



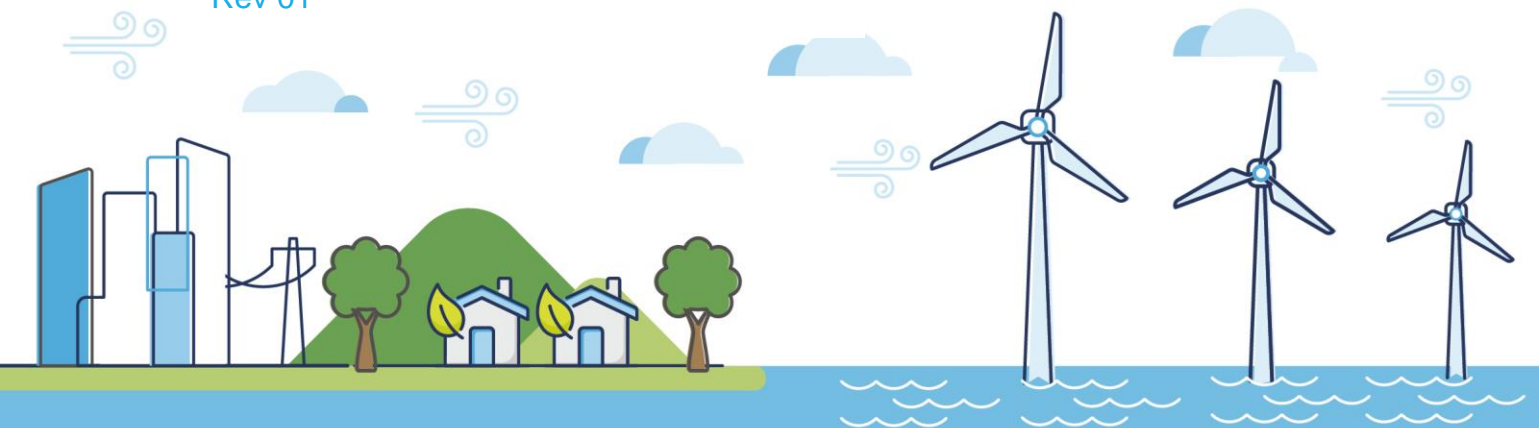
Morecambe Offshore Windfarm: Generation Assets Examination Documents

Volume 9

The Applicant's Response to Spirit Energy's Deadline 4 Submission Appendix F: Third Party Review of Safety Case by ERM

Document Reference: 9.59.6

Rev 01



Document History

Doc No	MOR001-FLO-CON-ENV-NOT-0039	Rev	01
Alt Doc No	0774248		
Document Status	Approved for Use	Doc Date	11 March 2025
PINS Doc Ref	9.59.6	APFP Ref	n/a

Rev	Date	Doc Status	Originator	Reviewer	Approver	Modifications
01	11 March 2025	Approved for Use	ERM	Morecambe Offshore Windfarm Ltd	Morecambe Offshore Windfarm Ltd	n/a

Safety Case Advice

DCO Helicopter Risk Peer Review

PREPARED FOR

Morecambe Offshore Windfarm
Limited

DATE

10/03/2025

REFERENCE

0774248



DOCUMENT DETAILS

DOCUMENT TITLE	Safety Case Advice
DOCUMENT SUBTITLE	DCO Helicopter Risk Peer Review
PROJECT NUMBER	0774248
Date	10/03/2025
Revision	01
Author	David Caine and Kevin Kinsella
Client name	Morecambe Offshore Windfarm Limited

DOCUMENT HISTORY

			ERM APPROVAL TO ISSUE		
REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENT
0	D.Caine	K. Kinsella	K. Kinsella	07.03.25	Draft issue for comment
1	D. Caine	D.Caine	D. Caine	10.03.25	Issued as final

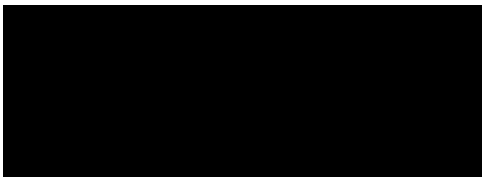
SIGNATURE PAGE

DCO Helicopter Risk Peer Review

0774248



Kevin Kinsella
Partner



David Caine
Partner

Environmental Resources Management
2nd Floor, Exchequer Court
33 Saint Mary Axe
London
EC3A 8AA
T +44 20 3206 5200

DISCLAIMER

The information and statements contained in this document are opinions only and reflect ERM's best judgement based on the available information. ERM shall not be responsible whatsoever for loss or damage (including, without limitation, loss of profits or any indirect loss), if any, suffered by any party as a result of decisions made or actions taken in reliance upon or in connection with the information contained in this report.

© Copyright 2025 by The ERM International Group Limited and/or its affiliates ('ERM'). All Rights Reserved.
No part of this work may be reproduced or transmitted in any form or by any means, without prior written permission of ERM.

CONTENTS

1.	INTRODUCTION	8
1.1	GENERAL	8
1.2	ABOUT THE AUTHORS	8
1.3	SCOPE	9
2.	APPLICANTS SUBMISSION – HELICOPTER ACCESS STUDY	11
3.	RELEVANT REPRESENTATION	12
3.1	RELEVANT REPRESENTATION – HARBOUR ENERGY	12
3.2	RELEVANT REPRESENTATION – SPIRIT ENERGY	12
3.3	THE APPLICANT’S RESPONSE TO RELEVANT REPRESENTATIONS	14
4.	DEADLINE 1	16
4.1	RESPONSE TO THE APPLICANTS’ COMMENTS ON RELEVANT INFORMATION – SPIRIT ENERGY	16
4.2	WRITTEN REPRESENTATION – HARBOUR ENERGY	18
4.3	WRITTEN REPRESENTATION – SPIRIT ENERGY	18
5.	DEADLINE 2	20
5.1	THE APPLICANT’S COMMENTS ON WRITTEN REPRESENTATIONS	20
5.2	THE APPLICANT’S RESPONSE SPIRIT ENERGY’S DEADLINE 1 SUBMISSION	20
6.	DEADLINE 3	22
6.1	RESPONSES TO THE APPLICANT’S DEADLINE 2 SUBMISSIONS	22
6.2	REMAINING RESPONSES FROM THE APPLICANT’S TO SPIRIT ENERGY DEADLINE 1 SUBMISSIONS	22
7.	DEADLINE 4	24
7.1	COMMENTS ON ANY OTHER SUBMISSIONS RECEIVED AT DEADLINE 3	24
8.	DEADLINE 5	25
8.1	EFFECT OF PROPOSED WINDFARM ON OIL AND GAS OPERATIONS	25
9.	CONCLUSIONS AND RECOMMENDATIONS	26

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ALARP	As Low As Reasonably Practicable
CAT	Commercial Air Transport
COMAH	Control of Major Accident Hazards
DCO	Development Consent Order
IMC	Instrumented Meteorological Conditions
IRPA	Individual Risk Per Annum
MAH	Major Accident Hazard
ORA	Operational Risk Assessment
PFEER	Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations
POB	Personnel on Board
QRA	Quantitative Risk Assessment
SAR	Search and Rescue
SCR	Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations
VMC	Visual Meteorological Conditions
W2W	Walk to Work

EXECUTIVE SUMMARY

ERM have been appointed by MOWL (Morecambe Offshore Windfarm Limited) to provide an independent peer review of the impact of MOWLs planned facility on helicopter transport safety at the existing Morecambe Gas Fields, owned and operated by Spirit Energy, and the Calder Field, owned by Harbour Energy and Operated by Spirit Energy. In particular, this review is focused on the evidence put forward by MOWL, Spirit Energy, and Harbour Energy as part of the planning review.

Helicopter travel to and from oil and gas assets is common in the UK, it is a tightly regulated activity, and regularly conducted safely. The authors note that there was a multiple fatality incident involving a helicopter at Morecambe Bay Gas Fields in 2006¹, at night under IMC. Helicopter safety is therefore, understandably, an emotive topic with personnel who work at the facility. This report is focused on an objective view of the risk impact associated with MOWLs proposed wind farm operations, based on the evidence available.

The following conclusions have been drawn by ERM:

- The Affected Asset Operator (Spirit Energy) has raised legitimate concerns about the potential safety impact to helicopter travel due to the windfarms planned construction and operations.
- All parties agree that helicopter travel would only be undertaken when considered safe to do so, as such the direct risk of helicopter travel is not affected.
- The Asset Operator has an obligation to maintain safe operations at its site by identifying risks, identify potential mitigation measures, and assessing the tolerability or otherwise of those risks following mitigation. The Asset Operator has stated that they have followed this process and found the risks of increased operational restrictions caused the Morecambe offshore windfarm to be unacceptable, with no mitigation possible other than increasing the buffer zone between the wind farm and their asset. The Asset Operator has not stated which risk reduction measures were considered, or shown the methodology used to make these conclusions. The Asset Operator is a competent operator, with responsibility for the safe operation of its asset, and with an accepted safety case; their assertion, even unsubstantiated, carries weight. However, inspection of their QRA approach and findings would enable a better understanding of their concerns and the evaluation of mitigation options.
- The Affected Asset Operator has not provided evidence to enable their risk assessment methodology to be peer reviewed or verified. A number of reasonable challenges to the conclusions drawn by the Affected Asset Operator have been raised by the Applicant:
 - The Applicant has identified that there is a precedent of other windfarms safely operating with similar operational restrictions.

¹ <https://www.gov.uk/aaib-reports/aar-7-2008-aerospatiale-sa365n-g-blun-27-december-2006>

- The Applicant has completed their own risk assessment to provide a risk comparison, although actual risk data from the Affected Asset was not available. The company completing the assessment (DNV) is considered highly credible and has followed an approach that is in line with industry good practice. The assessment finds it not credible that the proposed operational constraints would negatively impact safety at the Affected Asset.
- 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.

1. INTRODUCTION

1.1 GENERAL

ERM have been appointed by MOWL (Morecambe Offshore Windfarm Limited) to provide an independent peer review of the impact of MOWLs planned facility on safety associated with helicopter travel at the existing Morecambe Gas Fields, owned and operated by Spirit Energy, and the Calder Field, owned by Harbour Energy and Operated by Spirit Energy. In particular this review is focused on the evidence put forward by MOWL, Spirit Energy, and Harbour Energy as part of the planning review.

Helicopter travel to oil and gas assets is common in the UK, it is a tightly regulated activity, and regularly conducted safely. The authors note that there was a multiple fatality incident involving a helicopter at Morecambe Bay Gas Fields in 2006², it is noted that this incident occurred at night under instrumented flight. Helicopter safety is therefore, understandably, an emotive topic with personnel who work at the facility. This report is focused on an objective view of the risk impact associated with MOWLs proposed operations, based on the evidence available.

1.2 ABOUT THE AUTHORS

About ERM

ERM is a specialist Sustainability consultancy that supports all aspects of Health, Safety, Environment, decarbonisation, and sustainability for the energy sector. ERM has over 7,000 people located in over 140 offices around the world. It has been headquartered in the UK for over 50 years. ERM has provided specialist technical Risk and Safety services for over 30 years. ERM has 45 people based in the UK who are specialists in process safety and technical safety for high hazard industries including the Oil and Gas sector. ERM have provide Quantitative Risk Assessment (QRA) and safety case preparation services for offshore oil and gas facilities, including helicopter risk assessments.

Kevin Kinsella

Kevin is a Partner within ERM's Technical Safety and Risk team. He 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 the UK's first offshore safety cases following legislation brought in after the Piper Alpha disaster. He became Head of AEAT's Oil & Gas Safety and Risk Business in 1992 overseeing a team of 40 consultants working solely on offshore safety cases. He joined ERM in 2004 as a Partner and Head of their Technical Safety and Risk team, specializing in Oil and Gas Safety and Risk Assessment. He is currently a Partner within the same team leading a range of technical safety and risk assessment studies.

David Caine

² <https://www.gov.uk/aaib-reports/aar-7-2008-aerospatiale-sa365n-g-blun-27-december-2006>

David is 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 gas, chemical, and hydrogen sectors. These projects cover various stages of the development lifecycle, including Concept, FEED, commissioning, operational, and decommissioning phases. Work has included a wide geographic base including being located in Abu Dhabi for several years.

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.

1.3 SCOPE

ERM were approached by MOWL on 27th March 2025, with a request for a high-level independent review of the potential impact that their planned wind farm could have on helicopter transport at an existing offshore oil and gas facility. This was to be based on existing information put forward as part of the planning process. ERM have not completed their own risk assessment, but have assessed an existing study completed for MOWL by DNV as well as other existing information. The review is focused on the following documents submitted as part of the DCO process:

Stage	Author	Title	Link	Examination Library Reference
Relevant Representation	Spirit Energy	Relevant Representation	EN010121-000448-Spirit - Morecambe OWL RR - Final 19082024(231931631.1) 1.pdf	RR-077
Deadline 1	Spirit Energy	Written Representation	EN010121-000586-Eversheds Sutherland on behalf of Spirit Energy - Written Representations (WRs) including summaries if exceeding 1500 words 1.pdf	REP1-116
Deadline 1	Spirit Energy	Response to the Applicant's comments on Relevant Representation	EN010121-000587-additional submissions accepted by the ExA.pdf	REP1-114
Deadline 3	Spirit Energy	Response to the Applicant's Deadline 2 Submissions	Microsoft Word - Spirit - Deadline 3 - Response to the Applicants Deadline 2 Submissions(236534582.9)	REP3-102
Deadline 4	Spirit Energy	Comments on any other submissions received at Deadline 3	Memo	REP4-069
Relevant Representation	Harbour Energy	Relevant Representation	Relevant Representations Representation by Harbour Energy (Harbour Energy)	RR-027

Deadline 1	Harbour Energy	Written Representation	EN010121-000548-Harbour Energy - Written Representations (WRs) including summaries if exceeding 1500 words.pdf	REP-1-102
Application Documents	Morecambe Offshore Windfarm Ltd	Helicopter Access Study	EN010121-000274-5.2.17.1 Appendix 17.1 Helicopter Access Study.pdf	APP-081
Procedural Deadline A	Morecambe Offshore Windfarm Ltd	8.3 The Applicant's Response to Relevant Representations	EN010121-000498-Morecambe Offshore Windfarm Ltd. - Comments on Relevant Representations (RRs) (Appendix G).pdf	PD1-011
Deadline 2	Morecambe Offshore Windfarm Ltd	9.33 The Applicant's Comments on Written Representations - Revision 01 (Volume 9)	EN010121-000731-Morecambe Offshore Windfarm Ltd - Comments on Written Representations (WRs).pdf	REP2-027
Deadline 2	Morecambe Offshore Windfarm Ltd	9.35 The Applicant's Response Spirit Energy Deadline 1 Submissions - Revision 01 (Volume 9)	EN010121-000745-Morecambe Offshore Windfarm Ltd - Comments on any other submissions received at Deadline 1 2.pdf	REP2-030
Deadline 3	Morecambe Offshore Windfarm Ltd	9.43.2 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)	10530687 MOWF Effect on Offshore Installations Rev 1 (1).pdf	REP3-072
Deadline 5	Morecambe Offshore Windfarm Ltd.	The Applicant's Response to Spirit Energy's Deadline 4 Submission Appendix B: Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations_ Rev 02 Clean (Document Reference 9.59.2).	Not available at time of writing	Not available at time of writing

2. APPLICANTS SUBMISSION – HELICOPTER ACCESS STUDY

Reference: APP-081 - Environment Statement – Volume 5 – Appendix 17.1 Helicopter Access Study Rev01 – May 2024

The study has been conducted by a reputable firm that is experienced in transport risk assessments (Anatec) and contains input from a highly experienced helicopter pilot³, whose guidance is considered highly credible and relevant.

It follows an objective assessment process for identifying the potential restrictions to helicopter operations within 9nm to enable them to be conducted with a reasonable risk. (e.g. Visual Meteorological Conditions (VMC), Instrumented Meteorological Conditions (IMC)). The study report identifies a precedent of accepted operational restrictions considered appropriate to maintain safe helicopter travel from other windfarms operating within 9nm of oil and gas assets. This is logical and considered to be an appropriate methodology, noting that all assessments pertaining to potential future accidents are by nature predictive and therefore have a margin of error. The calculations have not been reviewed in detail to identify potential errors or assumption biases, but the approach appears to be logical and robust.

Implicitly this asserts that helicopter travel to some of Morecambe Bay Gas Fields Assets may require additional restrictions to maintain safe operations. The report goes on to quantify the operational impact of imposing these restrictions.

The report follows good practice of using relevant data sets for both meteorological conditions and Vantage POB data for the site.

The report correctly identifies that there are already operational restrictions, including 'no-fly conditions', on helicopter operations at the Affected Assets.

The report does not suggest helicopter operations should continue outside of CAT regulations at a significantly increased risk, which would be unacceptable.

The report considers that if flight conditions are determined safe then it is considered safe regardless of the operational restrictions in place, which is logical.. The report does not consider if there is an increased indirect risk to personnel from operating with these additional restrictions in place.

³ Anatec Report S2.11 - 45 years of aviation experience, five years as the Certification Flight Commander on Rotary Wing Test Squadron, Chief Test Pilot at Bristow Group for six years including as leading industry representative on rulemaking bodies including the JAA, EASA, ICAO, CAA and Helideck Certification Agency's Technical Committee and lead author for handling and performance aspects for the safety assessment of helicopter automated offshore approaches representing the CAA as Secretary to the European Committee on Aviation Equipment (EUROCAE). Co-author of the HeliOffshore Approach Path Guidance and has been a contributor to the HeliOffshore work on Helicopter Terrain Awareness Warning Systems

3. RELEVANT REPRESENTATION

3.1 RELEVANT REPRESENTATION – HARBOUR ENERGY

Reference: RR-027 - Morecambe Offshore Windfarm Generation Assets DCO Application – Relevant representation by Harbour Energy – 8 July 2024

Safety issues related to helicopter travel are not raised, the response focusses on the operational and commercial impact of helicopter operational restrictions.

3.2 RELEVANT REPRESENTATION – SPIRIT ENERGY

Reference: RR-077 - Morecambe Offshore Windfarm Generation Assets DCO Application – Relevant representation of Spirit Energy Production Limited in Response to S56 Notice – 19 August 2024

The report correctly identifies that oil and gas assets are tightly regulated and helicopter travel to offshore oil and gas installations in the UK is considered to be a major accident hazard (MAH).

The report correctly states that risks associated with MAHs must be assessed by the operator and reasonable measures taken to demonstrate the risk has been reduced to ALARP.

The report then raises four potential safety related implications from changing the operational restrictions on helicopters.

1. The potential increase in risk from operating helicopters in close proximity to a windfarm even with operational restrictions in place. This is considered a valid concern that should be assessed to understand the actual risk implications from operating close to a wind farm. The report states that even with operational restrictions, a separation distance of 1.5nm would offer an unacceptable increase in risk from helicopter operations, however a quantification of the risk is not offered. The report does not discuss the ability of other assets to operate helicopter flights safely with a similar separation distance or potential measures to facilitate the same at this location. Whilst this concern is considered valid, the report does not provide quantification of the risk increase to substantiate the claim that risks are unacceptable.
2. That the operational restrictions will significantly decrease the availability of helicopter trips. The argument put forward is that this will negatively impact the ability to perform essential maintenance required to operate safely by limiting access for maintenance teams. An alternative calculation of the reduction in availability of helicopter travel is put forward. This analysis has been conducted by a specialist aviation risk firm (AviateQ). The assessment follows good

practice of using relevant data sets for both meteorological conditions and Vantage POB data for the site. The calculations have not been reviewed in detail to identify potential errors or assumption biases, but the approach appears to be logical and robust. A difference in results between the Applicant's assessment and the Affect Asset Operator's assessment is noted. This is not unusual as methods for predicting future actions are by definition uncertain. The report states a link between the operational impact of helicopter flight reductions to a reduction in maintenance availability, all things being equal this is logical. The report does not attempt to quantify the impact that reduced helicopter availability would have on safety critical maintenance specifically. The report does not identify potential options to increase maintenance availability for safety critical equipment should it be required, nor the cost of those mitigations. A cost-benefit analysis has not been completed nor is an attempt at an ALARP demonstration offered.

The report raises concerns about the impact of helicopter availability on emergency evacuations, which is a relevant point. The report identifies that the primary means of evacuation is by helicopter and identifies an alternative means of evacuation as being via lifeboat. It should be noted that in the event of emergency evacuation being required, SAR helicopters would be heavily involved in the evacuation and operational restrictions on CAT helicopters would not impact SAR operations. The report also compares the risk from helicopter evacuation against lifeboat evacuation indicating that lifeboat evacuations are considered more hazardous, which is in line with typical risk assessments. It is noted that the figure of lifeboat evacuation risk is cited from the site QRA, whereas the helicopter evacuation risk is not quoted from the QRA, even though that would have been available. Helicopter activities currently have operational restrictions for helicopter availability and weather conditions; during these periods Spirit Energy continues to operate in a manner it considers safe despite lack of helicopter evacuation availability, the report does not discuss this point or outline how it is achieved. The report does not offer a quantification of the increased risk from operational restrictions to helicopter flights in the event of a major accident.

The report highlights the implications of operational restrictions to helicopter on non-emergency downmanning, which is considered a legitimate concern. The report correctly identifies that lifeboats would not be considered an appropriate means of non-emergency downmanning. Helicopter activities currently have operational restrictions for helicopter availability and weather conditions; during these periods Spirit Energy continues to operate in a manner it considers safe despite lack of helicopter availability for non-emergency downmanning. The report does not discuss this point or outline how it is achieved. Non-emergency downmanning is typically a slow process taking multiple flight trips over hours or possibly days, the report shows non-emergency downmanning currently takes around 1.5 to 2 days, which is implicitly considered safe by Spirit Energy. The report shows operational restrictions imposed by MOWL would increase this time by 0.5 to 1 day, but does not offer a quantification of the risk to personnel of this increase in time for non-emergency downmanning. Additionally, if time is critical then additional CAT helicopters could be contracted in to accelerate the downmanning time. It is noted that this may have a commercial and operational impact to Spirit Energy's operations, but the increase in risk to personnel is not quantified and is unlikely to be significant.

3. Repeats the implications for safety raised in the first two points and introduces the risk of uncertainty over regulatory approval. The safety case regulation in the UK is non-prescriptive whereby the operator puts forward their case for safety to the regulator who then reviews it on

those merits. The regulator is independent and looks to work with operators to promote the safe operations of their assets. In general, if risks and the actions taken by the operator to manage those risks to a reasonably practicable level are clearly articulated (in line with the relevant guidance) then the regulator will not prevent operations. It is noted that these regulations are complex and non-compliance based on technicalities can occur. However, Spirit Energy are an experienced operator with a good track record of both safe operations, and regulatory compliance. If risks are being appropriately managed then it is not reasonable to expect the regulator to impede safe operation of the site. There may be some operational or financial implications from continued regulatory compliance. This third point is not considered to raise additional safety implications from helicopter transport.

4. The report states that the only way to mitigate safety is for a larger buffer zone to be implemented, and proposes a buffer of 3.3nm. Since no flights would be undertaken unless it is considered safe to do so the direct risk of helicopter travel is unaffected by changes to the buffer zone. A large buffer zone may decrease operational restrictions (addressing the concerns raised in point 1 and 2), and a 3.3nm buffer zone would further decrease indirect risks. The report does not provide a quantification of the risk in point 1 or 2 to identify if the risk is material. The report does not identify alternative approaches to mitigate that risk. The report states that a 3.3nm buffer zone would be manageable. A 3.3nm buffer zone would still require some operational restrictions (albeit less onerous IMC only as opposed to VMC) and, following the logic of the concern around a 1.5nm buffer zone, would also potentially reduce the risk from helicopter travel. The report provides an operational impact assessment which implicitly is linked to the concerns around point 2. The report does not provide a quantification of the risk decrease associated with a 3.3nm buffer nor does the report explain why that risk would be manageable whereas a buffer zone of 1.5nm would not be manageable. The statement that a larger buffer zone is the only solution is not substantiated. The statement that a larger buffer zone is required is also not substantiated. If there is a material risk from a 1.5nm buffer then it is logical that an increased buffer would reduce that risk, however alternative management methods are not explored. In particular, the ability for other sites to operate safely with a similar buffer zone of 1.5 nm indicates that there may be other solutions to safely operate with those restrictions and those options should be considered.

3.3 THE APPLICANT'S RESPONSE TO RELEVANT REPRESENTATIONS

Reference: PD1-011 - Morecambe Offshore Windfarm Generation Assets Procedural Deadline A – Volume 8: The Applicant's Response to Relevant Representations Rev01 – 15 October 2024

4.8 Harbour Energy

The report states the Applicant's requirement to minimise risks from their operations to other offshore industries and reduce them to As Low As Reasonably Practicable (ALARP).

The report states that the Applicant does not consider the presence of MOWL would present a safety risk to Harbour's assets.

4.19 Spirit Energy



The report notes and agrees with the requirements to maintain safe operations at Spirits Assets in line with UK regulatory requirements.

The report acknowledges the implication of operational restrictions on helicopter flights and agrees to review the availability assessment from both MOWL and Spirit to understand any discrepancy in their results.

The report correctly identifies other operational fields that are able to safely operate helicopter activities close to wind farms.

The report states that no evidence has been put forward to adversely affect the future safety at the Affected Assets. A number of legitimate concerns were raised by Spirit Energy in their relevant representation. Evidence to quantify those safety concerns was not provided. The ability for other assets to operate safely in close proximity to wind farms indicates that it is reasonable to expect there to be a method of safely operating helicopters at the Affected Assets and this is worth investigating. The report offers a quantification of the potential increased risk from operational restrictions resulting in additional flights. The report provides a ballpark value of ~0.3% of the intolerable risk level per additional flight undertaken. The attempt at quantification is welcome and gives some context. It correctly acknowledges that there could be an impact to personnel safety due to the presence of MOWL. It also correctly identifies that the risk per flight is low. In the absence of a more detailed calculation this gives some context, but does not calculate the actual risk increase from additional operational constraints. A more detailed approach would provide the total number of additional flights expected and compare that to the individual risk per annum (IRPA) to provide a context of the overall risk profile. The assessment appears to be based on the risk impact based on the current maintenance profile, a more detailed approach would also identify and consider proactive means of reducing the risk impact (e.g. optimised maintenance and planning based around the operational restrictions if the windfarm were in place). It is noted that this level of detailed information is usually only available to the operator.

The report states that postponement of flights would not impact the safe operation of the Affected Assets due to inspection and maintenance of safety critical equipment. The report states that safe operations can be maintained under operational risk assessments. Operations can be maintained under impaired conditions via Operational Risk Assessments (ORAs). This is true but operating with ORAs in place is not good practice, and large numbers of concurrent ORAs can lead to an unacceptable increase in risk. The response does not provide a quantification of the number of ORAs that may occur, it is noted that this type of quantification requires detailed information of the asset operations that would usually only be available to the operator. Whilst it seems unlikely that the scale of helicopter postponements discussed here would lead to an unmanageable number of ORAs, no quantification is offered to demonstrate that there would be no safety impact from flight postponement.

The report states that operational restrictions on helicopter flights are an operational implication only, and not a safety implication. Whilst the Applicant's response provides some context for the likely risk impact being low and manageable, it does not provide sufficient evidence to reject Spirit Energy's legitimate concern that there may be some safety impact from a 1.5nm safety buffer.

4. DEADLINE 1

4.1 RESPONSE TO THE APPLICANTS' COMMENTS ON RELEVANT INFORMATION – SPIRIT ENERGY

Reference: REP1-114 - Morecambe Offshore Windfarm Generation Assets – Spirit Energy's Responses to the Applicants Comments on Spirit Energy's Relevant Representation – 26 November 2024

Spirit Energy note that Walk to Work (W2W) Vessels have been used for major campaigns in the past reducing the need for helicopter support, which would remove the safety impact of helicopter operational restrictions from MOWLs activities. The report notes that such vessels exist however there are concerns about future availability of such vessels.

The report identifies concerns about the assumptions used in the Applicant's assessment of the impact of operational restrictions on helicopter travel. This repeats previous comments about disagreement in the methodologies used by Anatec and AviateQ. The focus of these assessments is the operational impact, a quantified link to safety is not provided.

Spirit Energy emphasis the operational impact of safely managing operational restrictions on helicopter travel, implying that it could be managed safely but doing so would incur operational challenges particularly at points of high gas prices, emphasising the commercial impact.

The report correctly identifies the Applicant's duty to minimise adverse effects on safety for other offshore industries. Philosophically all activities incur some risk (albeit negligible in many cases) and the absolute safest option when taken in isolation is always to do nothing, indeed if minimizing risks were the absolute priority oil and gas activities (as well as all commercial activity) would not be allowed. However, absolute safety is not managed in isolation and hence the regulations and policy emphasize a consideration of reasonableness, risk intolerability, and managing risks to ALARP. Where there are legitimate concerns raised about the safety impact of new activities, a quantification of the tolerability of risk with suitable mitigation measures is a common way to assess the impact. This approach is common in oil and gas activities and indeed used by Spirit to consider its existing operational restrictions on helicopter travel.

The report correctly emphasizes that the Secretary of State should not consent applications which pose intolerable risks to safety measures after mitigation measures have been considered. The report does not quantify the safety implications or consider mitigations to demonstrate the risks are a) intolerable and b) remain intolerable after mitigation measures are considered.

The report correctly identifies that changes to operational restriction on helicopter travel could increase the number of flights taken by individuals. The report correctly identifies that any increase in helicopter travel would impact the individual risk to personnel. A counter point to this is that spending time on an operational asset and conducting maintenance activities also carries risk; reduction in time on asset would reduce the individual risk. The report indicates that Spirit's Quantitative Risk Assessment (QRA) predicts an increase in individual risk of 15% for some personnel due to increased travel time from presence of MOWL. This quantification of risk is welcome, however details and assumptions of this calculation are not provided. Without

further detail it cannot be demonstrated that risk reduction measures have been considered and quantified which is a key component of managing risk to ALARP. The report also does not provide the absolute IRPA (individual risk per annum), which is key to understanding risk tolerability. The tolerability of risk increases are not assessed based on a percentage basis. If initial IRPA values are relatively low, and significantly below the tolerability limit, then a 15% increase may not be significant in absolute terms. In summary, depending on the starting IRPA and assumptions used, a 15% increase in risk is credible however demonstration that this is the lowest manageable risk increase (ALARP) is not discussed, nor is the tolerability of that risk (if it is ALARP). The report states that this increase will necessitate a material change to the safety case. A material change is one that is likely to change the basis on which the original safety case was accepted. Depending on the circumstances of the change to operations this may or may not be considered material, insufficient evidence is provided to determine the validity of this claim. Our initial thoughts are that the impact of the wind farm on helicopter travel is unlikely to constitute a material change at this stage and rather that any change is included in the normal 5 yearly updates of the safety case, along with any other non-material operational changes.

The report correctly identifies that Spirit Energy have an obligation to decommission their facilities safely, and identifies that the ability to safely decommission their assets should be considered. The ability to safely decommission assets should be assessed based on the same criteria as any other operation – namely risks should be identified, mitigation measures identified, and the risk calculated to identify the tolerability of the risks. It should be noted that during decommissioning the asset would no longer be 'live' so the risk from non-helicopter activities (i.e. high pressure flammable oil and gas) would be greatly reduced. It should also be noted that since the asset is no longer 'live' safety critical maintenance obligations would not exist, removing the time sensitive nature of operations from a safety point of view – i.e. provided flights can be conducted safely, then the availability of those flights is predominantly a commercial concern.

The report repeats Spirit's previous assertion that operational restrictions on helicopter travel pose an intolerable risk to the availability of safety critical maintenance. It does not provide further substantiation and does not consider how a) current operational restrictions on helicopter travel are possible and b) how other facilities are able to safely operate with similar operating restrictions.

The report correctly identifies that risks that fall below the tolerability criteria of 1×10^{-3} are not automatically tolerable, and must be subjected to a demonstration that the risks are managed to a level that is as low as reasonably practicable. The report states that Spirit feels that it is reasonably practicable to increase the buffer zone. This may be so, but alternative risk mitigation measures should be considered and the cost of those measures (including increasing the buffer zone) compared to the risk decrease after mitigation. As the report notes, only the operator has access to the QRA that can provide that data. The report does not provide evidence of the basis for the calculation of QRA for the ALARP demonstration.

The report emphasizes the role of helicopter activities in emergency response provisions and correctly identifies that the inability to use helicopters when needed may increase the risk to personnel in the event of a major accident that requires emergency response. The report does not provide a calculation of the risk change due to availability of helicopters caused by MOWL,

noting that helicopter operations are currently restricted. The report does not consider alternative mitigation measures, e.g. the provision of additional helicopters to accelerate emergency evacuation where conditions allow.

The report emphasizes Spirit's strong feeling of the importance of non-emergency downmanning. The report does not consider alternative options to accelerate non-emergency downmanning, for example additional helicopters could be available. This would improve the safety implications from non-emergency downmanning time but come at a commercial cost.

The report states that a material change to the safety case would be required. This may not be true depending on the nature of changes. Provided suitable mitigation measures are in place and the risk from operations remains tolerable if ALARP then there is no reason to expect that safety case would need to be changed at this stage. The report does not explore potential mitigation measures that would be required (if any) to maintain safe operation. Insufficient evidence is provided to determine if a material change would be required. Provided Spirit are confident that they are operating safely, then requirement to update the safety case provides an operational impact only (cost and risk of non-acceptance).

4.2 WRITTEN REPRESENTATION – HARBOUR ENERGY

Reference: REP1-102 - Morecambe Offshore Windfarm Generation Assets - Written Representation – Harbour Energy – 26 November 2024

The report notes that since flights would only be conducted in safe conditions (i.e. additional operational restrictions would be imposed), the risk to each flight would be unchanged. The report notes that additional operational restrictions would decrease flight availability.

The report raises legitimate concerns about the potential safety impact of lower flights availability, including ability to complete safety critical maintenance, and the ability to provide emergency evacuation support via helicopter. These are aligned with the concerns raised by Spirit Energy.

The report states that Harbour do not feel able to propose potential mitigations and will rely upon submissions made by Spirit Energy in this regard. Given the similarity in helicopter operations between both Harbour Energy and Spirit Energy, and the similarity in nature of concerns raised, it is reasonable that any mitigation measures that suitably address Spirit Energy's concerns would also address Harbour Energy's concerns.

4.3 WRITTEN REPRESENTATION – SPIRIT ENERGY

Reference: REP1-116 - Morecambe Offshore Windfarm Generation Assets - Written Representation of Spirit Energy Production Limited – 26 November 2024

The report re-iterates Spirit Energy's concerns raised previously in their relevant representation and rejects the responses put forward by MOWL in their response to the relevant representation. These are aligned with the points raised in the response to the applications comments on the written representation.

The report puts forward revised buffer zones of 1.9nm to VMC and 3.9nm for IMC. This analysis has been conducted by a reputable specialist firm, AvieteQ, and appears to follow a logical assessment process. It is outside of the scope of this report to comment on the appropriate buffer zone for VMC or IMC operations.

As previously noted helicopter travel is tightly regulated and both parties agree that helicopter operations would only occur when safe to do so. The impact of applying VMC vs IMC buffer distances is a reduction in operational availability of helicopter flights. The report continues to maintain this would result in safety impacts due to reduced availability. Additional consideration is given to using walk to work (W2W) vessels, which are rejected as a grossly disproportionate cost.

The report does not quantify the safety implications or consider mitigations to demonstrate the risks are a) intolerable and b) remain intolerable after mitigation measures are considered. The report reiterates that Spirit have conducted their own assessment using their QRA and identified an increase in IRPA of 15%. Details of the assumptions and methodology for assessing alternative risk reduction measures are not provided. It is noted that only Spirit has access to this information and without evidence being provided it is not possible to comment on these values.

The report notes that accepting a change in operational restrictions on helicopter travel would pose a significant regulatory challenge and burden, and may require a material change to the safety case. The report correctly states that the Competent Authority may require Spirit to explore other options to reduce transportation risk. Implying that it is considered likely that Spirit could find a way to continue safe operation under increased operational restrictions if they were inclined to do so, but it would come at a commercial and operational cost.

5. DEADLINE 2

5.1 THE APPLICANT'S COMMENTS ON WRITTEN REPRESENTATIONS

Reference: REP2-027 - Morecambe Offshore Windfarm Generation Assets – Examination Documents – Volume 9 – The Applicant's Comments on Written Representations – 12 December 2024

The report disagrees with the assessment of operational impact on flight completed by Spirit and notes additional submissions will be made detailing comments on Spirit Energy's assessment, and providing an update to MOWLs Assessment.

The report states the Applicant disagrees with the Buffer distances stated by Spirit Energy for VMC and IMC flight. This is outside the scope of this report to comment on.

The report states the Applicant proposing a take-off zone to provide reduced operational constraints over those previously proposed. This shows consideration of the safety concerns raised by Spirit and raises a potentially credible solution to the safety concerns raised.

5.2 THE APPLICANT'S RESPONSE SPIRIT ENERGY'S DEADLINE 1 SUBMISSION

Reference: REP2-030 - Morecambe Offshore Windfarm Generation Assets – Examination Documents – Volume 9 – The Applicant's Response Spirit Energy Deadline 1 Submissions – 12 December 2024

The report proposes an increased mitigation to safety from operational restrictions by providing a 2nm wide take-off access corridor. This shows consideration of the safety concerns raised by Spirit and raises a potentially credible solution to the safety concerns raised.

The report acknowledges the safety concerns put forward by Spirit Energy and characterizes them in 4 topics.

1. Transportation risk. The report sets forward their understanding of the requirements of a preventative maintenance scheme and correctly asserts it is a long term structured process enabling operational variability to remain compliant. The report identifies the high variability in flights and infers there are a limited number of high frequency (monthly) safety critical tasks. The report identifies that there is already a high variation in time spent on the asset for each visit. The report seeks to infer from the variability in existing operation, and likely flexibility in maintenance programmes, that the proposed additional operational restrictions on flights would not lead to a significant increase in risk. The information and logic proposed is compelling, and raises questions about how a 15% increase in IRPA was calculated by Spirit if reasonable actions to minimise flights

were taken into account. The report states that the tolerability criteria would not be threatened by such a change or larger change to transportation risk. On the evidence put forward it seems reasonable that safety risks associated with additional operational restrictions could be managed if Spirit were minded to do so, but without access to the current basis for safety and QRA (held by Spirit and not shared) it is difficult to say if the operational restrictions proposed can be adopted without any impact to safety.

2. Emergency Evacuation. The report asserts that there is no requirement under PFEER for the primary means of evacuation to be via helicopter. This is true, but it is common practice and provides the fastest means of personnel reaching aid in the event of an emergency. Not all major accidents are catastrophic. Hypothetically, a fire that is detected and isolated may cause significant burns to a number of personnel, the option of helicopter evacuation could dramatically increase the chance of survival to those persons in that specific circumstance. I would suggest a better question would be to explore, how likely such a scenario is and how likely is it to coincide with a period where the helicopter would otherwise be available except for the presence of MOWL.

The report asserts that in the event of a fire or explosion it is unlikely that helicopter evacuation would be feasible due to heat or smoke. The report then lists some notable examples of major accidents. It is true that there are examples of major accidents where evacuation was not possible. There are other examples of major leaks where helicopter evacuation was executed successfully such as the Elgin-Franklin leak in 2012 where 238 people were successfully evacuated by helicopter during a major flammable gas leak. Helicopters are the means of primary evacuation and should be treated as such.

The report identifies the limited capacity of the helicopters available for evacuation and challenges how much of an impact in absolute terms the additional restrictions caused by MOWL would have in the event of emergency evacuation. This is a reasonable challenge, but no quantification of the impact is offered.

3. Non-emergency downmanning. The report offers a number of qualitative lines of logic that the impact to non-emergency downmanning would not be material. Non-emergency downmanning is not typically considered to be a safety critical task, or related to protection of major accident hazards. It is noted that Spirit Energy have a wider safety obligation to their workforce beyond the requirements of The Safety Case Regulations (SCR). Given the non-emergency nature of the situation, it is difficult to see that the safety requirements of additional helicopter restrictions could not easily be met if required making this an operational issue.
4. Enforcement risk. The report sets forward a number of points indicating that it is within the gift of Spirit to manage the risk of compliance with the regulations. Quantification of risks are not provided and the question of what the actual mitigated impact is, remains. As mentioned previously, if the operator is confident that their operations are safe then there is no reason to suspect the regulator will not accept their safety case. Risk of non-acceptance due to some unforeseen issue is not a safety issue per se, it is an operational risk.

6. DEADLINE 3

6.1 RESPONSES TO THE APPLICANT'S DEADLINE 2 SUBMISSIONS

Reference: REP3-102 - Morecambe Offshore Windfarm Generation Assets Development Consent Order Applications – Deadline 3 submission by Spirit Energy Production UK Limited – Response to the Applicant's Deadline 2 Submission – 22 January 2025

The report states that nothing in the Applicants D2 submission materially changes Spirits Primary position.

The report highlights its previous concerns regarding safety and states they have not been adequately addressed. The Applicant has put forward a number of reasonable lines of argument, but it is true that the Applicant has not definitively demonstrated the risks are tolerable. It is worth noting that only Spirit energy as the operator of the field have access to the Safety Case, ALARP demonstration, and QRA which would be required to unequivocally demonstrate the risks are tolerable. The report states that the safety risks would be unacceptable in the absence of further mitigation. It is reasonable to expect as part of this process that further mitigations would be identified and assessed to identify what would be required to maintain safe operations. It is noted that this process typically involves creative thinking of alternative options. Spirit energy state they have considered the options and only an extended buffer zone is able to mitigate the safety risks, however no evidence has been provided of the mitigation measures considered or the methodology to arrive at this conclusion. It is noted that Spirit Energy are an experienced and responsible operator and there is no evidence to dispute their assertion. The topic of how other sites are able to safely operate with similar restrictions in place is not addressed.

The report correctly asserts that helicopter evacuation is the primary means of evacuation and has a role to play in protecting lives in major accidents.

6.2 REMAINING RESPONSES FROM THE APPLICANT'S TO SPIRIT ENERGY DEADLINE 1 SUBMISSIONS

Reference: REP3-072 - Morecambe Offshore Windfarm: Generation Assets – Examination Documents – Volume 9 - Remaining Responses from the Applicant's to Spirit Energy Deadline 1 Submission Appendix B: Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations – 22 January 2025

The report offers an attempt at quantifying the risks to personnel due to the changes of operational restrictions on helicopter activities. The assessment has been prepared by a credible organisation who are well regarded in the industry for providing objective assessment and mitigation of safety risks (DNV). The report directly addresses the credible safety concerns that

were raised by Spirit Energy. It is noted that the assessment is based on available information from this DCO process and general industry data, in particular it is not based on information from Spirit Energy and as such is unlikely to be as accurate as an assessment based on the actual site risk assessment. DNV have extensive experience of developing offshore risks assessments including QRAs for offshore installations. They include anonymized data from other real-world assets to give context. In the absence of actual data from the Affected Asset this is the best alternative approach to assessing the potential risk impact from operational restrictions to helicopters.

The report follows a recognized method for quantifying the risk from helicopter travel, and follows a logical approach to calculating risk. The risk calculations have not been error checked as part of this review. The report states that the proximity of the windfarm will not result in a material increase in risk and puts forward that no further measures will need to be taken. In the absence of actual data from the site to provide substantiation, this is a reasonable conclusion. The report indicates that it would be highly unusual for the Affected Asset to have a risk profile that would make it impossible to manage the change in operational restrictions safely. The report concludes that a material change to the safety case would not be needed. It should be noted that the requirements of a material change are at the discretion of the operator.

The report discussed the typically approach to safety critical maintenance and concludes that suitable operational planning would be able to mitigate the risks from restrictions on access caused by helicopter unavailability. The approach presented is logical and would apply to most operating assets. In the absence of accurate data for the Affected Asset this is a logical approach and the conclusions are reasonable.

The report correctly identifies helicopter is the primary means of evacuation. The report also correctly identifies that evacuation by helicopter is a slow process. The report lists a number of emergencies where evacuation by helicopter was not possible, as mentioned previously this is highly selective and not a demonstration that helicopter evacuation is not valuable. The report identifies that in the event of an emergency SAR helicopters will also be utilized which are not subject to the same weather restrictions as CAT helicopters. The report does not quantify the potential impact of helicopter restrictions on emergency response. The report goes on to conclude that the windfarm does not impede emergency response. That maybe so but the line of logic used to reach that conclusion is not considered sufficiently strong to definitively conclude there is no impact.

7. DEADLINE 4

7.1 COMMENTS ON ANY OTHER SUBMISSIONS RECEIVED AT DEADLINE 3

Reference: REP4-069 - Morecambe Offshore Windfarm Generation Assets Development Consent Order Application – Deadline 4 Submission by Spirit Energy Production Limited – Response to the Applicant's Deadline 3 Submissions – 18 February 2025

The report restates Spirit Energy's position and rejects the analysis presented by the Applicant. The report states that the Applicant is interested in precedent from other projects at other sites with other operational arrangements. It is true that there is a degree of variation between site, but it is remarkable that there hasn't been more curiosity of how similar platforms are able to operate in this way safely to explore if there are any learning to enable safe operation at the Affected Assets.

The report is critical of the analysis provided by DNV in particular criticizing the accuracy of assumptions made leaning towards optimism, the independence of the report, and the alleged assertion of opinion as scientific fact.

As noted by DNV the data used in the report is not original data from the Affected Asset, as such it cannot be conclusive evidence of the risk tolerability of the change to operation. Spirit Energy are the only party to have access to such data. In the absence of original data, the approach used by DNV is considered to be reasonable and good practice approach to identify the likely impact of the change in question. As noted previously, DNV are a reputable organisation with a good track record of providing independent advice to operators, industry bodies, investors, regulators amongst other stakeholders. Some comments have been raised earlier in this report about potential weaknesses in the assessment, but in general the approach is considered to fall within the normal range of good practice for this type of assessment. The calculation has not been repeated to check for errors, however there is no reason to suspect inherent bias, the fact the conclusions do not agree with Spirit's finding seems to be the main evidence for such bias which is not compelling. The DNV report makes clear statements outlining its finding, similarly Spirit has presented the conclusions from its own assessment as statements of fact. Implicit in risk assessment is a known challenge in accurately predicting the level of risk, it is not uncommon to put forward findings clearly in the manner shown by the DNV report.

8. DEADLINE 5

8.1 EFFECT OF PROPOSED WINDFARM ON OIL AND GAS OPERATIONS

Reference: The Applicant's Response to Spirit Energy's Deadline 4 Submission Appendix B: Effect of Proposed Morecambe Offshore Windfarm on Offshore Oil and Gas Operations_Rev 02 Clean (Document Reference 9.59.2)

The report offers an updated version of the report submitted in Deadline 3.

As previously noted, the assessment has been prepared by a credible organisation who are well regarded in the industry for providing objective assessment and mitigation of safety risks (DNV). It is noted that the assessment remains on generalised industry, and publicly available data, it is not based on information from Spirit Energy and as such is unlikely to be as accurate as an assessment based on the actual site risk assessment. DNV have extensive experience of developing offshore risks assessments including QRAs for offshore installations. They include anonymized data from other real world assets to give context. In the absence of actual data from the Affected Asset this is the best alternative approach to assessing the potential risk impact from operational restrictions to helicopters.

The report offers further expansion on their approach to reaching their conclusions, but does not change the conclusions found. In particular, further expansion on the roles of helicopters in emergency evacuation scenarios is welcome. The discussion of credible scenarios that might require emergency response is comprehensive and logical.

The assertion that the impact of helicopter operational restrictions caused by MOWL are unlikely to cause a major safety concern for oil and gas assets is a logical conclusion from the approach taken.

9. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions have been drawn by ERM following its independent review of the case put forward by both the Applicant and Affected Asset Operator. This review was based on documents provided as part of the DCO process, specifically those listed in this report.

- The Affected Asset Operator (Spirit Energy) has raised legitimate concerns about the potential safety impact to helicopter travel due to the windfarms planned construction and operations.
- All parties agree that helicopter travel would only be undertaken when considered safe to do so, as such the direct risk of helicopter travel is not affected.
- The Asset Operator has an obligation to maintain safe operations at its site by identifying risks, identify potential mitigation measures, and assessing the tolerability or otherwise of those risks following mitigation. The Asset Operator has stated that they have followed this process and found the risks of increased operational restrictions caused the Morecambe offshore windfarm to be unacceptable, with no mitigation possible other than increasing the buffer zone between the wind farm and their asset. The Asset Operator has not stated which risk reduction measures were considered, or shown the methodology used to make these conclusions. The Asset Operator is a competent operator, with responsibility for the safe operation of its asset, and with an accepted safety case; their assertion, even unsubstantiated, carries weight. However, inspection of their QRA approach and findings would enable a better understanding of their concerns and the evaluation of mitigation options.
- The Affected Asset Operator has not provided evidence to enable their risk assessment methodology to be peer reviewed or verified. A number of reasonable challenges to the conclusions drawn by the Affected Asset Operator have been raised by the Applicant:
 - The Applicant has identified that there is a precedent of other windfarms safely operating with similar operational restrictions.
 - The Applicant has completed their own risk assessment to provide a risk comparison, although actual risk data from the Affected Asset was not available. The company completing the assessment (DNV) is considered highly credible and has followed an approach that is in line with industry good practice. The assessment finds it not credible that the proposed operational constraints would negatively impact safety at the Affected Asset.
- 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.



ERM HAS OVER 160 OFFICES ACROSS THE FOLLOWING
COUNTRIES AND TERRITORIES WORLDWIDE

Argentina	The Netherlands
Australia	New Zealand
Belgium	Peru
Brazil	Poland
Canada	Portugal
China	Puerto Rico
Colombia	Romania
France	Senegal
Germany	Singapore
Ghana	South Africa
Guyana	South Korea
Hong Kong	Spain
India	Switzerland
Indonesia	Taiwan
Ireland	Tanzania
Italy	Thailand
Japan	UAE
Kazakhstan	UK
Kenya	US
Malaysia	Vietnam
Mexico	
Mozambique	

ERM's London Office

Exchequer Court
33 St Mary Axe
London
EC3A 8AA

T: +44 20 3206 5200

F: +44 20 3206 5440

www.erm.com