Appendix E**.

## 1.2.3 Engagement to Date

8. There has been positive engagement between the parties, including a letter of intent to collaborate following meetings and discussions in 2019, during the site selection phase. This letter is provided in **Annex 1** of this document.
9. However, during the Examination, Spirit and Harbour are effectively now engaging as in-principle objectors. They have made very little attempt at co-existence – despite committing to prepare and share revised protective provisions at ISH1 in October 2024, nothing has been shared and meetings between the legal team have been cancelled. On ExA's request at ISH3 in February 2025, Spirit has engaged in two 'Shared Understanding' meetings. Further to these meetings, additional meetings were agreed to cover decommissioning and MNZ topics and commercial discussion. However, both follow-up meetings have been postponed by Spirit until 12th March; after the next submission deadline (and so post-date this submission). The Applicant is therefore currently unable to engage in constructive dialogue with Spirit.

## 1.3 The Impact of the Project and Mitigation in Protective Provisions

### 1.3.1 The Assessment of Impact

10. Ultimately, the ExA can be satisfied that the Applicant has properly assessed and understood the impacts on the Affected Assets and secured an appropriate and robust co-existence mitigation solution. In doing so the Applicant has engaged with Spirit and Harbour extensively, and has been properly advised by senior and leading personnel within the aviation and oil

and gas industries, including since Deadline 4 two peer independent peer reviews.

### 1.3.2 Protective Provisions

11. In the absence of any engagement on the Protective Provisions themselves from either Spirit or Harbour, the Applicant has unilaterally drafted these to secure the proposed mitigation, but taking full consideration of all the extensive written submissions by both Spirit and Harbour and based on expert advice. These address all of the concerns raised in relation to Morecambe Net Zero (MNZ), decommissioning, shipping and navigation and secure 1.5nm aviation buffers round both platforms and the aviation corridor.
12. The Applicant has also provided, on a without prejudice basis, alternative wording for Protective Provisions which, as requested by the ExA in question 2DCO2, would prevent development taking place within an extended aviation buffer zone providing for full IMC access to CPC-1 until decommissioning activities would no longer represent an impediment to construction of the Project.

## 1.4 Co-existence with the Affected Assets

### 1.4.1 Co-existence in the short-term

13. Spirit has stated at Examination the imminent intended decommissioning of CPP1 in 2027 plus or minus two years. The Applicant understands Spirit has commissioned a decommissioning readiness project which is on track for completion by 2027. As such, the Applicant understands Spirit will be able to commence the decommissioning programme for CPC in 2027. For Calder the Decommissioning Programme, produced by Harbour, is published on the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) website and the current understanding for well plug and abandonment activities is in the range of 2027-2030. Further the owner, Harbour Energy in the case of Calder, will be incentivised to remove the asset as soon as possible since the cost of maintaining a non-producing structure is non economical. Therefore, there is very little overlap potential. However, due to the economics of the windfarm project and necessity to progress with the Contract for Difference (CfD) and delivery against pre-defined milestones, there is no scope for the windfarm to be delayed until after all decommissioning activities have been completed. In this case the windfarm will be unviable.
14. The Applicant recognises Spirit's safety concerns and is cognisant of the high level of safety management that goes through all aspects of Offshore Oil and Gas operations. This is also well understood by the industry leading safety

experts the Applicant has employed (and now also peer reviewed). As such, it is believed that Spirit may be operating near commercial and operational limits as it reaches the end of useful asset life and revenues reduce whilst maintenance costs increase. If that is the case, the ability for the operator to accommodate changes without making some operational changes could be limited. However, Spirit has already decommissioned two of six NUIs and moves forward with further decommissioning plans for Calder in the near term. Thus, reducing the number of unmanned assets requiring to be maintained from six to three and thus by 50% overall.

15. It is also noted that Spirit at D4 submitted a new loss of time offshore metric at Deadline 4 which seeks to identify the loss of access of seven hour maintenance blocks to NUIs, which was calculated as 22% (it is not relevant to CPC-1, as the team to maintain it are already on board) (Slide 15, PDF page 48, REP4-069). However, Spirit include their view that day VMC access will be restricted in this 22%, so this figure would of course be substantially reduced once it is factored in that all day VMC flights will be able to continue and so not contribute to any loss of time offshore. In Appendix B DNV calculate this figure to be 1.5%-3% of the total working hours not taking into account the IMC Take-Off Corridor (9 days per annum in total for Calder), and with the corridor this figure drops to 1-2% (6 days per annum for Calder).
16. Viewed in this context, the Applicant does not consider it tenable that the aviation impacts are a genuine restriction on safe continued maintenance of the Affected Assets, rather than simply an operational nuisance. However, and importantly, the Applicant is aware of alternative strategies which offer increased maintenance capacity should it be needed and which have been operated by Spirit in the past, including the use of Flotels during summer maintenance campaigns. Larger or more helicopters or walk to work vessels are also options. Indeed, introduction of the Project also provides opportunity for future collaboration. The Applicant has committed in the Protective Provisions to pay the additional costs if these solutions are necessary because of the Project, so the economic consequences to Spirit are fully mitigated.
17. The detailed analysis in terms of safety impacts is set out in **Section 7** below. This is supported by the report from oil and gas safety experts DNV at **Appendix B** and independently peer reviewed by both ERM and CPOGS (report included at **Appendices F** and **G** respectively). Key conclusions include:
  - The Applicant's position in regards to evacuation as a means of escape is that the Applicant appreciates that helicopters including commercial air transport (CAT) are the preferred means of evacuation, however they are not the likely means of evacuation in an emergency situation. For immediate emergency events in which evacuation must take place quickly; it is more likely that lifeboats will be used. A Search and Rescue

(SAR) helicopter may also be employed. The SAR helicopter operates under CAP999 and is able to fly to the platforms regardless of wind turbine locations. For medical emergency, in regards to one hour to hours response time, a SAR helicopter would be more likely than CAT helicopter as it allows medics to accompany a patient and is able to accept a stretcher thus improving the successful treatment of the patient. If a CAT helicopter were close by, it is required to carry out a risk assessment concerning how the casualty would be evacuated in a ditching event, which is both time consuming and less suitable than SAR helicopter.

- The Applicant has evaluated Safety Case implications as a result of impaired helicopter access. There is a memorandum of understanding between the CAA and the HSE for the regulation of helicopter operations. All operations outside the 500m safety zone are under the CAA jurisdiction and so there is no direct impact to the Safety Case from the windfarm. If additional flights were required to be scheduled, these may cause additional risk to the NUI teams if they must each make more flights to complete the maintenance. However, if there were to be an alternative helicopter and alternative maintenance crew during summer months to 'discharge' additional maintenance, the additional risk to maintenance personnel would not happen. None of the helicopter related safeguards change and none of the other potential impacts outlined are material as they do not affect the basis on which the Safety Case was accepted.
- The Applicant fundamentally disagrees with Spirit that the Proposed Development would materially increase the risk to individuals due to the cumulative effect of undertaking additional flights to complete NUI intervention activities to being undertaken in flying conditions restricted by the proximity of the Proposed Development, and therefore this would be a material change to the safety case. The Applicant refers to Section 6 of the DNV Report at **Appendix B** and the CPOGS report in **Appendix G**. In short, the increased helicopter transportation risk is not material and safety critical maintenance issues can be mitigated by various means and so it is not considered that such a material change is required.
- The Applicant notes that the UK Safety Case regime only requires Operators to describe and present the 'Individual Risk to Personnel per Annum (IRPA)' for offshore workers. Collective risk to groups of personnel such as 'the maintenance team' is not assessed by the UK HSE and is not required to be included in Safety Case content. If the frequency of flying operations for maintenance of a specific team is reduced, then individual maintenance personnel are likely to undertake less helicopter flights during their work period offshore, and therefore their residual risk as a individual is likely to be less. The Applicant refers to CPOGS report in **Appendix G**.

- The Applicant refers to the DNV Report in **Appendix B**, in which, an independent assessment on Offshore Working Time has been made based on hindcast weather and Vantage data. As noted in paragraph 15 above, in this assessment it has been shown that without the IMC Corridor; the hours lost would represent 1.5 – 3% of total working hours and with the IMC Corridor, the hours lost would represent 1-2% of total working time. Both figures are dwarfed by the recoverable hours of ~10% that are available from longer stays on the NUI assets when this is possible. DNV conclude: *“The fact that the impact is so small and that the Operator used to operate an additional 2 NUIs means that no maintenance impact is likely over the long term.”* (Section 4.3.2.2 of the report by DNV at **Appendix B**).”
18. It is also noted that the conclusions on safety do not require the ExA to make particular findings on night and IMC aviation access, as the Applicant’s safety experts DNV take account of the analysis by both Anatec and AviateQ (the Applicant and Spirit’s respective experts) and include analysis both with and without the aviation corridor is in place.

#### 1.4.2 Co-existence in the medium-term

19. In the medium term during the decommissioning phase, the Applicant has ensured that the draft Protective Provisions provide for any additional costs which would be incurred by Spirit and Harbour (and the parties are not far apart on what these costs might be – as a major project capable of powering half a million UK households, the Project is absolutely capable of mitigating its commercial impacts).
20. Following Cessation of Production (COP) of the Affected Assets, the pressure on the need for continuous and timely helicopter access at the current level can start to reduce as outlined in the report at **Appendix D**. However, it is acknowledged that there is a need for continued maintenance once production stops and suitable access is of course required during the full decommissioning process – the mitigations in the Protective Provisions discussed above in relation to the short-term will remain relevant and applicable during the decommissioning process.

#### 1.4.3 Co-existence in the long-term

21. The decommissioning of the Affected Assets is in contemplation (discussed below in this summary and in **Section 8**). Following this in the longer term, Spirit is seeking to develop a carbon capture, utilisation and storage (CCUS) project known as Morecambe Net Zero (MNZ). The Applicant is supportive of this, and happy to agree co-existence arrangements.

22. The Applicant has considered how the Project could interact with MNZ and revised the draft Protective Provisions as necessary (albeit this has been challenging given the lack of engagement) so that the development of MNZ by Spirit is not restricted by the Project, and the two assets can co-exist in accordance with the NPSs and meet the UK's net zero targets as explained in **Section 9** of this document.

## 1.5 Overall conclusion and NPS Compliance

23. Ultimately, the draft Protective Provisions in Schedule 3, Part 3 of the Draft Development Consent Order\_Rev 05 Clean (Document Reference 3.1) secure the safe, fair and efficient co-existence between the Project, Spirit and Harbour in the shorter term (overlap with operation), medium term (decommissioning) and long term (MNZ).
24. Spirit is not asserting (and do not hold) any legal rights over the windfarm site which allows them to reject a neighbour and leave the sea clear for use for their access, in contrast it is the Applicant who holds an Agreement for Lease in respect of the site. So the appropriate balance between the parties' interests must be made in light of the NPSs. The NPSs emphasise safety and the ALARP principle but otherwise provide that it will not be possible to develop the necessary amounts of low carbon infrastructure without some significant residual adverse impacts (NPS EN-1 para 3.1.2). It is recognised that offshore infrastructure may be located close together (NPS EN-3 2.8.199), co-existence is the goal (NPS EN-3 2.8.203) and that a pragmatic approach is needed to decision making (NPS EN-3 2.8.342). Offshore wind is considered Critical National Priority (CNP) infrastructure under the NPS. The Applicant's clear conclusion is that the NPSs are supportive of the balance struck between the Project and the Affected Assets proposed in the Application and as mitigated by the draft Protective Provisions (see **Section 10**), which ensures safety but allows for co-existence.
25. The proposed mitigation has been reached taking full account of all of Spirit and Harbour's submissions to the Examination, which have been considered by a team of recognised experts to ensure a full understanding and appropriate response. The Applicant has committed to co-existence, and to paying the additional costs of operational adjustments to the extent attributable to the Project in the short term where there is the potential for the Project to overlap with operation and during decommissioning of the Affected Assets should these be necessary.
26. The Applicant would, however, reiterate that, notwithstanding the draft Protective Provisions, if Spirit and Harbour are prepared to change approach and engage on a mutually agreed co-existence agreement, the Applicant would be content to do so, even following the close of Examination.

## 2 Background

### 2.1 The Parties and the Affected Assets

27. As the owner of the Morecambe Offshore Windfarm Generation Assets (the Project), Morecambe Offshore Windfarm Ltd is the named undertaker that would have the benefit of the Development Consent Order (DCO). References in this document to obligations on, or commitments by, 'the Applicant' are given on behalf of Morecambe Offshore Windfarm Ltd as the undertaker of Morecambe Offshore Windfarm Generation Assets.
28. This submission, together with its Appendices, provides the Applicant's comprehensive position with regards to the Project's anticipated impacts on both Spirit Energy (Spirit) and Harbour Energy (Harbour) oil and gas assets and operations – in particular the Calder and CPP-1 platforms. Calder is a normally unmanned installation (NUI) and CPP-1 is part of the central processing complex (CPC-1) (which is manned). CPC-1 also serves other NUIs, and Calder, CPC-1, DP-6, DP-8 and DPPA are collectively referred to by Spirit as the Affected Assets.
29. Spirit operates all the Affected Assets. Harbour owns Calder. Spirit has been leading the position to the Examination and it is anticipated that a position which is acceptable to Spirit would also be acceptable to Harbour. This position paper has been prepared to set out the Applicant's position on issues raised by both Spirit and Harbour's comments during Examination. The majority of issues have been raised by Spirit and it is understood that Harbour are waiting for the issues with Spirit to be resolved before engaging in further discussions.
30. It noted that Spirit has previously also maintained six NUIs; this is now four since the removal of Drilling Platform 3 & 4 in 2023 (this is potentially relevant background as Spirit only needs to maintain four NUIs, hence a proportionate reduction of the maintenance burden previously carried out).

### 2.2 This Submission

31. The ExA may refer to this submission for all matters of disagreement between the Applicant and Spirit and Harbour, and the Applicant's previous submissions have been summarised and updated (as required) in this submission.
32. The Applicant's previous submissions are (the bold highlighting representing the most significant):
  - The Applicant's Response to Relevant Representations (Document Reference 8.3)

- The Applicant's Comments on Written Representations - Revision 01 (Volume 9) (Document Reference 9.33)
  - **The Applicant's Response Spirit Energy Deadline 1 Submissions - Revision 01 (Volume 9) (Document Reference 9.35)**
  - The Applicant's Response to Spirit Energy Deadline 1 Submissions Appendix A: The Applicant's Comments on Spirit Energy and Harbour Energy Aviation Access Study Report - Revision 01 (Volume 9) (Document Reference 9.35.1)
  - The Applicant's Response to Spirit Energy Deadline 1 Submissions Appendix B: Helicopter Access IMC Corridor - Revision 01 (Volume 9) (Document Reference 9.35.2)
  - The Applicant's Response to Spirit Energy Deadline 1 Submissions Appendix C: Helicopter Supporting Information Technical Note - Revision 01 (Volume 9) (Document Reference 9.35.3)
  - The Applicant's Response to ExA's Written Question 1 – Revision 01 (Document Reference 9.41)
  - The Applicant's Comments on Deadline 2 Submissions by Interested Parties - Revision 01 (Volume 9) (Document Reference 9.42)
  - **Remaining Responses from the Applicant's to Spirit Energy Deadline 1 Submissions - Revision 01 (Volume 9) (Document Reference 9.43)**
  - Responses from the Applicant's to Spirit Energy Deadline 1 Submissions Appendix A: Report on Impact to Helicopter Flights - Revision 01 (Volume 9) (Document Reference 9.43.1)
  - Responses from the Applicant's to Spirit Energy Deadline 1 Submissions Appendix B: Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations - Revision 01 (Volume 9) (Document Reference 9.43.2)
  - The Applicant's Comments on Deadline 3 Submissions by Interested Parties - Revision 01 (Volume 9) (Document Reference 9.51)
  - The Applicant's Comments to Interested Parties Responses to ExQ1 - Revision 01 (Volume 9) (Document Reference 9.53)
33. The Appendices are up to date reports from each of the Applicant's experts, along with two additional reports from ERM and CPOGS who were each approached by the Applicant following ISH3 to provide independent 'peer reviews' of Spirit and DNV's respective positions on safety.
34. The Appendices to this Document are:
- Appendix A – A report prepared by Anatec Ltd on helicopter access (Document Reference 9.53.1)

- Appendix B – A report prepared by DNV Services UK Ltd on the Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations (Document Reference 9.53.2)
- Appendix C – A report prepared by Xodus on the Interactions of Morecambe Offshore Windfarm and the Morecambe Net Zero Project (CCUS) (Document Reference 9.53.3)
- Appendix D – A report prepared by Xodus on the Decommissioning aspects of Oil and Gas installations (Document Reference 9.53.4)
- Appendix E – A report prepared by NASH Maritime Ltd (Document Reference 9.53.5)
- Appendix F – A peer review prepared by ERM on helicopter risk (Document Reference 9.53.6)
- Appendix G – A peer review prepared by CPOGS on matters relating to the UK Safety Case of the hydrocarbon installations and related operational factors (Document Reference 9.53.7).

## 2.3 National Policy Statements

35. There are three National Policy Statements (NPSs), Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Renewable Energy Infrastructure (EN-3) and National Policy Statement for electricity networks infrastructure (EN-5), which are of relevance to the Project. An assessment of compliance with the relevant policies for engagement between Spirit and Harbour within these NPSs is at **Section 10** below. The Applicant highlights that the emphasis within both NPSs is on co-existence between developers and other sea users, such as Spirit, whilst acknowledging that safety is paramount.
36. EN-3 recognises that offshore wind farms may be located close to other offshore infrastructure such as oil and gas, carbon capture and telecommunications. The scale and location of future offshore wind development around England and Wales means that development has occurred, and will continue to occur, in or close to areas where there is other offshore infrastructure (para 2.8.196). There is an emphasis on engaging with interested parties in the potentially affected offshore sectors (para 2.8.200) and such engagement should be taken to ensure that solutions are sought to allow offshore wind farms and other users of the sea to co-exist successfully (para 2.8.203).
37. The NPSs do not provide for oil and gas operators, such as Spirit, to reject proposals for neighbouring infrastructure and operate in a 'veto' manner by stating that it is only Spirit, as the owner and operator of its assets, alone who can judge potential safety and operational impacts in accordance with relevant safety legislation and guidance. Rather, it is the NPSs' intent for Interested

Parties to explain their operations and engage to seek to identify co-existence solutions, with the key understanding that the NPSs emphasise co-existence and meeting net zero targets.

## 2.4 Windfarm Siting and Layout

38. The site selection process is set out in ES Volume 5 - Chapter 4 - Site Selection and Assessment of Alternatives (APP-041). The site selection process was undertaken through the Round 4 Crown Estate (TCE) leasing and bidding process. A detailed study was undertaken to consider an initial zone in Bidding Area 4 for the most technically and environmentally suitable development sites. This was supported by GIS modelling and analysis which included opportunities and constraints in relation to interaction with oil and gas infrastructure. One of the key reasonings for selecting the site is because of its lower constraints compared to other regions and the opportunities to develop a site within an oil and gas field that is expected to be reaching the end of its productive life. Seabed is an increasingly scarce resource and constraints are numerous around the UK, so co-existence and the use of 'brownfield' sites is an increasing necessity (as recognised by NPS, as noted above and by TCE in the Information Memorandum for the Round 4 Leasing Round.<sup>2</sup> Locating the windfarm within the vicinity of oil and gas infrastructure would minimise the disturbance of a previously undeveloped area of the Irish Sea.
39. Engagement was undertaken with oil and gas operators, including both Spirit and Harbour, during the Round 4 bidding process by the Applicant to support the selection process of the windfarm site, given its location in the South Morecambe gas field since 2019. See further details at **Section 2.5** below. The Applicant has also worked closely with oil and gas operators throughout the pre-application period, with one of the key factors influencing the reduction in the windfarm site area was to facilitate the co-existence of the Project alongside oil and gas operations, avoiding unnecessary environmental impacts. The frequent engagement undertaken by the Applicant during pre-application is set out in section 6.14 of the Consultation Report\_Rev02 Clean (REP1-002) and the draft Statement of Common Ground with Spirit Energy (REP1-075) and remains ongoing.
40. A windfarm site of 125km<sup>2</sup> (reflecting the AfL area) was assessed in the Project Preliminary Environmental Impact Report (PEIR). The windfarm site area was subsequently reduced to 87km<sup>2</sup> and reflects the windfarm site assessed in the Environmental Statement (ES). The windfarm site refinement

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<sup>2</sup> [tce-r4-information-memorandum.pdf](#)

was undertaken following analysis of geophysical survey data, environmental analysis, consultation feedback and layout design development, and co-existence with existing oil and gas operations was one the key drivers for the site boundary change. This is set out in ES Volume 5 - Chapter 4 - Site Selection and Assessment of Alternatives (APP-041). Assessments identified the potential interaction between the gas field vessels and helicopter operations and the windfarm site.

41. The location and extent of the windfarm boundary was designed to take account of exclusion zones, including the statutory safety zones around the oil and gas installations (as set out in Section 21 of the Petroleum Act 1987, as amended by The Offshore Installations (Safety Zones) Order 2024) and operations of existing oil and gas infrastructure to successfully coexist with other marine users.
42. Following the refinement of the windfarm site both the Calder platform and CPC-1 platforms now sit outside the windfarm site boundary. The development of the mitigation in the Protective Provisions is also a critical part of the site selection and design process (in particular buffer zones and marine and aviation corridors).

## 2.5 Engagement

43. Extensive engagement with Spirit Energy has been undertaken by the Applicant from an early stage of the project development. This has included a Letter of collaboration received by the Applicant from Spirit in 2019, during the Round 4 Crown Estate leasing and bidding process, reflecting potential co-existence opportunities and within which Spirit confirmed its intent to continue to collaborate with the Applicant to identify and bring to fruition mutually beneficial opportunities in the East Irish Sea. This letter is provided in **Annex 1** of this document.
44. Subsequently, throughout the DCO pre-application period the Applicant held 33 meetings with Spirit to facilitate discussion on project progress, potential interactions and opportunities, information sharing on planned activities such as surveys, ongoing technical, feasibility, SIMOP and interaction studies, as well as data gathering and sharing. Details of these meetings can be found within Table 6.5 of the Consultation Report\_Rev02 Clean (REP1-002). Spirit also participated in marine navigation hazard workshops held in 2022 and 2023 to inform the Morecambe navigation risk assessment (APP-073) and the regional cumulative navigation risk assessment (APP-074) and attended Marine Navigation Engagement Forum (NMEF) meetings.
45. Further engagement with Spirit was sought by the Applicant following submission of the DCO Application. Following the start of the examination a meeting was held between the Applicant, Spirit Energy and Harbour Energy

on 31<sup>st</sup> October 2024; this included representatives from the aviation technical teams to discuss their respective assessments on the impacts to helicopter aviation operations. The Applicant further requested meetings ahead of each subsequent examination deadline with Spirit Energy, although the requests were not forthcoming until after ISH3 and the direction from the ExA for the parties to meet. Subsequently two Technical Meetings were held, 13<sup>th</sup> February 2025 an initial 'Share Understanding' meeting to further review each parties respective position, and a follow-up meeting which covered aviation and safety issues on 18<sup>th</sup> February 2025. Requests for further meetings to discuss decommissioning, the MNZ CCUS project, and Spirit's existing operational requirements were planned, but unfortunately these were postponed by Spirit until after Deadline 5.

46. It is noted that Spirit has updated its position on the extent of buffer zones during the Examination. In their Relevant Representation (RR-077) Spirit stated a 3.3nm IMC buffer was needed. This is now 3.76nm IMC (Spirit's Deadline 3 Submission, REP3-104) and 1.9nm VMC (paragraph 2.12 of Spirit's Deadline 3 Submission, REP3-104).
47. The IMC Take-Off Corridor (see **Section 5.3.3** below) had been proposed to Spirit, in both Technical Meeting (31<sup>st</sup> October 2024) and further during engagements on 13<sup>th</sup> and 18<sup>th</sup> of February 2025; Spirit has repeatedly maintained a position that their current situation is not well understood and that the Applicant has not sufficiently listened to their concerns. The Applicant has positively tried to engage with Spirit on these matters, but regrettably since the start of Examination most communication has been through submissions to the DCO Examination process.
48. The Applicant has requested the following documents from Spirit but, to date, these have not been provided:
  - a) The safety case for each of CPC-1, DP6, DP8, DPPA and Calder;
  - b) Copies of maintenance performance standards for CPC-1, DP6, DP8, DPPA and Calder.
  - c) Copies of updated aviation calculations which support the D4 submission.
49. The Applicant maintains that it is for Spirit and Harbour to explain and demonstrate any specific non-standard operational impacts and details which could affect the assessment and appropriate mitigation. Given the lack of engagement since October 2024, the Applicant has therefore required to make reasonable assumptions based on industry best practice and expertise to determine to develop and refine its mitigation solutions. The Applicant considers that any unsubstantiated assertions should not carry any weight,

especially given the clear and specific request for documents which would have been referred to and so are known to exist.

50. Despite committing to prepare and share revised protective provisions at ISH1 in October 2024, nothing has been shared and meetings between the legal team have been cancelled. A substantial undertaking to cover Spirit's legal costs has been provided, to ensure this engagement is cost-neutral to Spirit.
51. Ultimately, Spirit has engaged too little too late to be able to achieve mutually agreed Protective Provisions by this D5 (the Applicant has still received no comments at all its proposed Protective Provisions). That said, the Applicant is confident it has drafted Protective Provisions which provide a full and complete mitigation solution, which take full account of all of Spirit and Harbour's submissions and its own (now peer reviewed) experts' analysis.
52. Of course, the Applicant is still very much willing and hoping to engage and reach an agreed solution.

## 2.6 Protective Provisions / Side Agreement

53. The Applicant has, as a result of the above lack of engagement from Spirit and Harbour, and their legal advisors, unilaterally drafted Protective Provisions in favour of both Spirit and Harbour within the draft DCO. These are found within Schedule 3, Parts 2 and 3 of the Draft Development Consent Order\_Rev 05 Clean (Document Reference 3.1).
54. The Protective Provisions provide for a number of practical, fair, and safe mitigations to ensure the ongoing operational activities at both CPC-1 and Calder, whilst also ensuring that Spirit's CCUS Project, MNZ, can also proceed (see **Section 9** below).
55. The Protective Provisions provide for:
  - a) A 1.5 nm aviation buffer zone, free of WTGs and OSPs around each of CPC-1 and Calder;
  - b) A 1.5 nm marine buffer around CPC-1 and 1 nm marine buffer around Calder, free of WTGs, OSPs and temporary surface infrastructure;
  - c) A protected zone 500 m either side of relevant pipelines and cables, free of WTGs, OSPs and temporary surface infrastructure;
  - d) A 1 nm wide marine corridor between CPC-1 and Calder, free of WTGs, OSPs and temporary surface infrastructure;
  - e) A 2 nm wide aviation corridor between CPC-1 and Calder, free of WTGs;
  - f) A 100m buffer around legacy and relief well tophole locations.

56. All of the above can be seen visually on the Development Consent Order: Schedule 3 Spirit and Harbour Protective Provisions Plan\_Rev01 (REP2-007).
57. The Protective Provisions also include a reasonable endeavours obligation on the Applicant and Spirit and Harbour (as relevant) to enter into a coexistence agreement (which includes provision for proximity agreements on standard UK oil and gas industry terms). The Applicant considers this agreement will cover a number of items, including governing simultaneous operations.
58. The Applicant highlights that the proposed aviation corridor, discussed at **Section 5.3.3** below, sacrifices the developable area which ultimately does impact on the overall efficiency of the Project. The Applicant has made this concession for Spirit.
59. The Protective Provisions also include a compensation mechanism, subject to a liability cap as specified in the respective Protective Provisions drafted for Spirit Energy and Harbour Energy. The liability cap is calculated appropriate to the anticipated impact on each respective owners assets and the potential for damages, loss or operation impact (including decommissioning costs) caused as a direct result of impaired helicopter access to the affected assets during development, construction or operations of the windfarm. The liability cap for Harbour is £2 million (two million pounds) and the liability cap for Spirit is £8 million (eight million pounds). Such additional costs would include any direct costs caused by the Project as a result of impaired aviation access on the safe operations and maintenance activities the Affected Assets, such as: direct flights, assigning an additional maintenance crew to “catch-up” NUI work, an additional helicopter charter during summer, a larger helicopter, campaign maintenance using a flotel, or other vessels suitable for maintenance (i.e. walk to work), see **Section 7.1.7** below and **Appendix B**, the DNV Report.
60. As noted above, the Applicant has also provided, on a without prejudice basis, alternative wording for Protective Provisions which, as requested by the ExA in question 2DCO2, would prevent development taking place within the relevant area until decommissioning activities would no longer represent an impediment to construction of the proposed development. It is noted that the question 2DCO2 requested wording for a requirement (which the Applicant has also provided in response to that question), but as explained in the response to that question the Applicant considers Protective Provisions are the most appropriate place to secure provisions which protect and regulate the interaction between two private interests.

## 2.7 The Applicant's Expert Team

61. The Applicant is advised by a number of leading experts in the aviation and oil and gas industries.

62. The Applicant's advisors, as set out below, have provided their own independent views and analysis within their respective reports at each Appendix to this submission, separate to the views of the Applicant.
63. The Applicant's advisors are experts in helicopter operations, shipping and navigational assessments, oil and gas operations, safety matters, decommissioning of oil and gas assets, carbon capture usage and storage, and bring substantial operational and safety knowledge to the Applicant. All the detail provided by Spirit to date on how they operate their platforms on a day to day basis has been shared with and considered by the Experts. This includes the meetings on 13 and 18 February 2025, which were attended by Xodus, DNV and Anatec.
- Meeting 13 February
    - Mark Anderson (Xodus)
  - Meeting 18 February
    - John Morgan (DNV)
    - Alex Guild (DNV)
    - Lucy Campbell (Anatec)
    - Mark Prior (Anatec)

### 2.7.1 Anatec

64. In respect of helicopter operations, the Applicant is supported by Anatec Ltd, a market leading consultancy specialising in risk based decision making. From Anatec the Applicant has the support of Mark Prior and Dr Lucy Campbell.
65. Mark Prior has over 45 years of aviation experience, and has completed operational and staff tours in the RAF. From 2000 to 2016 he was the Bristow Group Chief Test Pilot. Alongside this role he was an industry representative on a number of rulemaking bodies, including the European Joint Aviation Authority (JAA), The European Aviation Safety Agency (EASA), International Civil Aviation Organisation (ICAO), CAA working groups and the Helideck Certification Agency's Technical Committee. In 2016 he left the Bristow Group and became an independent consultant. His clients have included: the Scottish Crown and Procurator Fiscal Service, as an advisor and expert witness for two helicopter accidents; the Ministry of Defence, as lead author on handling and performance aspects during the rewrite of Def Stan 00-970 (Requirements for the Design and Airworthiness of Military Aircraft); the UK Civil Aviation Authority, including a safety assessment of helicopter automated offshore approaches and representing the CAA as Secretary to the European Committee on Aviation Equipment (EUROCAE) working group 110/RTCA Special Committee 237; numerous commissions for oil companies and

offshore renewable projects. He was co-author of the HeliOffshore Approach Path Guidance and has been a contributor to the HeliOffshore work on Helicopter Terrain Awareness Warning Systems.

66. Dr Lucy Campbell is a Director and Principal Risk Analysis with Anatec, with over 14 years of technical experience in marine risk assessment for the oil & gas, offshore renewables and marine industries.
67. Full biographies for Mark Prior and Dr Lucy Campbell are at Section 1.1 of Appendix A: Report on Impact to Helicopter Flights\_Rev01 (REP3-071).

### **2.7.2 DNV Services UK Limited**

68. DNV Services UK Limited (DNV) are the Applicant's advisors on the operational and safety elements of oil and gas operations. From DNV the Applicant is supported by John Morgan and Alex Guild.
69. John Morgan is a Senior Principal with DNV, with 30 years' technical experience. He is an expert in ALARP, safety cases and safety regulation, has visited many platforms in the UK, chaired the OEUK Major Hazards Technical group for 5 years and led the generation of industry guidance on Management of Fire in Accommodation, Workforce Involvement in Safety Cases, Cumulative Risk and Risk-based Decision Making and been a key member of the workgroup that updated the Operational Risk Assessment (ORA) guidance.
70. Alex Guild is a Senior Principal with DNV in Aberdeen with 30 years' of varied technical experience gained in the energy sector and the chemical industry. A chartered electrical engineer, he spent nine years in ICI, then three years in the Health and Safety Executive before joining Chevron in a variety of technical safety roles based in both the UK and the USA.
71. Full biographies for John Morgan and Alex Guild are at page iv of Appendix B: Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations\_Rev01 (REP3-072).

### **2.7.3 Xodus Group**

72. Xodus Group (Xodus) are the Applicant's advisors in respect of the decommissioning requirements and process of oil and gas platforms and fields and on Carbon Capture, Usage and Storage (CCUS). The Applicant is advised by Mark Anderson and Rama Sharma on decommissioning of oil and gas platforms and fields and Andrew Sewell on CCUS.
73. Mark Anderson is a Chartered Engineer and TUV Certified Functional Safety Engineer with over 35 years' experience working within Major Accident Hazard industries onshore and offshore: offshore oil & gas, gas reception facilities,

pipelines, refineries, chemical and pharmaceutical manufacture, and energy transition (hydrogen & CO<sub>2</sub>). This experience has been gained in site operational roles, project management, construction management, major engineering project delivery and consultancy. This experienced has contributed to a very broad multidiscipline engineering knowledge and experience. In particular, Mark has considerable experience in the development of Safety Management Systems, Seveso III Safety Reports, Offshore Safety Cases, Standard Operating Procedures and undertaking Process Safety / Safety Management System audits and due diligence. Extensive knowledge of process safety, process design, risk analysis, human factors, engineering management, project management, construction, decommissioning and operations management. Mark has contributed to industry documents, including the current Oil & Gas UK Fire and Explosion Hazard Management guidance. Mark is also the author of Xodus' TSR Considerations for Energy Transition Guidance and a teaching fellow on MSc courses at Aberdeen University, covering Safety Management Systems, Accident Analysis, HAZOP Application and Energy Transition Safety Considerations. Considerable experience of chairing formal hazard reviews: HAZID, ENVID, HAZOP, LOPA, Constructability Reviews and Human Factors workshops. Mark's experience has covered a wide range of regulatory regimes, including the UK, Sweden, Netherlands, Romania, Nigeria, Trinidad, Qatar, Caspian Sea, Morocco, and Australia.

74. Rama Sharma is a Decommissioning Specialist striving for safe, cost and carbon efficient decommissioning. An extensive career to date, both in operator and contractor environment, of upstream commercial, technical and management experience (20+ years' experience). Focussed on driving optimisations in late life assets to deliver their maximum potential through risk management, facilitating industry collaboration and planning. Expertise in cost estimation, end of field life planning and risk management. Current attention on supporting energy transition by decarbonising assets through late life and beyond, leading decommissioning cost estimate and due diligence work for Xodus.
75. Andrew Sewell is the Head of Subsurface with 34 years of experience as a geophysicist and subsurface manager in the energy industry, working both in oil & gas and CCS. Andrew undertakes technical work and project management in a wide variety of projects, including as an expert. In the early part of Andrew's career, Andrew worked in geophysical operations and has continued to advise on such projects until now, alongside more general subsurface projects. Andrew has also worked on CCS projects on and off since 2009, having recently acted as an expert for a CCS / wind farm overlap development consent process in the UK North Sea and as an independent

technical expert for the NSTA reviewing Early Risk Assessments of carbon storage projects resulting from the 2023 licence round.

#### 2.7.4 NASH Maritime Ltd

76. Dr Ed Rogers is a chartered maritime engineer with over 20 years' experience in conducting maritime risk assessments for both offshore (renewable) energy installations and ports/harbours. Ed's commercial project experience includes leading and conducting shipping and navigation studies, maritime risk assessments (qualitative and quantitative), and navigation simulations; whilst research projects include national and international research projects on risk management and development of software tools and risk assessment methodologies.
77. Ed has an Engineering Doctorate degree in Systems and Transport Engineering from the University of Southampton which focused on applying quantitative techniques to marine risk assessments to enhance maritime safety.

#### 2.7.5 ERM

78. In addition to the above technical support, the Applicant commissioned peer reviews of their position and supporting documentation to emphasise the credibility of its position. The independent peer review at **Appendix F** has been written by Kevin Kinsella and David Caine, both Partners with ERM.
79. Kevin Kinsella has over 40 years' experience in offshore safety and risk assessment and has contributed to more than 50 offshore safety cases in UK North Sea and Irish Sea, including the assessment of helicopter transport risk. He started his career at British Gas before moving to AEA Technology where he worked on the UK's first offshore safety cases following legislation brought in after the Piper Alpha disaster. He became Head of AEAT's Oil and Gas Safety and Risk Business in 1992 overseeing a team of 40 consultants working solely on offshore safety cases.
80. David Caine is a Partner within ERM's Technical Safety and Risk Team. He has over 15 years' experience in UK offshore project development. He has been involved with a variety of projects for clients in the oil and has, chemical and hydrogen sectors. He has also been involved in preparing a number of offshore Safety Cases to UK North Sea standards, onshore COMAH reports to UK HSE standards, and HSEIAs to ADNOC Standards.
81. Full credentials for ERM can be found on pages 8 and 9 of **Appendix F**.

## 2.7.6 CityPort Oil & Gas Services Limited (CPOGS)

82. The second independent peer review at **Appendix G** has been led by CPOGS CEO Diccen Sargent – a degree qualified Technical Safety Engineer with over 35 years' experience in the Oil and Gas industry. He is currently working closely with both the OEUK and the UK HSE to resolve emergency response issues relating to the increasing size and weight of UK offshore workers. Diccen has previously made presentations to UK HSE Inspectors in 2024 as a Subject Matter Expert in relation to offshore lifeboat provisions, and in May 2025 he will be presenting similar research material to the North Sea Offshore Authorities Forum (NSOAF).
83. CPOGS is a specialist Technical Safety engineering consultancy which supports clients who are active in the Oil & Gas offshore energy sector. CPOGS recent client engagements include Offshore Energies UK who are the leading trade association for the UK offshore energy industry, as well as leading companies in the UK and international energy sectors such as Bluewater Offshore, Haliburton, Heerema, Helix, KCA Deutag, Petrofac, Prosafe Offshore, Shell, Total Energies and Weatherford. CPOGS engineering consultants routinely lead and direct the statutory five-yearly review independent 'Thorough Review' processes for their clients. They also undertake site audits on mobile oil and gas installations re-entering the UK sector.
84. A full summary of CPOGS' credentials can be found at page 8 of Appendix G.

## 2.8 The Affected Assets

85. Spirit uses the term 'Affected Assets' in its Relevant Representation (RR-077) at paragraphs 3.10 onwards. For continuity, the Applicant has adopted that term within this submission. The Affected Assets comprise:
- a) South Morecambe Central Processing Complex (CPC) comprises of the Accommodation Platform 1 (AP-1), Central Processing Platform 1 (CPP-1) and Drilling Platform 1 (DP-1). There are two helidecks within the Central Processing Complex – one at AP-1 and one at DP-1;
  - b) Calder CA1 (Calder) remote drilling and production platform with helideck which (as set out in paragraph 1.4) Spirit is designated duty holder, and therefore operator, under licence from Harbour;
  - c) South Morecambe DP6 NUI (with helideck);
  - d) South Morecambe DP8 NUI (with helideck); and
  - e) North Morecambe DPPA NUI (with helideck).
86. All of the Affected Assets, with the exception of Calder, are owned and operated by Spirit. Calder is owned by Harbour but operated by Spirit.

## 2.8.1 South Morecambe CPC-1, AP-1 and DP-1 Helidecks

87. South Morecambe CPC-1, AP-1, and DP-1 Platforms are manned installations. The Central Processing Complex (CPC) is comprised of three bridge linked platforms including an accommodation platform (AP-1), central production platform (CPP1) and a drilling platform (DP-1). CPC is owned and operated by Spirit.
88. CPC-1 has a Cease of Production (COP) date of 2027, plus or minus two years, as stated by Mr Hepburn of Spirit during Issue Specific Hearing (ISH3) (paragraph 2.47 of Post-hearing submissions including written submissions or oral cases (if required) (REP4-070)):

*“2.47 Mr Hepburn explained that the cessation of production for CPC is 2027, plus or minus two years, and that Spirit are not in any way, shape or form looking to decommission the asset at this time. Mr Hepburn stated that his remit at Spirit is to extend the life of the asset to 2030 and beyond with that, and Spirit have a strategy and a roadmap that will facilitate this. Cessation of production is defined by the macroeconomic factors as well, such as gas prices. As per the current gas price model, Spirit certainly have a route that takes it beyond 2027 and out to 2030 and beyond. Mr Hepburn explained that Spirit are working with Harbour Energy to extend the life of its Calder platform as well.”*

## 2.8.2 Calder

89. Calder is a NUI which is owned by Harbour and operated by Spirit. It is a small production platform with a single topside located to the mid-west of the windfarm site boundary. The platform can be accessed by maintenance crews via helicopter.
90. The Calder Platform Decommissioning Programme has been submitted to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) for Statutory Consultation, and notes that Calder decommissioning activities are anticipated to commence in 2027.<sup>3</sup> The OPRED web page Oil & Gas: decommissioning of offshore installations & pipelines notes that the decommissioning plan is under consideration<sup>4</sup>.

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<sup>3</sup> Calder, Dalton & Millom Decommissioning Programmes

<sup>4</sup> Oil & Gas: decommissioning of offshore installations & pipelines - GOV.UK

### **2.8.3 South Morecambe DP-6**

91. South Morecambe DP-6 is a Normally Unmanned Installation (NUI) which has been cleared for night flying operations.

### **2.8.4 South Morecambe DP-8**

92. South Morecambe DP-8 is a platform with a helideck.

### **2.8.5 North Morecambe DPPA**

93. North Morecambe DPPA is a remote drilling platform with a helideck.

## **2.9 Decisions on Decommissioning**

94. The Applicant understands that Spirit and Harbour have an obligation to ensure that the maximum value of economically recoverable petroleum is recovered from the strata beneath relevant UK waters, noting that this does not extend to the volume expected to be produced, as set out in the Oil and Gas Authority (now NSTA) Strategy<sup>5</sup>. Spirit and Harbour have obligation to maximise economic recovery from assets; (supporting to Energy Security objectives); however formerly where a decommissioning license had to be obtained from NTSA; now only a notification is to be made; as such the decision for COP rests with Spirit and Harbour to be evidenced to the authorities. Through discussion with the regulator, it is possible to extend production beyond the dates set out in a submitted Decommissioning Programme. However, the basis for the Environmental Impact Assessment (EIA) supporting the Decommissioning Programme may have changed requiring an update of the EIA.
95. The windfarm would not impact any such decision or process as any changes in operating costs can be demonstrated to NSTA during this process. It is understood that the decision for decommissioning for Spirit is driven by the need to ensure feasibility and viability of the future Morecambe Net Zero Carbon Capture and Storage Hub. As part of the Energy Transition, Spirit Energy CEO Neil McCulloch is noted as championing the philosophy of 'Mind the Gap' between decommissioning of existing assets and commissioning of future projects; to ensure skills and personnel are not lost from the industry if investment decisions are not forthcoming.<sup>6</sup> Whilst this is a valid philosophy, it also ties the decommissioning of a 'end of life' asset to the feasibility and investment decision of a new asset. This philosophy, may also help explain

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<sup>5</sup> The OGA Strategy

<sup>6</sup> ['Mind the gap': Spirit Energy says continuity key to CCS development | Upstream](#)

the rationale for Spirit to ‘protect’ its existing assets to fullest extent whilst maximising opportunity and design envelope for future interests. However, this strategy is inward looking, focussing on transition from one activity to another. This may be in the best interests of an individual private company, but may not be the best overall, for example it does not account for otherwise committed lease areas by third parties, e.g. Morecambe Offshore Windfarm, which are under Agreement for Lease with The Crown Estate and already more advanced in the consenting and development process than future Carbon Capture and Storage projects. The National Policy Statements support co-existence at a broader level between developers and activities, not just the transition of activities between the same developer.

96. Due to the late stage of operational life and intended decommissioning there is very little potential for overlap between the following Affected Assets and the Project.

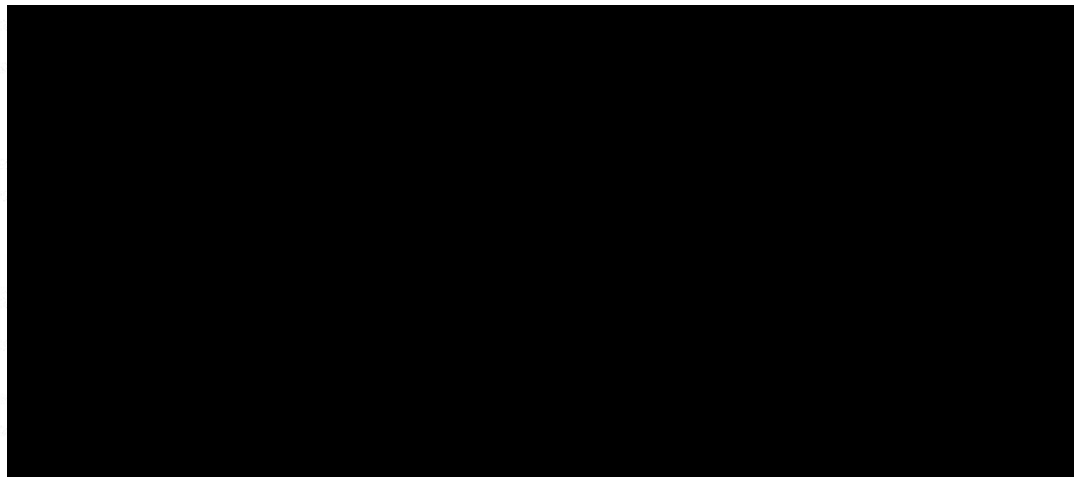
## 2.10 End of Life Economics for Affected Assets

97. The Applicant has submitted, confidentially to the Examining Authority, extracts of asset reports commissioned from Wood Mackenzie on the Morecambe South field, the Morecambe North & Rhyl field, and the Calder field. Whilst the Applicant does not discuss the contents of the reports in any detail within this submission, it is clear from the reports submitted that both the Morecambe South field and the Calder field are operating towards the end of their production life, and that production is decreasing year on year. This of course supports the decommissioning timelines and, the Applicant speculates, may be factor in Spirit’s unshakeable view that it should continue to operate in the same way and consequent reluctance to engage on updating its approach or co-existence.
98. It may be noted from **Table 2.1**, below, that the remaining economic reserves from each respective cluster are at point of inflexion. South Morecambe is evaluated to have sufficient remaining returns to remain economic in 2024; however, enters breakeven in 2027 and negative cash flows in 2028. For Morecambe North & Rhyl, and Calder fields, these assets already do not have sufficient remaining reserves to maintain economic operations, and have effectively entered decommissioning phases. It must be noted that due to increased capital costs at end of life in Decommissioning; this can influence cash flows and timing of decommissioning decisions.

*Table 2.1 Economic Assessment of Remaining Reserves*

	<b>Total Remaining Reserves / mmboe</b>	<b>Reserve Life at current production /years</b>	<b>Total Revenue 2024 /\$m</b>	<b>Total Costs 2024 /\$m</b>	<b>Total Tax/Levy 2024 /\$m</b>	<b>Net Earnings 2024 /\$m</b>
Morecambe South field (CPC-1/AP- 1/DP-1/DP- 6/DP-8)						
Morecambe North & Rhyl fields (DPPA)						
Calder field (Calder)						

99. Further, in reference to the Wood Mackenzie extract for South Morecambe and on inspection of the year on year reducing gas production, an illustrative example comparison between energy production between the gas field and windfarm can be made in 2030:



100. It is of note that it can be seen that in 2030 there is a natural inflection between the daily amount of energy production from the Morecambe South gas field and the daily amount of energy production from the windfarm.

### 3 Oil & Gas Clause

101. As noted above, the Project holds an AfL with TCE.
102. This AfL includes what is known as the “Oil and Gas Clause”, which provides that TCE may determine (i.e. terminate) the AfL (and, subsequently, the Lease), in whole or in part, at the request of the Secretary of State if parts of the leased area “are required for Oil and Gas Works” or if “rights are required” over those areas “in connection with Oil and Gas Works”.
103. As confirmed in the Written Ministerial Statement from the Secretary of State for Energy Security and Net Zero on 24 May 2024 (‘Oil and Gas Overlaps with Offshore Wind Projects’ (UIN HCWS504)), the Oil and Gas Clause “has never been used and no oil or gas developer has ever asked a Secretary of State to determine an offshore wind lease.”
104. It has been established policy since 2011 that a necessary condition to be met before any request for determination would be considered is that “appropriate compensation has been paid by an oil and gas developer to the affected offshore renewable energy developer, or that a binding agreement had been entered into” to pay such compensation.<sup>7</sup>
105. This policy is further endorsed by the North Sea Transition Authority in its website on Crown Estate interests and was reiterated by the Secretary of State for DESNZ on 24 May 2024:
- “I would like to clarify that **there should be no assumption that oil and gas has primacy over offshore wind, or vice versa**. In the highly unlikely event that I receive a request from an oil or gas developer to ask the Crown Estates to determine an offshore wind lease, there should also be no assumption that I would agree to do so. In line with previous Government guidance, it would only be used in very exceptional circumstances, **only after all avenues for co-existence had been explored and only after appropriate compensation for the offshore wind developer had been assured.**” (emphasis added)
106. The entrenched position taken by Spirit throughout the Examination, and the solution that it argues is necessary to protect its Affected Assets, is in effect seeking to determine the Project’s Agreement for Lease. It is stating that a substantial proportion of the AfL Area is required for Spirit’s works such that Critical National Priority Infrastructure, necessary to meet the United Kingdom’s Net Zero targets, cannot go ahead to its full extent. The effect of this position, i.e. imposition of the full 3.76nm buffer zones requested by Spirit,

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<sup>7</sup> Written Ministerial Statement by the Secretary of State for Energy and Climate Change on 12 June 2011.

is that it will make the entire Project unviable. There has been no discussion from Spirit on appropriate compensation for the Applicant.

107. As has been detailed in this statement, all avenues for co-existence have not been explored by Spirit. The Applicant has consistently sought to engage with Spirit, both before the AfL was awarded and regularly since then (including throughout this Examination), and the Applicant has presented several credible and reasonable avenues for co-existence. During examination it is not considered that Spirit have made genuine attempts (to date) to find co-existence solutions. In her statement on 24 May 2024, the Secretary of State for DESNZ stated that she expected all parties "to engage constructively, to act in good faith and to behave reasonably when approaching discussions on co-location." Spirit has failed to do so.

## 4 Co-Existence And Context To O&G, CCUS And Offshore Wind

### 4.1 Background

108. As noted above, and explained in **Section 10** below, co-existence of existing and future offshore assets and infrastructure is recognised as necessary in National Policy. There are considerable demands on the availability of seabed. The Applicant reiterates that coexistence requires collaboration and compromise.
109. For context, in terms of contribution to the UK Clean Power 2030 targets:
- Morecambe Offshore Windfarm will contribute 480 MW to the government's 50 GW target by 2030. Equivalent to approximately 60 TWh of low carbon electricity over its operational lifetime; (sufficient green power for Liverpool for over 100 years)
  - Morecambe Net Zero will contribute approximately up to 25 Mtpa, or up to 100% of the government 2030 Mtpa target, and up to approximately 1 gigatonne (Gt) CO<sub>2</sub> stored over its operational lifetime.
110. Government policy is currently focused to accelerate the deployment of Offshore Wind and thus reduce prices for the UK consumer. This is evident in the evolutions made to the Contract for Difference regime<sup>8</sup> and the ongoing Review of Electricity Market Arrangements (REMA) market reform.<sup>9</sup> These are clear examples of government intention to speed up offshore wind deployment whilst also improving market pricing efficiency for consumers including reducing consumer exposure to gas. REMA stated objective is to *"facilitate the full decarbonisation of the electricity system by 2035, subject to security of supply, and are cost effective for consumers"*.

### 4.2 Ability / Appetite of O&G to Adapt to Change

111. Adaptation to new neighbours may require changes in operating model, these changes are not expected to bring about fundamental questions of business viability, however, they may have some economics implications. In regards to end of life Oil and Gas assets, these assets are very sensitive to maximising economic recovery whilst maintaining as low as possible cost basis. This downwards pressure on costs reduces maintenance activities and can lead to

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<sup>8</sup> [Further reforms to the Contracts for Difference scheme for Allocation Round 7: consultation document \(accessible webpage\) - GOV.UK](#)

<sup>9</sup> [REMA-for-communities-briefing-note.pdf](#)

pressure on safety. Therefore, the ability of aged Oil and Gas to respond to changes in cost basis can be limited. Ultimately, however, price fluctuations in barrel of oil equivalent can dramatically change the economic outlook for an asset and as such, arguments to avoid changes to cost basis or operating model should be viewed holistically as part of a wider energy generation system.

112. All reasonably prudent operators continually review the operating model in lieu of business considerations, revenues and cost basis.
113. Oil and Gas Cessation of Production date is a function of revenue and cost balance, with remaining reserves and the gas price making up revenues and operating model making up the costs. This situation is especially exacerbated by low gas prices, which the aforementioned current government policy of increased renewables and market reform as outlined in paragraph 111 seeks to achieve.
114. Changing the operating model is sensitive to available revenue, though a minimum amount of work must always be undertaken to maintain safe operations.
115. Increased pressure on their operating model as a result of the windfarm being built may be a consideration for Spirit in their objection. It is possible that Spirit's position is due to the condition of the affected assets (even accounting for their age - it is appreciated that maintenance is an industry issue for aging oil and gas assets (page 16 of the CPOGs Report at **Appendix G**).
116. It is possible that Spirit has been operating at the minimum level to achieve safe operations for some time due to reaching the end of useful asset life; and as such Spirit may be unable to absorb any additional costs to consider a change in operating model; or operating costs as a result of the windfarm.
117. In regards to operational capacity, it is untenable to conclude that a few percentage points of reduction in access could not be easily accommodated, especially considering that the maintenance burden will have reduced significantly (up to 33%) with the decommissioning of two NUIs (DP3 & DP4) in 2023.
118. If Spirit is concerned about reaching this tipping point, or simply wish to avoid the 'operational nuisance' of adapting their ways of working, or protect the future investment and optionality of Morecambe Net Zero, then this may explain the intransient position. Given the limited residual impact of the Project, if this is the situation then the Project is not the main cause, it is the age of the assets, and changes to approach may be necessary in any event.
119. In regards to maintenance backlogs, analysis by DNV shows that without the corridor, the hours lost, without considering any that may be recoverable by

longer stays, represent 1.5 – 3% of the total working hours. With the corridor, this figure drops to 1-2%. Both figures are low and are dwarfed by the recoverable hours of ~10% that are available from longer stays on the NUI when this is possible. See Table 4 of the DNV Report (**Appendix B**)

120. However, and importantly, there are clear other ways to safely access, operate, maintain and decommission the assets other than using CPC-1 as a hub and spoke model for example direct flights with a shore based team, 'flotels', other vessels (i.e. walk to work). There may also be opportunities to share vessels for maintenance on current or future NUI assets with retro-fitted walk to work systems. These would undoubtedly be both more economic and safer than current Heli-Operations. Such changes could easily offset any short-term aviation impairment as a result of the Project.
121. Also importantly, in the current draft of the Protective Provisions, the Applicant has committed to co-existence, and to paying the additional costs of different access to the extent attributable to the Project in the short term where there is the potential for the Project to overlap with operation of the Affected Assets.

### 4.3 Transition to CCUS

The long-term investment case of Spirit's CCS asset is unclear at this time without a feasible appraisal and there being significant uncertainty, both nationally and internationally in the carbon pricing and the politically sensitive nature of carbon pricing<sup>10</sup>. However, as set out in the next section, the Applicant has taken full account of all the concerns raised by Spirit in relation to future co-existence and no residual co-existence issues remain.

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<sup>10</sup> [Spirit Energy's Morecambe Gas Hub Marks 40 Years of Powering UK](#)

## 5 Shorter Term Co-Existence – Operational Phase – Aviation

### 5.1 Spirit's position

#### 5.1.1 Instrument Meteorological Conditions (IMC) Access and Night Visual Meteorological Conditions (VMC) Access

122. Spirit maintains a position that an aviation buffer zone of 3.76 nm around CPC-1 and Calder is required. This buffer would provide for unrestricted access in Instrument Meteorological Conditions (IMC). Spirit proposes that this be secured within Protective Provisions, and this would provide an adequate solution. The distance of 3.76 nm is the distance of unobstructed airspace that AviateQ, Spirit's aviation consultants, has identified to allow Spirit to continue with helicopter access to and from Spirit's assets (noting this is an update during Examination to previous figures of 3.3 nm). They also note at paragraph 2.13 of their Comments on any other submissions received at Deadline 3 (REP4-069) that this figure has been endorsed by NHV, the helicopter operator for operations at South Morecambe.
123. The basis for Spirit's calculations of a 3.76 nm IMC buffer zone is set out in Spirit's Response to the Applicant's Deadline 2 Submissions (REP3-102). The calculations are set out in the AviateQ Report at Section 96, which is Appendix 4 of the Response to the Applicant's Deadline 2 Submissions (REP3-102).
124. Spirit presented slides to the Applicant at a meeting between the parties on 13 February 2025. These slides are appended to Comments on any other submissions received at Deadline 3 (REP4-069). Slides 6 and 7 show the analysis undertaken by Spirit in calculating the percentage of lost flights to NUIs, should the platforms be limited to day VMC access only. The slides demonstrate that Spirit have updated their assumptions and methodology, making changes to sunset/sunrise times, increased night flexibility and adopting a new 'Time Offshore' methodology. The revised calculations on slide 7 show that Spirit calculate an annual impact of 13%, with a 22% impact in winter.
125. In addition, Spirit introduced the concept of 'restricted wind sectors' (Slide 8). As Spirit do not agree with the Applicant that 1.5 nm is sufficient to enable day VMC access, see **Section 5.1.2** below, it has applied a restricted wind sector to this analysis, removing flights where the prevailing wind is coming from the direction of the Project. Spirit's position is that factoring in the alleged loss of day VMC access (i.e. without the 1.9nm buffer which is in its view necessary

to maintain day VMC access) increases the annual impact on NUIs to 30% lost flights, with a 44% impact in winter.

126. On slide 11 onwards Spirit set out their new 'Time Offshore' methodology. 7-hours offshore time is viewed by Spirit as the minimum target for maintenance activities, excluding shorter excursions such as restarting production after a system trip. The figures show that 88% of days flown to NUIs achieved more than 7-hours. On slide 14 Spirit calculate that it would have lost 22% of its Time Offshore because of the added wind farm restrictions, with the Winter months particularly affected. Spirit has clarified in emails with the Applicant that the 'added wind farm restrictions' applied here includes the 'restricted wind sectors' described at the paragraph above. In other words, this 22% assumes a restriction on day VMC access (because in Spirit's view a 1.9nm buffer is needed).
127. There is no equivalent lost Time Offshore analysis carried out for CPC-1. The Applicant assumes this is because CPC-1 is a permanently manned platform and therefore access for maintenance is not such a perceived issue.

### 5.1.2 Visual Meteorological Conditions (VMC) Access

128. Spirit maintain that they cannot accept a restriction to day VMC for the safety of its operations, see the discussion on safety at **Section 7** below.
129. In respect of a buffer zone for day VMC access, Spirit have calculated a distance of 1.9 nm (see Section 8.3 of Appendix A of their Written Representation (REP1-116)). This calculation has affected their calculations of loss flights and lost Time Offshore, see **Section 5.1.1** above.

### 5.1.3 IMC Take-Off Corridor

130. The Applicant proposed an aviation corridor to Spirit and Harbour on 31 October 2024, and submitted this to the examination at Deadline 2, see **Section 5.3.3** below.
131. Within Spirit's Deadline 3 Response (REP3-102) they articulate why they believe that the aviation corridor is not suitable. In particular, Spirit maintain that the corridor only accounts for take-off from CPC-1 and does not address landing at CPC-1 using IMC, or take-off and landing at Calder and DP6 using IMC. With respect to take off at CPC-1, Spirit state that the orientation of the corridor would only facilitate IMC take off approximately 22% of the time.
132. In addition, the proposed CAA 'rule change', see **Section 5.3.4** below, would restrict all flights within 3 nm of a wind turbine to day VMC access only. This means that for Spirit to use the aviation corridor, it would necessitate a CAA dispensation under the Alternative Means of Compliance (AltMoc) process.

Spirit notes it is not aware of such AltMoc being granted elsewhere in the UK under these circumstances.

## 5.2 Harbour's position

133. Spirit Energy is the Offshore Safety Directive Installation and Well Operator for the Calder Field, and in such capacity is responsible for operating and maintaining the Calder Platform on behalf of Harbour Energy as the sole Calder owner. The safety case which governs operation during the production phase is held by Spirit Energy, and therefore all aviation operations are conducted by Spirit Energy under its safety case.
134. Harbour outline at Section 2.1.1 of their Written Representation that in order to enable five hours of productive work at the Calder Platform, weather conditions need to be such to allow for a 7-hour period of time spent on the platform. Analysis of five (5) years' of metocean data from Spirit Energy's South Morecambe Field (refer to Appendix 1: Assessment of Helicopter Access), shows that the first flight to Calder, can currently occur forty two percent (42%) of the time during normal airport operating hours. This is the baseline for personnel visits to Calder.
135. Harbour set out that should wind turbines be placed along the array boundary such that wind turbine rotor tips are no less than 1.5 nm from the Calder platform, an annual average of 56% of all opportunities currently available to make a pair of trips to the Calder Platform with at least 7-hours between outward and return flights (giving five hours available for work) would be lost. With an AltMoC as described by the Applicant in The Applicant's Response to Spirit Energy Deadline 1 Submissions Appendix B: Helicopter Access IMC Corridor\_Rev01 (REP2-032), Harbour Energy calculates that the annual average loss of all opportunities currently available to make a pair of trips to the Calder Platform with at least 7-hours between outward and return flights would fall from 56% to 33%.
136. Harbour set out on page 2 of their Comments on the Applicant's Deadline 2 Submissions (REP3-104) that it calculates VMC access to require an unobstructed airspace of 1.9 nm. This would enable both approaches and take-offs at Calder.

## 5.3 The Applicant's Position

137. The Applicant's position is that day VMC access to CPC-1 and Calder is both safe and sufficient to allow safe continued operation and maintenance at the platforms, including decommissioning activities. The safety aspects of access being restricted to day VMC only are discussed at **Section 7** below. The Applicant disagrees with Spirit's analysis that IMC and night VMC access is also required in order to provide sufficient access to CPC-1 and Calder. The

Applicant also disagrees with Spirit's analysis and calculations on the required distances for VMC and IMC access.

### 5.3.1 Visual Meteorological Conditions (VMC) Access

138. The Applicant refers to the Anatec Report at Appendix A. Section 4.1 of that Report sets out Anatec's calculations with regards to the distance required for day VMC access. Paragraph 44 concludes that the approach distance is 1.26 nm and paragraph 61 concludes that the take-off distance is 1.44 nm. Both of these distances are within the 1.5 nm aviation buffer provided for in the Protective Provisions in favour of Spirit and Harbour.
139. As such, the Applicant's clear and evidenced position is that day VMC access will not be impaired by the presence of the Project.
140. The Anatec Report engages with Spirit's calculation of 1.9 nm being required to retain day VMC access, highlighting a number of errors made by Spirit in their assumptions. In particular, Anatec highlight at paragraph 52 that Spirit have applied 'professional judgement' to add an additional 1 nm to their calculated approach distance. This is unsupported in CAA or HeliOffshore guidance, or any other industry best practice.
141. The Applicant's own calculations are robust and supported by all relevant guidance. The Applicant submits that their own calculations are the correct calculations to accept with regards to day VMC access.
142. As noted below in Section 7.1.8, Spirit include their view that day VMC access will be restricted in their new headline 22% loss of Time Offshore figure (Slide 15, PDF page 48, REP4-069) - this figure would of course be substantially reduced once it is factored in that all day VMC flights will be able to continue and so not contribute to loss of Time Offshore.
143. The Applicant's position, see **Section 7.1.8** below, is that this 22% loss of time offshore would be immediately and significantly reduced when it is understood that 1.9nm is simply not required for day VMC access and the Applicant's proposed buffer of 1.5nm is more than sufficient to retain full day VMC access to the platforms. In **Appendix B** DNV calculate this figure to be 1.5%-3% of the total working hours not taking into account the IMC Take-Off Corridor, and with the corridor this figure drops to 1-2%. Recoverable hours of ~10% are available from longer stays on the NUI when this is possible.

### 5.3.2 Instrument Meteorological Conditions (IMC) Access

144. Notwithstanding the Applicant's position that day VMC access is sufficient to enable safe and sufficient access to CPC-1 and Calder, the Applicant has also calculated the required distances to enable IMC access at both platforms.

Within Anatec's Report at paragraph 61 it is stated that an unobstructed approach arc of 9 nm is required for IMC. Spirit's Written Representation (REP1-116) at paragraph 2.22.2 states that:

*"3.9nm - Minimum distance for safe CAT operations for both platform approach and OEI take off in IMC conditions using IFR".*

In the opinion of the Applicant, 3.9nm is an insufficient distance for an approach in IMC, as an obstacle free arc of 9nm is required. As approaches are made into the wind, based on the position of the proposed windfarm relative to the South Morecambe Platform, this will still permit IMC approaches to CPC-1 from the northeast, east, west and south west of the helideck as an obstacle free arc would be available in these directions.

145. With regards to take-off in IMC conditions, the Applicant sets out its calculations at Section 4.2.2 of the Anatec Report at Appendix A. The Applicant concludes that a conservative calculation would require a take-off distance of 3.28nm. This assumption is based on the helicopter's full weight of 4,800 kg being utilised at take-off (this is Spirit's assumption, which the Applicant finds unreasonable as the helicopter will have burned fuel in order to reach the platforms and there is not refuelling on CPC-1) and includes the Enhanced Power upgrade (this upgrade provides enhanced power following a single engine failure and is already being applied by some operators in the UK. As this is a safety upgrade, the Applicant considers that it is probable that this upgrade will be embodied by the time the Morecambe Windfarm is constructed in 2030, and so account was taken of the improved performance). At a weight of 4,400kg with the Enhanced Power upgrade, the distance is 2.81nm. Both distances also assume taking off into the wind.
146. **Table 5.1** below summarises the distances required to maintain VMC and IMC access as stated by both the Applicant and Spirit. For night flights, the Applicant has adopted a conservative view and assumed that IMC approach and take-off criteria will be applied to night VMC operations.

*Table 5.1 Distances stated by the Applicant and Spirit for Take-Off and Landing*

	Day VMC Applicant	- Day VMC Spirit	- IMC and Night VMC Applicant	IMC - Spirit, VMC
Approach	1.26 nm	1.9 nm	9 nm	3.76 nm
Take-off	1.44 nm	1.76 nm	3.28 nm (mass of 4,800 kg)  2.81 nm (mass of 4,400 kg)	3.76 nm

147. It also noted for further comparison that the CCA figure for the proposed AMC for VMC only is 3 nm.
148. **Table 5.2** below from the Anatec Report at Appendix A shows a comparison of the cancelled flights to CPC-1 should access be restricted to day VMC only.

*Table 5.2 Cancelled Flights to CPC-1, Comparison*

	Spirit Energy	Applicant
<b>Reference</b>	RR-077 Appendix D Slide 23	APP-081 Appendix A Tables A1-A4
<b>% Cancelled Flights CPC-1</b>	9%	8.5%
<b>% Delayed Flights CPC-1</b>	5%	N/A

### 5.3.3 Mitigation - IMC Take-Off Corridor

149. CPC-1 contains the principal helidecks for both crew changes to the South Morecambe platforms, and the hub for helicopter shuttling operations to surrounding NUIs. As impact is greatest on the CPC-1 helideck, then means to mitigate the impact on the crew change flights and shuttling operations to NUIs was considered. The Applicant introduced an IMC Take-Off Corridor at Deadline 2, (REP2-032). For the avoidance of doubt, despite being introduced as the IMC Take-Off Corridor, it would also enable more flights to occur under night VMC conditions. Following analysis by Anatec it is concluded that the meteorological data shows that the prevailing wind direction is from the south-

west for both day and night IMC. If a take-off corridor from CPC-1 was provided into the prevailing wind, then IMC access for CPC-1 would be increased and the impact on the Morecambe Windfarm would be reduced, compared to providing a 360° obstacle free area. In addition to providing an IMC take-off path into the prevailing IMC wind direction, the take-off corridor would have the added benefit of increasing night VMC access and increase the obstacle free radius around the Calder Platform.

150. The Anatec Report at Appendix A sets out the available access with the IMC Take-off Corridor in place in Table 5.1 at Section 5.3.2 based on individual landings/take-offs and CPC-1, showing that approximately 50% of all day IMC and night flights could have occurred if the IMC Take-Off Corridor was in place, halving the potential impact.
151. This analysis shows that 96% of flights would have occurred across the data set of 2018-2022.

*Table 5.3 Assessment of flight distribution*

	All Flights	Day VMC Flights	Day IMC Flights Allowed by Take-off Corridor	Night Flights Allowed by Take-off Corridor	Percentage of Access with Take-off Corridor
2018	2879	2470	72	135	93%
2019	2440	2282	60	36	98%
2020	1094	1021	33	9	97%
2021	1491	1399	33	16	97%
2022	2118	2003	27	29	97%
<b>Total</b>	<b>10022</b>	<b>9175</b>	<b>225</b>	<b>225</b>	<b>96%</b>

### 5.3.4 CAA 'Rule Change'

152. The Applicant is aware that the Civil Aviation Authority (CAA) is planning to consult on a proposed change to regulations which would restrict flying to and from oil and gas platforms that are located within 3 nm of offshore wind turbines to day VMC access only. The Applicant notes this distance selected by the CAA sits within the range calculated by Anatec to maintain IMC access. As confirmed by the CAA if the rule change does occur, then it will be at the level of Acceptable Means of Compliance (AMC). AMC adopted by the CAA are means by which the requirements in the UK Regulation European Union (EU) 2018/1139 (UK Basic Regulation) and it's Implementing Rules can be

met. For example, AMC1 SPA.HOFO.125 covers airborne radar approaches to offshore locations. Since AMC can be met by other means, regulated persons and organisations may apply for permission to use alternative procedures to comply with the law by the use of AltMoC.

153. For the CAA to accept an AltMoC the helicopter operator will need to demonstrate that the alternative approach nonetheless maintains compliance with the Basic Regulations. Applicants may also apply for AltMoCs as a means to establish compliance with the UK Basic Regulation and its Implementing Rules for which no associated AMC has been adopted. Where regulated persons or organisations wish to utilise their own alternative means of compliance, they must first obtain the approval of the CAA.
154. The IMC Take-Off Corridor would require an AltMoc to be granted, should the proposed CAA rule change come into place as anticipated. The Anatec Report at Appendix A sets out, in Anatec's opinion, the feasibility of obtaining an AltMoc. Based on precedent and professional experience, Anatec consider that obtaining an AltMoc for continued IMC and Night VMC approaches and take-offs from helidecks adjacent to the Morecambe Windfarm is feasible.
155. Paragraph 5.20 of Spirit's Comments on any other submissions received at Deadline 3 (REP4-069) states "The Applicant has failed to recognise the crucial point that to obtain an AltMoC, the aviation operator would have to demonstrate an equivalent safety standard to the AMC." The Applicant submits that Spirit is wrong in this regard, and that the equivalent safety standard of the IMC Take-Off Corridor, as to unrestricted IMC access in certain wind directions, is exactly the basis of Anatec's position in proposing the IMC Take-Off Corridor. Within the corridor itself, the safety position is the same.

### **5.3.5 CAP 1721 – Alternative Means of Compliance**

156. "Acceptable Means of Compliance (AMC) adopted by the CAA are means by which the requirements in the UK Regulation (EU) 2018/1139 (UK Basic Regulation) and its Implementing Rules can be met.
157. Since requirements can be met by other means, regulated persons and organisations may apply for permission to use alternative means to comply with the law by the use of Alternative Means of Compliance (AltMoC).
158. For the CAA to accept AltMoC the applicant will need to demonstrate that the alternative approach nonetheless maintains compliance with the law. Applicants may also apply for AltMoCs as a means to establish compliance with the UK Basic Regulation and its Implementing Rules for which no associated AMC has been adopted."

159. The CAA confirmed in the response to the ExA's first set of written questions (REP3-075) that the Rule Making Task 0187 will only add AMC and/or guidance material (GM) in relation to this change and hence it will be possible for an Alternative Means of Compliance (AltMoC) to be considered, as the Basic Regulations and Implementing Rules will remain unchanged.
160. The example of the Beatrice Alpha platform quoted by the Applicant is valid. It was a manned platform which received daily flights. Shuttling operations to the Beatrice Bravo and Charlie NUIs from the Beatrice Alpha were conducted, albeit at a much lower rate than from CPC-1. The CAA approval was similar to an AltMoc as the operator had to demonstrate compliance with UK Basic Regulation and its Implementing Rules along with an acceptable standard of safety. In this case, the operator flew proving flights with their CAA Operations Inspector to determine safe day and night VMC and IMC approach arcs and departures. The approval to fly to the Beatrice Alpha with two 500ft high wind turbines 0.75 nm from the helideck occurred in 2006, demonstrating that this is not a new issue. Flights into helidecks located inside and adjacent to windfarms have safely been conducted for over a decade under Commercial Air Transport regulations at distances lower than those being disputed by Spirit.

### 5.3.6 Protective Provisions

161. As described in Section 2.6 above, the Applicant has provided for Protective Provisions in favour of both Spirit and Harbour within the DCO. The Protective Provisions provide for a 1.5 nm aviation buffer zone, free of WTGs and OSPs around each of CPC-1 and Calder. This will secure day VMC access from all directions for helicopters at both platforms. As mentioned above, this would allow for an average of 91.5% of flights to CPC-1, based on the Vantage data provided, to proceed. For NUIs, the unrestricted day VMC access would allow an average of 87.8% of flights to proceed with no delays or cancellations, taking into consideration if a flight to or from the NUI is not possible due to weather conditions, then the corresponding return or outgoing flight would also be cancelled.
162. In addition to these buffer zones, the Applicant has also provided further mitigation by way of the IMC Take-off Corridor, see **Section 5.3.3** above. The IMC Take-off Corridor is positioned into the prevailing wind and Anatec's analysis at Section 6.1.2 of their report at **Appendix A**, demonstrates that it would enable a significant number of IMC and night flights to continue. As stated above, table 6.3 concludes that with day VMC access and the take-off corridor in place 96% of flights would proceed at CPC-1 (in other words, it reduces the impact by around half).

163. The Applicant has provided a compensation mechanism, see **Section 2.6** above, which would provide adequate compensation for any operational accommodations needed in light of residual lost flights in conditions in which the IMC Take-off Corridor could not be utilised.

### 5.3.7 Other Offshore Windfarm and DCO Precedent

#### 5.3.7.1 Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024

164. The Applicant refers to the recent Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 where Perenco North Sea Limited (Perenco) were provided with Protective Provisions. Here, Perenco were granted a “facilities proximity area” which is an obstacle-free area measured 1.26nm extending from the centre of the Waveney platform, which is a NUI. During the course of examination Perenco maintained that “1.26 nm is required for VMC access in any wind direction based upon a 0.75 nm stabilised approach distance of the future helicopter operator”. This can be found in Perenco’s responses to the Examining Authority’s fourth round of questions.
165. The Applicant highlights that another oil and gas company has accepted that 1.26 nm is acceptable for day VMC access and submits that the Applicant is not being unreasonable or acting in isolation with regards to the day VMC access being argued for in this situation. The provided aviation buffer is sufficient for Spirit and Harbour to retain day VMC access to CPC-1 and Calder.

#### 5.3.7.2 The Hornsea Three Offshore Wind Farm Order 2022

166. The Applicant also refers to the Hornsea Four Offshore Wind Farm Order 2023 which contains protective provisions for the protection of Harbour Energy Limited, Perenco UK Limited, Premier Oil E&P UK EU Limited, Dana Petroleum (E&P) Limited and Dana Petroleum Limited. Here a WTG exclusion zone was established around each of the Johnston production wellheads of 1,600 km, which is 0.86 nm. In addition, an aviation corridor to the wellheads was provided which is 1,400 km of clear airspace measured tip to tip from any turbine generator. The Applicant considers that if Harbour Energy should be commissioning helicopters to fly to the Johnston wellheads safely, then it can also commission helicopters to fly to the Calder platform safely with a 1.5 nm aviation clear zone. As the Applicant maintains, this is not a safety issue but rather a commercial issue.

#### 5.3.7.3 Beatrice Offshore Wind Farm

167. The Applicant refers to **Section 5.3.5** above. The approval to fly to the Beatrice Alpha with two 500ft high wind turbines 0.75nm from the helideck occurred in 2006, demonstrating that this is not a new issue. Flights into helidecks located inside and adjacent to wind farms have safely been conducted for over a decade under Commercial Air Transport regulations at distances lower than those being disputed by Spirit.

## 6 Shorter Term Co-Existence – Operational Phase – Shipping And Navigation

### 6.1 Spirit's Position

168. Spirit's position in relation to potential impacts to shipping and navigation is outlined within their Relevant Representation (RR-077), Written Representation (REP1-116), Deadline 3 Submission (REP3-102), and Deadline 4 Submission (REP4-069). It's concerns and requests fall under several headings. Spirit's concerns relating to the Shipping and Navigation aspects of decommissioning are discussed below at **Section 8**, and its CCUS project, MNZ, are discussed below at **Section 9**.

#### 6.1.1 Greater Increase in Vessels in the Vicinity of the Affected Assets

169. As a result of the greater increase in vessels in the vicinity of its Affected Assets, Spirit is concerned with a greater collision risk, and impaired access for its support vessels.
170. Spirit is concerned that there will be a greater collision risk as a result of the Project, due to the number of vessels (transiting and operating) in the vicinity of the Affects Assets and the licensed blocks. This will include vessels supporting the Affected Assets, such as PSVs and ERRVs, vessels involved in the construction and operation of the Project, and third party vessels displaced as a result of the Project. Spirit states that this increased traffic will increase the potential for collisions with platforms and is likely to result in false alarms resulting in possible production shutdowns and (if manned) evacuation of personnel.
171. It further elaborates on its concerns regarding collision risk in its Written Representation (REP1-116, paragraphs 3.4ff) where it refers to a Vessel Collision Risk Assessment (VCRA) which it carried out in 2021. Spirit state that there is no annual collision frequency evaluation similar to that found in the VCRA within the Application, and as such, given the traffic patterns in the East Irish Sea are expected to change as a result of the Project, an updated analysis will be required at the expense of the Applicant.
172. Spirit also sets out its concerns within its Relevant Representation (RR-077) relating to the potential impaired access supporting vessels may have in reaching their assets. This includes platform supply vessels (PSVs), emergency response and rescue vessels (ERRVs), jack-up rigs and other spread moored vessels and vessels remaining at a standby position prior to entering a controlled 500m zone. Spirit states that designated access paths

and exclusion areas in addition to a 500m exclusion zone around each platform will be required for drilling rigs, construction and decommissioning vessels and barges for further operational, construction and/or decommissioning activities in order for Spirit to be able to fulfil its petroleum licence binding obligations.

173. Spirit also states that simultaneous operations plans will be required.

### 6.1.2 Marine Buffer Zones

174. Spirit set out a number of requests within its Relevant Representation (REP-077) at paragraphs 6.5 and 6.16 for marine buffer zones to assist with ongoing operations at their assets, some of which would alleviate their issues as set out above. These marine buffer zones should be free of temporary structures (to include any structure or vessel, temporary or permanent, placed in the advancement of the Project). These include;
- a. A 1.5 nm buffer zone to deploy spread moored vessels, including heavy lift vessels and drilling rigs into position;
  - b. A minimum 500m exclusion zone around all oil and gas production platforms;
  - c. A vessel passing distance of at least 1 nm from each facility, and any operations which may be in progress in its immediate vicinity;
  - d. Both the CPP-1 and Calder platforms to have a 1nm wide corridor on the East and West side of each platform, and a minimum straight corridor of 1 nm wide between the two platforms; and
  - e. 500m buffer zone either side of pipelines/cables.

### 6.1.3 Radar Early Warning System (REWS)

175. REWS are radars installed onboard offshore platforms to monitor nearby vessels and provide protection against collisions. Within paragraphs 6.18-6.21 of Spirit's Relevant Representation (RR-077), Spirit stated that the Applicant had used incorrect assumptions within its assessment of the Project's potential interference with REWS (APP-082) and requested that a revised REWS assessment be provided.
176. Spirit also state within their Relevant Representation (RR-077) that the Calder platform has an aid to navigation (AtoNs) marking, and Spirit are required to maintain the offshore AtoNs and provide collision guard cover during the AtoNs non-availability and servicing period. This will normally be covered by the Spirit ERRV, but given the ERRV being engaged in the monitoring of the REWS system, and specifically new limitations being imposed on the REWS

system as a consequence of the Project, Spirit will no longer be able to continue to use the ERRV as a guard vessel cover. This will necessitate Spirit contracting an additional guard vessel for the period of the AtoNs failure or maintenance.

## 6.2 Harbour's Position

177. Within Harbour's Written Representation (REP1-102) they outline at Section 3 its position on Marine Operations. At Section 3.1 they lay out the following spatial requirements to be clear of temporary or permanent surface infrastructure (except as may from time to time be approved by the Calder Operator);
- a. A 1 nm radius around the Calder Platform;
  - b. A 1 nm corridor between the CPC and Calder Platforms; and
  - c. 500 m either side of the Calder pipelines and subsea cables.
178. The Written Representation notes that in respect of the second point, b above, this is no longer necessary as the Applicant's boundary limits were revised post PEIR.

## 6.3 The Applicant's Position

179. The Applicant has been supported by Nash Maritime Ltd (NASH) on the shipping and navigation elements of the Project. NASH prepared the Navigation Risk Assessment APP-073), the Cumulative Regional NRA (CRNRA) (APP-074) and **Appendix E**. The REWS Report (APP-082) together with its subsequent update (REP3-034) were provided by MARS.
180. The Applicant reiterates its position that safety is paramount. It is committed to co-existing with both Spirit and Harbour and highlights that the Protective Provisions in favour of both Spirit and Harbour in the Draft Development Consent Order\_Rev04 Clean (REP4-002) requires the Applicant and Spirit and Harbour (as applicable) to use all reasonable endeavours to enter into a co-existence agreement (which includes provision for proximity agreements on standard UK oil and gas industry terms).
181. The Applicant's responses to each of Spirit and Harbour's concerns are set out below.

### 6.3.1 Greater Increase in Vessels in the Vicinity of the Affected Assets

182. The Applicant disagrees with Spirit's criticisms set out at **Section 6.1.1** regarding its lack of annual collision frequency evaluation, similar to that carried out by Spirit. The Applicant has outlined within previous examination

submissions (e.g., REP2-030) that this risk has been assessed using allision frequency modelling, as detailed in Section 8.4 of the Volume 5 - Appendix 14.1 - Navigation Risk Assessment (APP-073), and Section 7.8 of Volume 5 - Appendix 14.2 - Cumulative Regional Navigation Risk Assessment (APP-074). This assessment of allision risk undertaken within the NRA is in accordance with guidance and has been agreed with the Maritime and Coastguard Agency (MCA), in the Statement of Common Ground (SoCG) submitted at Deadline 4 (REP4-039), to be in compliance with MGN 654. As such, the Applicant is not required to undertake any further assessment. The assessment undertaken to date is compliant with regulations, approved with the necessary regulators and is comprehensive and accurate. Please see Section 2.1.1 of the NASH Report at **Appendix E**.

183. The Applicant's collision risk assessment considers both a 15% estimated increase in traffic, to account for increases in traffic caused by the Project (as highlighted by Spirit within their Written Representation at Deadline 1 (REP1-116)), and "futurecase (risk with Project in place) scenarios". The Applicant notes that, within both the NRA (APP-073) and CRNRA (APP-074), the term "futurecase scenarios" refers to the future case route deviations that would be caused by the Project, which are illustrated in the right-hand panels of Figure 57 and Figure 55 within the NRA (APP-073) and the CRNRA (APP-074), respectively.
184. The Applicant also refers to again to 2.1.2 of the NASH Report at **Appendix E**, where it explains that although the Applicant does not consider additional analysis necessary, within the response to Spirit's Written Representation (REP2-027), the Applicant presented the option to Spirit for the Applicant to unpack and develop the allision risk modelling embedded in the NRA and provide a quantitative assessment of allision risk for base case and future scenarios. The Applicant's request throughout this response for Spirit to submit the Vessel Collision Risk Assessment (VCRA) was therefore to ensure appropriate comparisons in the event that Spirit requested this development.
185. An additional risk assessment, as asserted by Spirit (REP1-116, paragraphs 3.4ff), is not required. As such, it is considered that this matter is closed.
186. With regards to Spirit's concerns regarding lack of sea room for their larger vessels, the Applicant has provided for marine buffer zones which would accommodate these vessels, see **Section 6.3.2** below. In addition, the Applicant refers to Section 2.2 of the NASH Report at **Appendix E**. The Applicant further notes that the Project considers that there will need to be jack-up barges on site to undertake major maintenance activities, on average every five years during operation, and that there will be multiple large vessels, including jack-up barges, on-site during construction. Therefore, given that the sea room proposed is considered sufficient for large Project vessels to

navigate safely, and that these sorts of vessels typically undertake work for both renewables and oil and gas, the Applicant suggests that the available sea room is also sufficient for Spirit. Further comments in response to Spirit's request for the access corridor and the anchor deployment zone are presented within the Applicant's Response to Spirit Energy's Deadline 4 Submission Appendix D: Decommissioning (Document Reference 9.59.5).

187. As such, it is considered that this matter is closed.

### **6.3.2 Marine Buffer Zones**

188. The Applicant revised the Protective Provisions in favour of both Spirit and Harbour at Deadline 2 to take account of their respective requests regarding marine buffer zones. The Protective Provisions secure each of the points listed at [173] a-e and [176] a-c above. These buffer zones are demonstrated on the Schedule 3 Spirit and Harbour Protective Provisions Plan\_Rev01 (Document Reference: REP2-007).
189. The Protective Provisions provide for a 1.5 nm marine buffer zone around the CPC-1 platform and a 1 nm marine buffer zone around the Calder platform. These areas will be clear of WTGs, offshore substations and temporary surface infrastructure. This will also enable the 1 nm access corridor to the East and West of the platforms as requested by Spirit (by virtue of their size). In addition, the Applicant has provided for a 1 nm wide marine corridor, again clear of WTGs, offshore substations and temporary surface infrastructure, between the CPC-1 and Calder platforms.

### **6.3.3 Radar Early Warning System (REWS)**

190. The Applicant has had regard to Spirit's concerns with the REWS Technical Report submitted with the Application (APP-082), and subsequently commissioned Manchester Advanced Radar Services Ltd (MARS) to carry out a revised report. This revised REWS Technical Report (REP3-034) presents additional modelling results to assess the impact of shadowing in more detail to assess the detection and tracking performance of the REWS within radar shadow regions.
191. Both reports showed the impact of the Project in isolation, and the cumulative impact of the Morecambe Generation Assets with Mona Offshore Wind Project and Morgan Generation Assets, on detection performance of nearby REWS installation is expected to be low and will be manageable without the need for further mitigation measures.
192. The Applicant's understanding is, based on Spirit's Deadline 4 Submission (REP4-069), that Spirit have noted and accepted the updated REWS Technical Report (REP3-034) that the impact of the Project on detection

performance of nearby REWS installation is expected to be low and will be manageable without the need for further mitigation measures. As such, it is considered that this matter is closed.

193. In addition, given there will be no requirement for mitigation on REWS, Spirit's request for additional guard covers for Aids to Navigations (AtoNs) is not required.

## 7 Shorter Term Co-Existence – Operational Phase – Safety Considerations

194. The Applicant has engaged leading experts on safety to advise them on the claims made by Spirit and Harbour that the safety of their platforms would be compromised. The Applicant refers to a report carried out by DNV on its behalf, at **Appendix B** of this document. DNV confirm in their report that their findings consider the helicopter access reports produced by Anatec and AviateQ. Indeed the DNV report is largely independent from the detailed findings of Anatec and AviateQ, beyond the shared conclusion that night and IMC access would be restricted. The DNV report does not consider a scenario where day VMC access is reduced (because the Applicant does not consider this is tenable), but the conclusions are drawn both with and without the helicopter mitigation. Importantly, the approach taken by DNV also means that the Examining Authority (and the Secretary of State) do not need to make specific finding on the points of difference between the Applicant and Spirit's experts on IMC access. In addition, this report has been independently peer reviewed by ERM and CPOGS, please refer to **Appendices F** and **G**.
195. The Applicant refers to Section 9 of the ERM Report at **Appendix F** and in particular highlights the following conclusions:
- *“Both parties who have assessed the risk (Spirit Energy and DNV) are credible. The reason why they have come to differing conclusions cannot be answered based on the information provided. The assessment methodology and data used by Spirit Energy has not been shared so cannot be reviewed. The assessment and data used by DNV has been shared and found to be logical. The DNV approach indicates that operations at the Affected Asset would have to be extremely unusual for no possible mitigation measures to be found to maintain safe operations. Even with site specific data, this conclusion would not change. A number of qualitative arguments have been raised by the Affected Asset Operator. DNV's report gives a compelling argument as to why these would likely not cause a material effect. The counter demonstration of the impact is not available to review.*
  - *From the information shared in the documents reviewed it is considered likely and reasonable that the Affected Asset Operator could find a way to continue safe operation if they were inclined to do so, even with increased operational restrictions on helicopter travel caused by the presence of the proposed wind farm.”*

196. The Applicant also refers to the peer reviewed carried out by CPOGS at **Appendix G**.

*“CPOGS has completed the Independent Peer Review as requested, and our key findings relate to helicopter operations and ship collision. With respect to helicopter operations, CPOGS do not agree with Spirit Energy that restricting helicopter operations to ‘Visual Flight Requirements (VFR) only’ will necessarily result in a significant adverse impact on the overall safety of operations.”*

## 7.1 Applicant’s position

### 7.1.1 Emergency Response – Timescale – Up to an Hour

197. Offshore Installation Managers will follow a strict emergency response protocol when determining the best course of action to preserve life and prevent injury to all personnel onboard. While helicopters if available, firstly Commercial Aviation Transport (CAT) because they are the normal means of access and may be nearby, and secondly Search and Rescue (SAR), are the preferred means of evacuation from an installation, if there is an event and immediate emergency requiring immediate evacuation of personnel, it will need to be carried out quickly to remove personnel from danger to a place of safety. For this reason, it is most likely that lifeboats are used, which are then assisted by the standby vessel, that is always in the field.
198. Even if there is a helicopter in the field and the helideck was not directly affected, it would be unlikely to be able to approach a small NUI as there would be minimal separation between the hazards and the helideck and the pilot would have no training or procedures for such an approach. A SAR helicopter does have such capability but is not guaranteed to be available in the required timescale (and also may not be able to assist depending on the nature and severity of the event). As it operates under CAP 999, a SAR helicopter is able to fly to the platforms regardless of wind turbine location. It also has facilities to deal with injured personnel, which a commercial helicopter does not.
199. With three platforms comprising CPC-1, the helideck may be separated from the event allowing helicopters to use it, but evacuation by commercial helicopter and even SAR would take many hours due to there being up to 177 personnel to evacuate. It may be possible to evacuate to the temporary refuge on the accommodation platform and shelter until the event is over, at which point SAR helicopters could evacuate non-essential personnel.
200. Overall, there is no realistic potential for a commercial helicopter to provide emergency evacuation and so any greater restriction to the weather conditions it can operate in is not relevant in this regard. The second helideck on the CPC-1 complex is for day use only and has restrictions related to wind direction. Thus, it cannot be relied on for emergency response.

### 7.1.2 Medical Emergency – Timescale – An Hour to Hours

201. CPC-1 will be equipped with a sick-bay manned by a medic and a NUI party would include an advanced first aider. For a medical emergency, the first port of call is the sick-bay, or first aider. If treatment cannot be provided offshore, then the patient needs to be taken ashore.
202. If the emergency is acute, a SAR helicopter would be called and such a helicopter is set-up to allow medics to accompany a patient. If there is a commercial helicopter in the field, it could be on the helideck sooner, but it is not equipped to allow any treatment for the patient on the journey, nor accept a stretcher. Furthermore, it is required to carry out a risk assessment regarding how casualties would be evacuated in the event of a ditching. This is a time consuming process which renders CAT helicopters unsuitable for evacuation.
203. If the emergency is not acute and there is time for a commercial helicopter to be kitted out to accept a patient, or the patient does not need such care, it is essentially not an emergency.
204. Overall, there is no realistic potential for a commercial helicopter to need to provide medical evacuation quickly and so any greater restriction on the weather conditions it can operate in is not relevant in this regard.

### 7.1.3 Precautionary Evacuation – Timescale – Up to a Day

205. For a developing adverse situation, there is the possibility that an installation needs to be downmanned. This may occur for a process related reason e.g. a well work operation where the control of the well is difficult, or non-process related such a problem with potable water provision.
206. As the NUIs are only manned by a small number of personnel and they are only manned when flying is possible, downmanning can be achieved by commercial helicopter. Use of a SAR helicopter is possible, but as the evacuation is precautionary, there is no immediate need to require emergency services.
207. Downmanning CPC-1 would take longer (up to 18 hours for a single helicopter taking personnel to Blackpool, but shorter if more helicopters are available locally that do not have other operations to carry out). As is currently the case, if commercial flying was not possible, SAR helicopters would have to assist. As the accommodation platform does not have any hydrocarbon process on it, it is unlikely that a process issue would require CPC-1 to be downmanned. This is the only type of event that potentially needs to happen in a restricted timescale: lack of potable water is clearly serious, but not an issue that triggers downmanning immediately.

208. Overall, downmanning of a NUI is not affected by the windfarm as NUIs are only accessed in suitable flying conditions. Downmanning of CPC-1 may require SAR services instead of commercial helicopters, but this only needs to be achieved in hours and so any timing change has no impact.

#### **7.1.4 Maintenance – Timescale – 1 day**

209. If preventative maintenance of safety and environmental critical equipment (SECE) is planned for a particular day on a NUI and this cannot occur, there is no immediate risk as the maintenance can simply be done on another day. There is no maintenance that is critical to the day, week, or even month or more. Postponement of a flight on a particular day has no significant risk impact with regard to preventative maintenance of SECEs.
210. Maintenance on CPC-1 can continue as planned unless specialist vendors are required to be flown from Blackpool, but the same conclusion applies in this case.
211. If the visit is for corrective maintenance of a SECE, it is already implied that the risk is manageable otherwise the risk would have been removed by, for example, shutdown or restriction of production. On this basis, a short delay to the corrective is not significant and, if the delay is longer, risk removal needs to be considered.
212. Overall, postponement of a maintenance visit does not create a significant safety risk.

#### **7.1.5 Maintenance – Timescale - Months**

213. If a maintenance visit is curtailed because of weather conditions (which may happen now, but has a higher likelihood with the windfarm in place), this time needs to be made up otherwise, the maintenance backlog on the platform would gradually increase and eventually become unacceptable unless the NUI was shut-in.
214. While DNV does not have access to maintenance information from Spirit, it is considered that this time could be recovered as:
215. Analysis of the lost “offshore NUI working time” caused by the windfarm, for no restrictions in day VMC and no night or IMC flying, shows that 1.5-3% of time is lost without taking account of the IMC Corridor. With the corridor (allowing IMC or night VMC in only wind directions 220-300 and 010-090) this figure drops to 1-2%, but, in either case, ~10% can be made up either by longer days offshore or when flying conditions and working time limits allow it. In addition to this, further offshore working time is available from flying to the

NUIs on days where flying was possible, but there was either no flying, or flying was only undertaken for crew change flights to Blackpool.

216. In 2018 Spirit operated six NUIs (current four plus DP3 and DP4) with a single helicopter (Vantage shows a small number of days where crew change to Blackpool may have used two helicopters). Spirit now operate four NUIs, so the flight programme compared to 2018 has 50% additional capacity, which is more than enough to cover any loss of flights caused by the windfarm.
217. In addition to this, if Spirit were to assign an additional maintenance crew to “catch-up” NUI work, if a visit to a NUI was not possible on a particular day, it could be carried out by the “catch-up team” on another day in tandem with maintenance on a different NUI. While the number of additional days when flying can occur may be limited (though not critically), there are an abundance of days that an additional NUI could be visited. This would have the effect of allowing maintenance to occur almost unchanged from now and reducing individual risk to the NUI crews as the transportation risk would be spread out amongst more people.
218. There is very significant normal variation in visits to a NUI from no visits in a given month to almost every day. The change in helicopter access adds to this variation but does not materially change it.
219. Other strategies are also possible such as use of:
  - a) A larger helicopter.
  - b) Two helicopters in the summer.
  - c) Campaign maintenance potentially using a flotel, or W2W vessel (which may require a material change to the safety case if W2W is not already included in it – such a change is a relatively common occurrence).

#### **7.1.6 Safety Case and Risk**

220. The safety case covers operation of the Morecambe Field. There is a memorandum of understanding between the CAA and HSE for the regulation of helicopter operations. All operations when the helicopter is flying and certainly everything outside the 500m zone are under CAA jurisdiction and so there is no direct impact on the safety case from the windfarm.
221. It is impossible for any additional flights to make the individual risk intolerable as this would require an individual to take more than 700 additional flights from CPC-1 to a NUI in a year.
222. If additional flight to the NUIs are required because of the windfarm, this creates additional risk to the NUI teams. However, the number and percentage of such flights would be small and the impact on the overall risk even smaller (as other risks do not change). This is set out at Section 3.5 of

the DNV Report at **Appendix B**. None of the helicopter related safeguards change and none of the other potential impacts outlined here are material as they do not affect the basis on which the safety case was accepted.

223. The Applicant fundamentally disagrees with Spirit that the Proposed Development would materially increase the risk to individuals due to the cumulative effect of undertaking additional flights to complete NUI intervention activities to being undertaken in flying conditions restricted by the proximity of the Proposed Development. The Applicant refers to the CPOGS report in **Appendix G**.
224. The Applicant refers to Section 6 of the DNV Report at **Appendix B** and conclusion that any increased helicopter transportation risk is not material and safety critical maintenance issues can be mitigated by various means and indeed are evidenced in the Vantage date historically to have been done so with e.g. additional direct flights from shore, and so it is not considered that any material change to the safety case would be required.
225. The Applicant notes that the UK Safety Case regime only requires Operators to calculate and present the 'Individual Risk to Personnel per Annum (IRPA)' for offshore workers. For convenience, Operators typically present an average IRPA for all offshore workers carrying out the same function, for example, such as maintenance works, catering staff or plant operators. However, the collective measure of risk for groups that is commonly known as the Potential Loss of Life (PLL) is not assessed by the UK HSE against any mandatory acceptance criteria in relation to Safety Case submissions. Only IRPA is relevant to the 2015 Safety Case Regulations. If the frequency of daily flying operations for CPC based maintenance staff is reduced, i.e. in a mitigation scenario with increased shore based maintenance staff flying directly to NUIs, then individual maintenance personnel are likely to undertake less helicopter flights during their fixed offshore work period, and therefore their residual risk as measured by their IPRA, is likely to be less. The Applicant refers to CPOGS report in **Appendix G**.

#### 7.1.7 Co-Existence and Mitigation

226. The Applicant considers that there are a number of co-existence or mitigation measures that Spirit could reasonably take (see Section 4.4.4 of the DNV Report at **Appendix B**). These include;
- Using additional available working time on possible NUI visits;
  - Using additional days when flying is possible, but previously no NUIs have been visited;
  - Assigning an additional maintenance crew to catch up NUI work;
  - A larger helicopter;

- Two helicopters in the summer; or
- Campaign maintenance potentially using a flotel, or W2W vessel (which may require a material change to the safety case if not already in it – such a change is a relatively common occurrence).

### 7.1.8 Time Offshore Analysis for Maintenance Work

227. Section 4.3 of the DNV Report at Appendix B analyses working time offshore. Spirit at D4 submitted a new loss of working time offshore metric, which was calculated as 22% for NUIs (it is not relevant to CPC-1, as the team to maintain it are already on board) (Slide 15, PDF page 48, REP4-069).
228. DNV's own analysis shows that without the IMC Take-Off Corridor the hours lost, without considering any that may be recoverable by longer stays represent 1.5-3% of the total working hours. With the corridor, the figure drops to 1-2%. The Operator needs to be aware of the weather to achieve this, but this is already the case.
229. The fact that the impact is so small and that the Operator used to operate an additional two NUIs means that no maintenance impact is likely over the long term. Individual visits may be impacted and these scenarios are considered in Section 4.4 of the DNV Report at Appendix B not to give a safety impact.

### 7.1.9 ALARP

230. If a risk is considered to be tolerable then, it needs to be ALARP. This means the risk being below the tolerability limit (10<sup>-3</sup> risk of fatality to an individual) and implementing all risk reduction measures that are reasonably practicable. A risk reduction measure is reasonably practicable if it is required to meet Good Practice, or the benefit it provides in terms of risk reduction is not grossly disproportionate to its cost in terms of time, money and effort.
231. Section 3 of the DNV Report at Appendix B sets out the Applicant's position in relation to the potential effect on installation risk levels due to possible increased helicopter flights. Section 3.6 concludes that due to the proximity of the wind farm, should the number of helicopter flights increase then this will not result in a material increase in transportation risk to the personnel on board the affected assets and not threaten the tolerability limit.
232. The dutyholder of the affected assets is already taking all reasonable steps to reduce risks to ALARP – including transportation risk. This is evidenced by the fact that they have accepted safety cases. There are no further steps that the dutyholder will need to take as a result of the proposed windfarm. There is a change to environmental conditions in which a flight can occur, but this is a not a material change as the basis on which the safety case has been

accepted does not change and the risks on the affected assets will remain ALARP.

233. The reasonably practicable risk reduction measures are the restrictions on wind turbine locations proposed by the Applicant.
234. It is acknowledged that there may be a small additional risk from increased flights. ALARP does not require removal of all risks, just for them to be reasonably practicable as detailed above. Risk may increase for other reasons: for example installation of a new piece of hydrocarbon equipment is carefully managed, but still increases risk marginally, as do the transportation changes.

## 8 Medium Term Co-Existence – Decommissioning Phase

235. As stated at **Section 2.8** above, Calder is expected to commence decommissioning activities between 2027 and 2029, and CPC-1 has an expected COP date of 2027, plus two years. The Applicant refers to a report by Xodus at Appendix D, on the impact the Project may have on decommissioning of gas production facilities.

### 8.1 Spirit's Position

#### 8.1.1 Aviation Access

236. In relation to Spirit's concerns regarding restricted aviation access to CPC-1 and Calder, see **Section 5** above, it is concerned that restricting flights to day VMC only would result in an extension to the overall decommissioning schedule and associated knock-on impacts on operations (delays, cancelled flights), presenting an overall increase in risk to the decommissioning activities to be carried out.

#### 8.1.2 Shipping and Navigation

237. Within Spirit's Written Representation (REP1-116) they outline the requirements needed to accommodate the increase in vessels in the area as a result of the decommissioning activities. These are:
- a) Rig access corridor required of 1 nm wide;
  - b) Unobstructed zone for decommissioning heavy lift removal vessel and rig positioning of 1.5 nm; and
  - c) Supply vessel and ERRV access, are least two access corridors each a minimum of 1 nm wide.
238. In addition, an obstruction free radius of 1.5nm is required around each platform to facilitate the platform removal by heavy lift vessels.
239. Spirit outline in their Response to the Applicant's Deadline 2 Submission (REP3-102) that it is concerned that the Project creates a lack of sea-room generally, regardless of the marine buffer zones and corridors provided for in the Protective Provisions. The presence of the Project presents restricted space for vessels to manoeuvre around infrastructure which may be required.

### 8.1.3 Infrastructure left in Situ

240. In their Response to the Applicant's Deadline 2 Submission (REP3-102) Spirit state that where infrastructure remains in situ after decommissioning, such as pipelines, then this is done so under an approved decommissioning programmes, which requires that the operator remain responsible for them in perpetuity so that they do not become a risk to other sea users. Where changes to pipelines have occurred and these may present a hazard to other users of the sea, remediation may be required. Remediation would likely be spot rock deposit. Surveys for that are conducted by pipe tracker and ROV to determine depth of burial.

### 8.1.4 Costs of Decommissioning

241. Spirit state in their Written Representation (REP1-116) at paragraph 5.7 that they anticipate the additional costs associated with the flight restrictions to be in excess of £10 million.

### 8.1.5 Concurrent Operations

242. Spirit state in their Written Representation (REP1-116) at paragraph 5.11 that post-decommissioning surveys will be required for a period of time. As such, work on the Project must not have an impact on Spirit's decommissioning obligations.

## 8.2 Harbour's Position

243. Harbour set out in their Written Representation (REP1-102) that the location of the Project would impact on the aviation operations in support of the decommissioning of Calder. They outline that it is anticipated that a drilling rig will be required for a period of four months in order to undertake the plugging and abandonment of the wells. During this period daily flights will be required to the rig. Harbour calculate that with a 1.5 nm aviation buffer zone in place around Calder, an annual average of 26% of flights would be lost, rising to 40% in winter (see paragraph 2.2.3 of their Written Representation (REP1-102)). Harbour notes that the proximity of the Project "*will not reduce the safety of these flights but will result in a reduction of times when flights can be made.*" (Section 2.2.5).
244. Harbour calculates that the above disruption would result in an economic loss of £3m to £8m in relation to decommissioning costs.

## 8.3 The Applicant's position

### 8.3.1 Aviation Access and Decommissioning Costs

245. The Applicant maintains that with a 1.5 nm aviation buffer zone around each of CPC-1 and Calder, day VMC flights can be safely operated to and from the platforms, see **Section 5.3.1** above. On that basis, the only issue to remain would be an operational, logistical issue, caused by the reduction in available flights. To that end, the Applicant has provided for a commitment to pay additional costs within the Protective Provisions in favour of both Spirit and Harbour, see **Section 2.6** above, which would include increased decommissioning costs.
246. The platforms will remain under the scope of the Offshore Installation (Safety Case) Regulations 2015 until they are completely dismantled. Spirit will need to access CPC-1 and the NUIs until the point of final disembarkation when the platforms enter 'Lighthouse Mode'; after which flights will not be required. There will be a progressive reduction in Safety and Environmental Critical Element maintenance as Major Accident Hazards are reduced, and the largest reduction will be when all of the wells are plugged and abandoned (P&A). (In line with the published Calder Decommissioning Programme the latest date for well P&A is 2030, no programme has been submitted for CPC-1). Following Cease of Production there will be no need to fly to the NUIs for production critical maintenance or production resets.
247. There will be ongoing reduction in SECEs during the decommissioning phase following Cease of Production, particularly when hydrocarbon free status and then well plug and abandon have been achieved, progressively reducing the SECE maintenance burden. These milestones can be achieved much more quickly for the NUIs than for the Central Complex CPC-1. After Cease of Production, production critical maintenance and flights to NUIs for production resets will no longer be required.
248. The liability cap for Harbour is £2 million (two million pounds) and the liability cap for Spirit is £8 million (eight million pounds). The Applicant considers these numbers appropriate, given the limited direct impact as a result of aviation access impairment on operations and on wider decommissioning activities. Figures have been indicated by Harbour and Spirit in the range £3m - £10m in their submissions to date. Independent analysis has been carried out by industry expert Xodus based on benchmark data in Section 7 of their report at **Appendix D**, and which concludes:

*The likely impact on project costs specifically related to the presence of the windfarm are not remotely close to the amounts claimed by Spirit*

*Energy for South Morecambe, tens of millions of pounds; and by Harbour, £3-10 million for Calder. These are gross over-estimates.*

249. The Applicant notes Harbour made some high level comments on the drafting of the compensation wording - referring to practicality, restrictiveness and tax efficiency but absent of a revised set of Protective Provisions from Harbour the Applicant is not in a position to respond further with detailed drafting responses.
250. As such, the Applicant considers that this matter can be closed.

### **8.3.2 Concurrent Operations**

251. The Protective Provisions in favour of Spirit and Harbour require the Applicant and each of Spirit and Harbour respectively to use reasonable endeavours to enter into a coexistence agreement. The Applicant is committed to coexistence and would work with Spirit and Calder on any concurrent operations that may occur as a result of simultaneous operations, including decommissioning.
252. As such, the Applicant considers that this matter can be closed.

## 9 Long Term Co-Existence – Morecambe Net Zero (MNZ)

### 9.1 Morecambe Net Zero

253. The Morecambe Net Zero (MNZ) is a joint venture between Spirit and shareholders Centrica plc and Stadtwerke München GmbH to repurpose the depleted gas fields in the Morecambe Hub for carbon storage. Spirit were awarded a Carbon Dioxide Appraisal and Storage Licence (CS010) in September 2023.

### 9.2 Spirit's Position

254. Spirit set out their position in relation to MNZ in a number of submissions, including its Relevant Representation (RR-077), Written Representation (REP1-116), Response to the Applicant's Deadline 2 Submissions (REP3-102), Responses to the Examining Authority's Written Questions 1 (REP3-103).
255. Spirit have made several requests relating to monitoring requirements in accordance with CS010, project co-location and simultaneous operations. Within its Deadline 3 Submission, Response to the Applicant's Deadline 2 Submission (REP3-102), Spirit states that it has given, and continues to give, significant consideration to the Project to facilitate co-location. It lists considerations it has built into the design of MNZ due to the Project at paragraph 6.8 of its Response to the Applicant's Deadline 2 Submission (REP3-102). These include store phasing, discounting injection wells due to the location of the Project, potential pipeline route, and monitoring.

#### 9.2.1 Monitoring Requirements

256. Spirit state that as part of their application for a Carbon Storage Permit, they will be required to submit an approved monitoring plan and an associated corrective measures plan. The monitoring plan will be to confirm the emplacement of the CO<sub>2</sub> is being contained within the storage site. Spirit recognise at paragraph 8.4 of their Relevant Representation (REP-077) and paragraph 6.8.4 of its Response to the Applicant's Deadline 2 Submission (REP3-102) that seismic surveys conducted using long towed streamers (an established and approved method for surveying) will encounter problems with an operational windfarm due to the turbines being in situ. It further states at paragraph 6.8.4 of its Response to the Applicant's Deadline 2 Submission (REP3-102) that "as a direct result of the Proposed Development [the Project], Spirit has had to look to other monitoring technologies such as 4D gravity". As such Spirit is investigating the use of Remote Operated Vehicles (ROVs) to

deploy gravimeters on the seabed. Spirit note at paragraph 8.5 of the Relevant Representation (REP-077) that the concrete pads could be placed around wind turbines with low risk and should enable co-existence, and further state at paragraph 6.16 of its Response to the Applicant's Deadline 2 Submission (REP3-102) that it intends to work with the Applicant to ensure optimal design and layout of these concrete pads to allow coexistence with the Project.

- 257. In addition, Spirit request that a minimum distance of 100m is kept clear around legacy exploration and appraisal wells to enable sampling of the seabed at those locations.
- 258. Spirit also state at paragraph 8.7 of their Relevant Representation (REP-077) that other monitoring technologies will be used for the wells drilled for CO<sub>2</sub> injection, with this monitoring required at least every 5 years. This activity would need a drilling rig to access the platform(s) installed.
- 259. Access will be required by Spirit to the windfarm site.

### 9.2.2 Distances for Well Interventions / Leakage of CO<sub>2</sub>

- 260. Spirit have identified a number of exploration and appraisal wells and abandoned development wells within the boundary of Work No. 1 (Wind Turbine Generators and Inter-Array Cables) as shown on the Offshore Works Plan (APP-007). Spirit maintain that whilst these wells have been abandoned in line with current regulatory requirements and integrity problems are not anticipated, it will still be obliged to monitor wells for potential leakage of CO<sub>2</sub> in accordance with its future Carbon Storage Permit. If identified, then a plan will need to be put in place to manage and mitigate that leakage. To that end, Spirit require access to the wells as it may be necessary for Spirit to mitigate a CO<sub>2</sub> leakage by entering the well from above. Two wells however, 110/08-2 and development well C5, may require relief wells to be drilled from an offset location (REP1-116) The location of these wells can be seen on page 12 of Spirit's Written Representation (REP1-116).
- 261. To repair an abandoned well would require a mobile drilling rig to be placed over the well, facilitated by a 500m exclusion zone around the rig.
- 262. Spirit therefore maintain that the following requests set out at paragraph 3.29 of its Written Representation (REP1-116) are required to facilitate this rig access around each well;
  - a) A rig safety zone - 500m exclusion zone;
  - b) Rig access corridor – a 1 nm wide corridor to allow vessel spread of 3 Anchor Handling Vessels / tugs and the rig to arrive to the well location;
  - c) Unobstructed zone for deployment of anchors for positions – 1790m minimum; and

- d) Helicopter access will also be required.
263. Within Spirit's Response to the Applicant's Deadline 2 Submission (REP3-102) they acknowledge that access to a majority of the abandoned well-head locations is provided for in the Protective Provisions in Schedule 3, Part 3, section 3 of the Draft Development Consent Order\_Rev03 (REP2-002) (either by virtue of the platform buffer around CPP1 or the access to DP3), subject to caveats regarding a 1 nm access corridor. However, Spirit note that 110/8A-7, the most southerly abandoned well, is located within the windfarm site. Therefore, the above access requests would apply to this well.
264. In addition Spirit request supply vessel and ERRV access corridors to each rig - at least two access/egress corridors each 1 nm (1.8 km) wide to allow safety access and evacuation of the supply vessel and an ERRV, (paragraph 6.21 of their Response to the Applicant's Deadline 2 Submission Response (REP3-102)).

### 9.2.3 Ongoing Cooperation

265. Within its Response to the Applicant's Deadline 2 Submission (REP3-102) at paragraph 6.10, Spirit note that MNZ has surveys schedules during the summer windows of 2025-2031. As a result of the Applicant's proposed construction schedule, starting at the end of 2028 for operation in 2030, then cooperation will be required between the parties.
266. In addition, future crossing agreements are likely to be required where the MNZ pipeline will cross with the Projects cabling.

## 9.3 The Applicant's Position

267. The Applicant refers to Appendix C, which is a report by Xodus. The Applicant considers that the two developments, the Project and MNZ, can successfully coexist and is committed to engaging further with Spirit in that regard. The Applicant intends to enter into agreements with Spirit to manage simultaneous operations, including survey and preparatory works, as well as agreements to manage crossings of infrastructure. The Applicant intends to maintain dialogue with Spirit on the final design and layout of the Project so that it may optimise MNZ accordingly.

### 9.3.1 Monitoring Requirements

268. The Applicant welcomes Spirit's decision to pursue monitoring technology which would not require the deployment of a vessel towing seismic streamers to acquire 4D seismic data. The Applicant agrees with Spirit that with forward planning the locations of concrete pads can be accommodated within the windfarm site. The Applicant refers to section 3.3.1 of Appendix C, the report

undertaken by Xodus. This notes that after a review of conference papers, on which Spirit collaborated, it appears that Spirit have already discounted 4D seismic data as a method of monitoring due to technical feasibility, which is unrelated to the presence of the windfarm.

269. The Applicant agrees that a protected zone of 100 m around legacy abandoned appraisal and exploration wells can also be accommodated. See **Section 9.3.2** below.
270. With regards to wellhead platforms for CO<sub>2</sub> injection and monitor wells, the Applicant considers that these can be located outside of the windfarm site, and as such the monitoring requirements for these wells will not be impacted by the Project.
271. As such, the Applicant considers this matter to be resolved.

### 9.3.2 Distances for Well Interventions

272. Based on Spirit's comments in their Response to the Applicant's Deadline 2 Submission (REP3-102), the Applicant notes that Spirit will have access to all wells listed in the table at paragraph 6.18, subject to caveats regarding a 1 nm access corridor, except for well 110/8A-7 which is within the windfarm site.
273. The Applicant can confirm that there will be a 100 m exclusion zone, free from WTGs, around all of the above wells mentioned by Spirit. The Applicant cannot however agree to a 1 nm access corridor to many of these wells. To do so would impinge on the windfarm site in a manner that the Applicant considers excessive, and unnecessary. In relation to well 110/8A-7 the Applicant refers to the Xodus Report at Appendix C. The Xodus Report notes at Section 3.2 that this well is outside of the gas field and was drilled into the aquifer. It is also outside of the Carbon Storage Licence area. Therefore, it is unlikely that any CO<sub>2</sub> would reach this well. In the opinion of Xodus, this well should not pose any risks of leakage. As such, the Applicant considers that access to this well is unnecessary. If there is a known issue with this well (noting that the Applicant has not been made aware of any issues), there would be time to resolve it now prior to construction of the windfarm.
274. The Applicant can confirm that if a drilling rig is in location at one of the above mentioned wells then it would benefit from a statutory 500 m safety zone, free of vessels, under the Petroleum Act 1987.
275. In addition, in the event that Spirit would require access to well 110/8A-7, which for the avoidance of doubt it does not consider is required, then the Applicant believes that the proposed spacing of the turbines would enable sufficient access to manoeuvre vessels to and over the well. The Applicant refers to the paragraphs below and Section 2.2 of **Appendix E**, a report prepared by NASH on the Shipping and Navigation impacts.

276. In relation to the DP3 wells, the Applicant regards that the buffer zone provided for in the Protective Provisions in favour of Spirit, see Section 2.6 above, enable sufficient vessel access and as such no further buffer zones are required.
277. The Applicant also notes that helicopter access is requested to these wells but that no distance is specified.
278. Finally, with regards to Spirit's request that at all rig and platform locations, there are at least two access/egress corridors to allow safety access and evacuation of the supply vessel and an ERRV. The Applicant considers that the Project layout would comfortably enable safe access of these vessels throughout the windfarm site, and as such, designated corridors are not necessary. The Applicant will be manoeuvring vessels through the windfarm site without issue, and considers Spirit will do the same.
279. As such, the Applicant considers this matter to be closed.

## 10 NPS Policy Compliance

### 10.1.1 The Parties' Legal Rights and the Planning Balance

280. Neither Spirit nor Harbour have asserted any legal right which is being infringed – they are entitled to a 500m exclusion zone (The Offshore Installations (Safety Zones) Order 2024), which is clearly secured.
281. In contrast, it is the Applicant who holds the AfL for the site from The Crown Estate. Spirit and Harbour have become reliant for the operation of their business on clear surrounding seas, but they have no entitlement or legal right to this continuing in perpetuity.
282. In other words, Spirit does not have a right to reject new neighbours in the Irish Sea.
283. Also important is the Oil & Gas (O&G) Clause in the AfL (which applies to both AfL and Lease). This clause states that the Secretary of State can terminate an offshore wind lease if area/rights over an area are needed for oil and gas. It has never been used before. There must be appropriate compensation secured before determining a lease and avenues for co-existence explored - Spirit have failed to do both. Accepting Spirit's position in determining the DCO would in effect be triggering this O&G clause via alternative means, which would not be reasonable without co-existence being meaningfully explored and compensation being secured.
284. Given this legal position, the extent to which the impact on the Affected Assets is a relevant consideration in the DCO decision, and the weight afforded to it, is a matter for the Secretary of State to weigh in the planning balance, taking proper account of the National Policy Statement per s104 of the Planning Act 2008. NPS compliance is considered in full in this Section.

### 10.1.2 NPS Policy Compliance

285. The Applicant considers that it has demonstrated compliance with all necessary policies within the relevant NPSs.
286. Spirit has previously highlighted non-compliance with NPS EN-3, citing wording from paragraphs 2.8.345 and 2.8.346 (response to row RR-077-22 of the Applicant's response to Relevant Representations (PD1-011)).
- “2.8.345 As such, the Secretary of State should be satisfied that the site selection and site design of a proposed offshore wind farm and offshore transmission has been made with a view to avoiding or minimising disruption or economic loss or any adverse effect on safety to other offshore industries.*

*Applicants will be required to demonstrate that risks to safety will be reduced to as low as reasonably practicable.*

*2.8.346 The Secretary of State should not consent applications which pose intolerable risks to safety after mitigation measures have been considered."*

287. In relation to these paragraphs, the Applicant's position remains that due to siting and design mitigation (including the IMC Take-Off Corridor) secured by Protective Provisions, potential 'disruption and economic loss' (short, medium and long term activities) to Spirit and Harbour assets and operations has been minimised and 'adverse effects on safety' (aviation and marine) have been minimised and avoided. In terms of economic loss, these are considered avoided, taking into the obligation to pay any additional costs incurred by Spirit and Harbour in relation to reduced helicopter access also secured by the Protective Provisions. It is acknowledged that there may be some changes to operational arrangements required by Spirit until COP and then to a lesser extent until decommissioning is completed. It is considered however that even if this effect amounted to "disruption", the disruption is in accordance with the NPSs - the scale of future offshore wind development means development will occur close to other offshore infrastructure (NPS EN-3 2.8.199), solutions for successful co-existence should be sought (NPS EN-3 2.8.203), and where a proposed offshore wind farm potentially affects other offshore infrastructure a pragmatic approach should be taken (NPS EN-3 2.8.342).
288. The same paragraph (NPS EN-3 2.8.345) concludes with a statement that *"Applicants will be required to demonstrate that risks to safety will be reduced to as low as reasonably practicable."* By ensuring that (taking into account mitigation designed and secured in the protective provisions) there are no material safety implications, the Applicant has demonstrated that safety risks are ALARP (see **Section 7.1.9** above and the DNV Report at **Appendix B**). It also follows that the Project meets the next paragraph (NPS EN-3 2.8.346) as the Project does not pose risks to safety, and so it follows that the Project does not "pose intolerable risks to safety after mitigation measures have been considered."
289. The Applicant's overall conclusion is drawn with reference to these EN-3 paragraphs, but also the directly preceding and following paragraphs and the NPSs as a whole:
- "2.8.342 Where a proposed offshore wind farm potentially affects other offshore infrastructure or activity, a pragmatic approach should be employed by the Secretary of State.*
- 2.8.343 Much of this infrastructure is important to other offshore industries as is its contribution to the UK economy.*

*2.8.344 In such circumstances, the Secretary of State should expect the applicant to work with the impacted sector to minimise negative impacts and reduce risks to as low as reasonably practicable.*

*2.8.345 and 2.8.346 (as set out above)*

*2.8.347 Where a proposed development is likely to affect the future viability or safety of an existing or approved/licensed offshore infrastructure or activity, the Secretary of State should give these adverse effects substantial weight in its decision-making.*

*2.8.348 Providing proposed schemes have been carefully designed, and that the necessary consultation with relevant bodies and stakeholders has been undertaken at an early stage, mitigation measures may be possible to negate or reduce effects on other offshore infrastructure or operations to a level sufficient to enable the Secretary of State to grant consent.”*

290. The NPS EN-1 (para 3.1.2) provides that it will not be possible to develop the necessary amounts of such infrastructure without some significant residual adverse impacts. It is recognised that infrastructure may be located close together (NPS EN-3 2.8.199), co-existence is the goal (NPS EN-3 2.8.203) and that a pragmatic approach is needed to decision making (NPS EN-3 2.8.342). Offshore wind is considered Critical National Priority (CNP) infrastructure under the NPS. The Applicant considers that the ExA and Secretary of State can be satisfied that neither future viability nor safety of Spirit Energy's operations at the Affected Installations is in any way likely to be affected by the presence of the Project. This conclusion is underpinned by the design mitigation and commitment to pay additional costs secured in proposed Protective Provisions, and further reinforced by the Aviation Corridor. These additional costs would cover altered ways of working (for example additional helicopters or vessels) if changes are necessary to the approach to operation and maintenance of the Affected Assets in their final years. The Applicant has done all it reasonably can to work with the affected parties, and despite the absence of any genuine engagement has taken its own expert advice and tailored appropriate mitigation secured by protective provisions.
291. Spirit (and consequently Harbour) appear entrenched in their position, and not motivated to work on solutions which might allow for the removal of their objection, or seek to co-operate. The Applicant respectfully invites the ExA and the Secretary of State to see their objections as an in-principle objections which present a distorted position, perhaps due to a reluctance to be seen to acquiesce to any development which raises safety issues (even if the concerns do not stand up to expert scrutiny), or perhaps because it would be operationally more convenient not to have a new neighbour. It is hoped that an improved ongoing relationship can be achieved in an effort to meet net zero targets in accordance with the NPS. The Applicant remains firmly open to such

an approach, whether before or after the close of Examination, or in the longer term.

292. The Applicant's overall conclusion remains unchanged - taking into account the mitigation secured in the protective provisions within Schedule 3 in the draft DCO (Document Reference 3.1), the Applicant does not consider (and has seen no evidence to suggest) that the presence of the Project will materially or adversely affect the future viability, or adversely affect safety, of Spirit or Harbour's operation, maintenance and decommissioning of the Affected Assets, or impact Spirit's long term MNZ ambitions. The Applicant submits that the NPSs are supportive of the balance between the Project and the Affected Assets proposed in the Application and mitigated by the draft Protective Provisions (see **Section 10**), which ensures safety but allows for co-existence.

## Annex 1: Flotation Energy and Spirit Energy Collaboration Opportunities in the East Irish Sea (1st November 2019)

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## **Collaboration Opportunities in the East Irish Sea**

Dear Andrew,

Further to the various meetings and discussions held between Spirit Energy and Flotation Energy in 2019, I write to confirm Spirit Energy's intent to continue to collaborate with Flotation Energy to identify and bring to fruition mutually beneficial opportunities in the East Irish Sea.

Spirit Energy acknowledges Flotation Energy's aspiration to develop a wind farm in proximity to existing Spirit Energy gas field infrastructure which is in place to exploit the South Morecambe, North Morecambe and Rhyl gas fields.

The Morecambe Hub is on an Energy Transition pathway to contribute to the UK's target of Net Zero greenhouse gases by 2050. Spirit Energy is exploring a wide range of options to maximise economic recovery, abate carbon emissions, re-purpose infrastructure and develop greenfield energy projects in the area currently occupied by its gas field infrastructure. Discussions with Flotation Energy have highlighted several collaboration opportunities which are summarised in Appendix 1.

We wish you every success in The Crown Estate Offshore Wind Leasing Round 4 and should Flotation Energy be successful, look forward to working together to seek to bring the identified opportunities to fruition.

I also wish to note that there is no exclusivity in the relationship between our respective organisations and Spirit Energy may be engaged in similar conversations with other organisations.

Yours sincerely,

Jack Richards  
For Spirit Energy Production