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OffshoreWind IndustryCouncil

Underwater Noise Conflict Resolution: Framework Report

XODUS

Renewable UK

Underwater Noise Conflict Resolution

Framework Report

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CONTENTS

ACRONYMS 5

1 EXECUTIVE SUMMARY 7

2 INTRODUCTION 12
2.1 Industry Need 12
2.2 Project Scope & Objectives 13
2.3 Intended Audience and Use 14
2.4 Overview of Methodology 14

3 FOUNDATIONS OF THE COORDINATION AND CONFLICT RESOLUTION PATHWAYS 16
3.1 Stakeholders 16
3.1.1 Primary Stakeholders 16
3.1.2 Secondary Stakeholders 17
3.2 Decision Making Concepts 17
3.2.1 Stakeholder Feedback on Decision Making Approaches 19
3.3 Establishing Priority Criteria 20
3.3.1 Stakeholder Feedback on Priority Criteria 22
3.3.2 Most Imperative Priority Criteria for Conflict Resolution Pathways 23

4 RECOMMENDATIONS FOR IMPROVING COORDINATION AND CONFLICT RESOLUTION 24
4.1 Baseline Changes to Improve Planning and Coordination 24
4.1.1 Improve Current Guidelines on Noise Modelling and EDR approaches 25
4.1.2 Improve noise activity tracking and coordination data and systems 26
4.1.3 Align Consenting Requirements between Regulators 27
4.1.4 Reform the Call for Information 28
4.1.5 Implement a Coordination and Conflict Management Framework 29
4.2 Reforming the Vehicles for Achieving Coordination and Conflict Resolution 30
4.2.1 Reform and Replace the Existing DCF 30
4.3 Managing and Resolving Conflicts 35
4.3.1 Escalation Framework 35
4.3.2 Repercussions of Threshold Breaches 44
4.4 Summary of Conflict Resolution Framework Recommendations 44

5 EXAMPLED CONFLICT SCENARIOS 48
5.1 Scenario 1 - Potential Threshold Breach Pre-Campaign 48
5.2 Scenario 2 - Potential Threshold Breach During Summer Campaign 51

6 CONCLUSION 54
6.1 Intended Next Steps 54
6.2 Remaining Challenges 54

REFERENCES 55

APPENDIX A SUMMARY OF WP1 & WP2 OUTPUTS

A.1 WP1 Outputs

A.1.1 Literature Review

A.1.2 Stakeholder Engagement

A.2 WP2 Outputs

A.3 Collating WP1 and WP2 to inform conflict resolution processes in WP3

APPENDIX B PATHWAY DEVELOPMENT PROCESS

B.1 MCDA Survey Form

B.2 Defining Stakeholder Priorities

B.2.1 Qualitative Pairwise Comparison of Priority Criteria

B.2.2 Quantitative Scoring of Priority Criteria

B.2.3 Number of Stakeholder Responses

B.3 Draft Pathway Recommendations

APPENDIX C SIMULATION TESTING & PATHWAY REFINEMENT

C.1 Approach to Simulation Testing

C.2 Outcome Discussion & Pathway Option Refinement

C.2.1 Alignment of Consenting Timelines and Coordination Group Setup

C.2.2 Noise Modelling and Monitoring Measures

C.2.3 SIMOPS Procedure Limitations

C.2.4 Pathway Refinement Considerations

ACRONYMS

ACRONYM/ABBREVIATION	DEFINITION
CAPEX	Capital Expenditure
CCF	Central Coordination Function
CCS	Carbon Capture and Storage
COD	Commercial Operations Date
DEVEX	Development Expenditure
DCF	Development Coordination Forum
DoD	Department of Defense
EDR	Effective Deterrent Range
EIA	Environmental Impact Assessment
FCS	Favourable Conservation Status
FID	Financial Investment Decision
FoI	Freedom of Information
HSE	Health, Safety and Environment
ISG	Industry SIMOPS Group
JNCC	Joint Nature Conservation Committee
MCDA	Multiple Criteria Decision-Making Analysis
MMO	Marine Management Organisation
MNR	Marine Noise Registry
MWS	Marine Warranty Surveyors
NAS	Noise Abatement Systems
NESO	National Energy Systems Operator
NGO	Non-Government Organisation
NSTA	North Sea Transition Authority
OEP	Office for Environmental Protection
OOG	Offshore Oil and Gas
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSW	Offshore Wind
OWIC	Offshore Wind Industry Council
PrePARED	Predators and Prey Around Renewable Energy Developments
SAC	Special Area of Conservation
SIMOPS	Simultaneous Operations

ACRONYM/ABBREVIATION	DEFINITION
SIP	Site Integrity Plan
SNCB	Statutory Nature Conservation Bodies
SNS	Southern North Sea
SNSOWF	Southern North Sea Offshore Wind Forum
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
USA	United States of America
UWN	Underwater Noise
UXO	Unexploded Ordnance
WP1	Work Package 1
WP2	Work Package 2
WP3	Work Package 3
WP4	Work Package 4

1 EXECUTIVE SUMMARY

The Southern North Sea (SNS) Special Area of Conservation (SAC) is designated to protect the habitat for harbour porpoise (*Phocoena phocoena*). However, with increasing activity in region, there is a growing risk that underwater noise (UWN) exceeds levels which are congruent with ensuring Favourable Conservation Status (FCS) of harbour porpoise in the SNS SAC. FCS requires that the long-term viability of the harbour population be maintained: this involves ensuring that the habitat integrity and the species' resilience are sufficient to maintain a stable or growing population. Recognising the lack of a clear, coordinated framework to manage and avoid exceedances, there is an urgent requirement for a robust coordination and decision-making pathway to be established to manage potential scheduling conflicts and prevent breaches.

Background

- Restrictions within the SNS SAC prohibit disturbance caused by underwater noise – principally focused on high-amplitude impulsive noise sources. This includes activities including percussive (impact) piling, Unexploded Ordinance (UXO) disposal, geophysical surveys, and seismic surveys.
- Harbour porpoise are a European Protected Species (EPS) listed in Annex II of the European Union (EU) Council Directive 92/43/EEC ('the Habitats Directive').
- Restrictions within the SNS SAC prohibit disturbance arising from UWN which exclude harbour porpoise from more than 20% of the SAC's area per day and/or an average of 10% of the SAC's area over a given season. These restrictions apply to both the individual and in-combination effects of ongoing and planned projects.
- The region is exposed to high levels of offshore activity involving multiple sectors, including Offshore Wind (OSW), Offshore Oil and Gas (OOG) and, more recently, Carbon Capture & Storage (CCS).
- With several large offshore wind farms planned within the SNS SAC to support the UK's Clean Power 2030 plans, and with OSW, OOG and CCS critical for energy security and meeting Net Zero targets by 2050, a coordinated approach is essential to prevent project delays and UWN disturbance threshold breaches.
- To establish a coordination process, the Development Coordination Forum (DCF) was established in 2023. The DCF, consisting of project Operators, Developers, Regulators, and Government bodies, was continued and further developed in 2024.
- The DCF is supported by the industry-established Simultaneous Operations (SIMOPS) process.
- This project was conducted concurrently to the 2024 SNS SAC summer campaign season. Valuable lessons garnered throughout the Summer 2024 period have been incorporated into this work.

Scope of Work

Xodus was contracted by the Offshore Wind Industry Council (OWIC), through RenewableUK, to support the OWIC Pathways to Growth initiative in identifying frameworks for coordination and conflict resolution to avoid or manage UWN disturbance threshold conflicts. The objectives of this report were to:

- Identify and outline recommendations for improved coordination based on stakeholder input;
- Provide pathway suggestions for addressing unavoidable conflict in a workable, robust manner; and
- Provide actionable next steps in the pursuit of implementing an underwater noise management framework.

This report aims to identify the current limitations in managing UWN disturbance thresholds in the SNS SAC, focusing on coordination and conflict resolution. It suggests solutions based on evidence, Stakeholder feedback, expert opinion, and valuable lessons garnered throughout the summer campaign and the project timeline. The recommendations provide a framework for practical, workable solutions, rather than detailing specific roles. or actions.

These recommendations will be taken forward by OWIC for further discussion with all relevant stakeholders.

Recommendations

Feedback gathered from industry stakeholders demonstrates that the current system for managing UWN disturbance threshold limits in the SNS SAC is inadequate for ecological and operational needs, necessitating bold action and reform. The challenge lies in balancing flexibility across various potential scenarios, without the pathway becoming excessively complex.

This project was conducted concurrently to the 2024 SNS SAC summer campaign season. Consequently, some recommendations provided in this report – particularly suggestions for improving coordination to reduce likelihood of conflict scenarios – may already be under consideration, or be in the process of being implemented to some degree.

While Xodus cannot make final decisions on these reforms, the findings from the study have resulted in a set of recommendations as summarised in Table 1-1. These recommendations aim to support, expand-up, or otherwise complement the existing coordination efforts currently being undertaken.

Table 1-1 Summary of Recommendations

RECOMMENDATION	SUMMARY	RESPONSIBLE PARTIES	STATUS	REPORT SECTION
Baseline changes for improving coordination				4.1
Improve noise activity tracking and coordination data and systems	• There are current discrepancies between information held within the Marine Noise Registry (MNR) and the SNS Activity Tracker. • Stakeholder feedback indicates the MNR is less suitable for planning purposes and is less accessible. • It is important to consider lead times for updates and establish a single source of truth by upgrading the current MNR system.	Government JNCC	Underway	4.1.2
Align consenting requirements between regulators	• Discrepancies in consenting timescales exist between the Marine Management Organisation (MMO) who are responsible for the consenting of OSW projects, and the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED). • Aligning consenting requirements and application timelines between Regulators would improve coordination and forecasting. • Regulators should establish aligned consent conditions and use a standardized forecasting approach to facilitate in-combination assessments and planning • Clarifying and optimizing noise impact assessment guidance and incorporating best-case scenarios will reduce overly conservative assumptions and improve decision-making.	Regulators	Underway (informally)	4.1.3
Reform the Call for Information	• A dedicated Call for Information from Regulators MMO and OPRED establishes baseline activities and requires clear guidance, methodology, and assumptions for transparency and coordination.	Regulators	Partially undertaken (further reforms suggested)	4.1.4

RECOMMENDATION	SUMMARY	RESPONSIBLE PARTIES	STATUS	REPORT SECTION
	• The Call for Information should be issued at least six months before the summer campaign. • Stakeholder feedback highlighted the need for accurate data from Developers and Operators and suggested greater granularity for OSW projects, with the Call enhancing transparency but not serving as a cut-off for applications.			
Refinement and adoption of an agreed-upon coordination cycle for each SNS SAC summer season	• Establish and agree clear expectations and requirements – including timings and deadlines – for specific activities and actions required for the coordination process, and implement these into a formal framework.	Regulators JNCC Government Developers Operators	Partially undertaken (further reforms suggested)	4.1.5
Reforming the vehicles for achieving coordination and conflict resolution				4.2
Reform and replace the existing DCF	• It is recommended that the existing DCF be more deliberately separated into two groups; a Central Coordination Function (CCF); an Industry SIMOPS Group (ISG). • This structure would align with stakeholder engagement which indicated that Developers and Operators prefer to manage day-to-day SIMOPS with minimal Regulator or Government input, but acknowledged the need for authority oversight in conflicts, requiring clear procedures and contacts. • JNCC would sit in both groups and act as a technical advisor and case officer.	Regulators JNCC	Not yet undertaken	4.2
Managing and resolving conflicts				4.3
Establish and implement an agreed-upon conflict escalation framework	• The conflict resolution framework includes two levels of escalation: initial conflict avoidance and resolution within the ISG, and further escalation to the CCF for	Regulators JNCC Government Developers Operators	Not yet undertaken	4.3.1

RECOMMENDATION	SUMMARY	RESPONSIBLE PARTIES	STATUS	REPORT SECTION
	decision-making. As a final resort, the Central Government may be required to determine an outcome. • The ISG will avoid/resolve conflict through bilateral agreements between developers and operators (including financial compensation, cost sharing and activity streamlining, future prioritisation), as well as through the SIMOPS process. • The CCF will resolve conflict through evidence-based decisions, considering environmental criteria, UWN disturbance threshold compliance, causation of (potential) breach, project risk and activity duration. This would be managed through a defined decision-making matrix which the CCF would be responsible for creating and implementing. • The Government's evaluation criteria may include impacts on energy, decarbonisation targets, energy policy, The Crown Estate (TCE), investor confidence, and socio-economic and supply chain effects.			

Remaining challenges

The recommendations provided do not fully resolve all challenges.

Uncertainties in the precise schedule of specific operations prior to the commencement of the summer campaign and thus the ability to accurately forecast and identify potential breaches will always persist. Unpredictable delays during campaigns such as those cause by adverse weather will always pose challenges to scheduling and simultaneous operations (SIMOPS). Likewise, whilst reporting of activities remains retrospective, an element of uncertainty and a risk that UWN disturbance thresholds may inadvertently be exceeded remains. Nonetheless, these recommendations aim to benefit future handling of such issues and minimise their likelihood.

The recommendations provided focus on enhancing specific functionality, with suggestions as to how this could be achieved. However, the actioning of many of these recommendations remains a significant undertaking, and the timelines required to practically implement the recommendations remains uncertain.

2 INTRODUCTION

2.1 Industry Need

The SNS SAC is designated to protect and conserve habitats associated with harbour porpoise (*Phocoena phocoena*). Harbour porpoise are a European Protected Species (EPS) listed in Annex II of the European Union (EU) Council Directive 92/43/EEC ('the Habitats Directive'). The SNS SAC is a region with high levels of offshore activity involving multiple sectors, including OSW, OOG and, more recently, CCS. These industries undertake activities, e.g., percussive (impact) piling and seismic survey, which generate high levels of underwater sound. Restrictions are in place within the SNS SAC which prohibit disturbance arising from UWN – principally focused on impulsive noise sources – which exclude harbour porpoise from more than 20% of the SACs area per day and an average of 10% of the SAC over a given season; henceforth referred to as the 'thresholds'. These restrictions apply to both the individual and in-combination effects of ongoing and planned projects.

Cumulative offshore activity in summer 2024 and onwards will increase the likelihood of thresholds being exceeded. Due to this activity, there is a requirement for a robust and fit-for-purpose coordination and decision-making pathway to be implemented to manage any potential scheduling conflicts and to avoid breaching these thresholds. An example of overlap of noisy activity in SNS across sectors for the 2024 summer campaign can be seen in Figure 2-1.

All the above-mentioned sectors are intrinsic to the UK's energy security and independence, and ensuring that the UK can meet its Net Zero targets by 2050. However, these sectors generally preferentially plan to carry out their activities during the summer season – running April-September – when sea conditions are generally conducive to undertaking their operations, as opposed to the winter season (October-March) when conditions can be operationally prohibitive. In such a busy area and season, it is inevitable that high levels of underwater noise are produced if all activities are pursued as planned. To protect harbour porpoise under this circumstance, the Habitats Directive introduced restrictions by establish UWN limits. In the presence of these limits, schedule conflicts inevitably arise. This may mean that planned works, including new construction and even preventive maintenance activities, may not be allowed to be carried out as planned where doing so would risk exceeding these noise thresholds and therefore breach their licence and/or consent conditions.

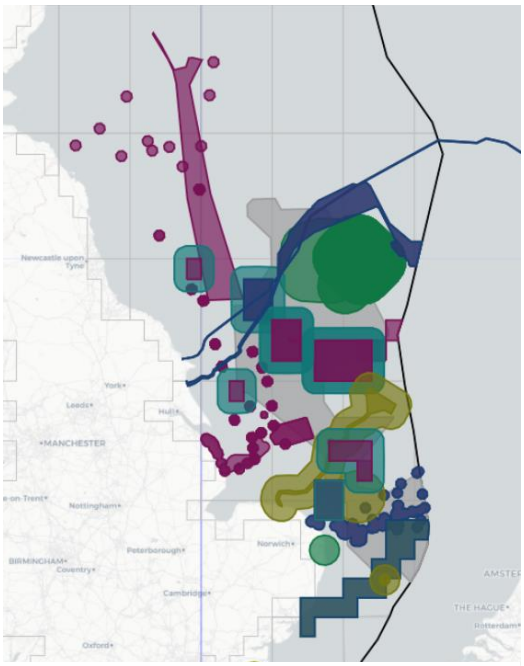


Figure 2-1 Overlap of SNS noisy activity across sectors for the 2024 summer campaign.

Activities include: sub-bottom profiling (purple), seismic surveying (blue), impact pile driving (teal), multibeam echo sounding (green), explosive ordinance detonation (yellow). Source: Marine Noise Registry.

Potential schedule conflicts must be managed well as the consequences can be severe. For example, if an offshore wind project developer is required to postpone their geotechnical & geophysical surveys to the following year, this project's Financial Investment Decision (FID) will be postponed, resulting in the Development Expenditure (DEVEX) increasing due to the development team needing to be retained for a longer period of time. Similarly, if an OOG or OSW project developer cannot complete piling on their intended schedule, such delays may result in a significant financial burden as Marine Contractors will continue to charge idle vessel rates. Furthermore, if the construction is delayed by a season, there is significant risk that vessels allocated for a given installation campaign may not be available the following year. Under these circumstances, not only will a project developer need to seek an emergency solution to pass this supply chain bottleneck, but they also risk increasing the amount of UWN in the following season, therefore creating more coordination challenges and increasing the likelihood of conflict. Such delays may also negatively impact on the ability to meet targets set out in the UK's Clean Power 2030 Action Plan.

As a result of these risks and the number of separate, but concurrently running projects and activities in the SNS SAC, there is a high likelihood that the need to maintain collective compliance with the UWN thresholds will result in schedule conflicts, especially in summer months. Ideally, the affected parties will be able to avoid conflicts through coordination and cooperation, or otherwise resolve these conflicts amongst themselves. However, for this to take place, developers, operators, and any other organisation conducting noisy activity need the forums, tools, and frameworks in place to identify and forecast breaches, and coordinate and discuss these activities amongst themselves. Furthermore, if agreement and compliance cannot be achieved, these stakeholders need access to a clear and dependable framework for resolving conflicts, detailing both the responsible parties and the decision-making processes.

Summary of Industry Need

Inter-sectorial management of underwater noise in Southern North Sea is key to successful completion and operation of critical energy infrastructure in the region.

Underwater noise related schedule risk could delay Financial Investment Decisions (FIDs) and later Commercial Operations Date (COD), therefore must be mitigated.

Effective communication of offshore activities in a dedicated inter-sectorial forum is the starting point.

If schedule conflicts cannot be resolved by market participants amongst market participants, regulators should step in, design, and execute a FAIR and IMPARTIAL conflict resolution process so that critical energy infrastructure projects are not cancelled.

2.2 Project Scope & Objectives

Xodus was contracted by RenewableUK to support the Offshore Wind Industry Council's (OWIC) Pathways to Growth initiative in identifying coordination and conflict resolution frameworks to avoid and/ or manage UWN threshold conflicts. This report shares the outcomes relating to the development and refinement of a robust approach for managing coordination, and if necessary, managing potential conflicts arising from imposed noise thresholds in the SNS SAC.

The objectives of this report are to present high-level considerations necessary for the effective coordination of UWN management, and to contribute to the development of a framework for the resolution of conflicts that may arise from potential threshold breaches, including:

- Identifying and outlining recommendations for improved coordination based on stakeholder input;
- Providing pathway suggestions for addressing unavoidable conflict in a workable and robust manner; and
- Providing actionable next steps in the pursuit of implementing an underwater noise management framework.

Given the significance of this industry topic, this report, along with the preceding Technical Note, consolidates industry perspectives, challenges, and opportunities related to UWN management and potential conflicts into a unified set of documents. The intent of this is to reduce the ambiguity and provide transparency on how these recommendations have been formulated. The report concludes with recommended next steps, and outlines any remaining challenges.

It is important to note that this project was conducted concurrently to the 2024 OSW and OOG construction activities within the SNS SAC. Valuable lessons garnered throughout the Summer 2024 period have been incorporated into this work. Consequently, some recommendations provided in this report – particularly suggestions for improving coordination to reduce likelihood of conflict scenarios – may already be under consideration, or be in the process of being implemented to some degree.

2.3 Intended Audience and Use

Produced on behalf of OWIC, this report is intended to be of use to a wider audience, particularly those planning to undertake noisy activities in the SNS SAC, or otherwise involved in the regulation and/or management of such activities.

The purpose is to highlight limitations in the existing processes in managing underwater noise thresholds, with a particular focus on coordination and conflict resolution. Recommendations are based upon available evidence, gathered through Stakeholder feedback, and expert professional opinion. Further consideration may be required as to how roles, actions, and pathways etc. should be undertaken or realised in practice – rather they provide a means by which the limitations could be addressed, and a framework upon which practical, workable solutions could be based.

These recommendations will be taken forward by OWIC for further discussion with all relevant stakeholders.

2.4 Overview of Methodology

This report has built upon Xodus document: A-200708-S00-R-TECH-001 *"Underwater Noise: Coordination and Conflict Resolution- Technical Note"* – henceforth referred to as the '*Technical Note*' – which was produced for OWIC as part of Xodus' initial work programme.

An overview of the pathway development process, including the various inputs, stakeholder feedback opportunities, and refinement stages involved is shown in Figure 2-2, with a detailed account of the specific methodology can be found in the relevant sections signposted.

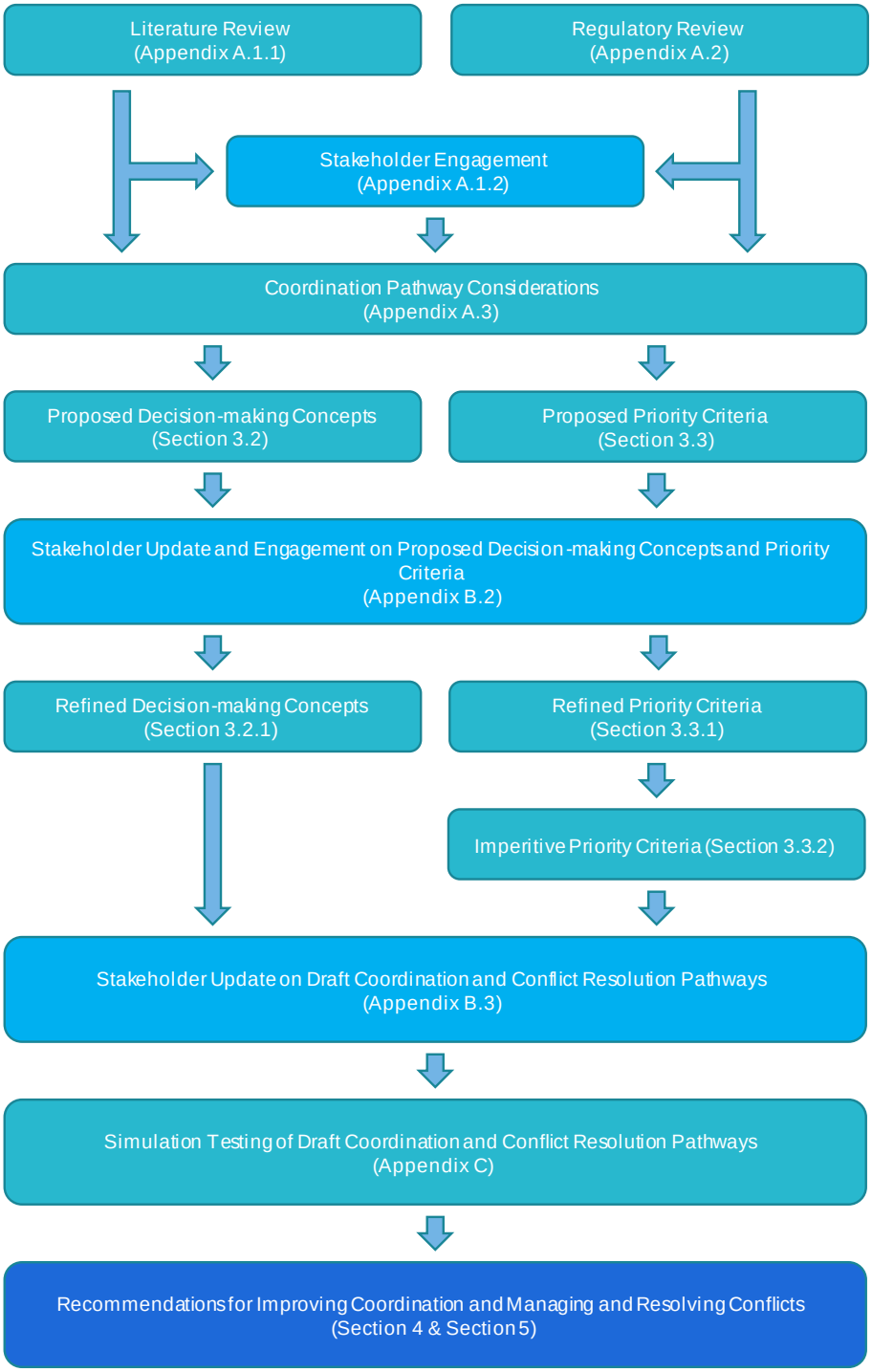


Figure 2-2 Summary of the Coordination and Conflict Resolution Pathway Development Process

3 FOUNDATIONS OF THE COORDINATION AND CONFLICT RESOLUTION PATHWAYS

This section provides an overview of the foundations upon which the Coordination and Conflict Resolution Pathway has been built, including:

- An outline of different decision-making concepts that could be applied to various aspects of the pathways, and the effects these could have in practice; and
- The established Priority Criteria which were considered fundamental requirements for the proposed pathways.

The preliminary pathways were proposed by Xodus and adapted based upon Stakeholder-provided feedback that was sought during the development process. A detailed account of the Pathway Development Process can be found in Appendix B.

3.1 Stakeholders

3.1.1 Primary Stakeholders

The following Stakeholders were engaged with directly as part of the project. These Stakeholders were originally identified as those with direct involvement and/or connection with activities occurring in the SNS SAC during the 2024 summer season.

Table 3-1 Overview of primary stakeholders engaged with as part of the Framework development process.

STAKEHOLDER	STAKEHOLDER
6 Alpha Associates	NeuConnect Britain
Alford Technologies	North Sea Transition Authority (NSTA)
BP	Northern Endurance Partnership – CCS
The Crown Estate	Ocean Winds
Defra	Offshore Energies UK
Department for Energy Security and Net Zero (DESNZ)	OPRED
Dogger Bank Wind Farm	Ørsted
EnerGeo Alliance (seismic ops)	RWE
Eodex	ScottishPower Renewables
Equinor	Seaway7
European Subsea Cables Association	Southern North Sea Offshore Wind Forum – UWN Working Group
Exord Ltd – Strategic Explosive Ordnance Advisory	The Wildlife Trusts
Joint Nature Conservation Committee (JNCC)	UXO Control Limited
Ministry of Defence (MOD)	Vattenfall
Marine Management Organisation (MMO)	

3.1.2 Secondary Stakeholders

Secondary stakeholders are those parties which might be impacted or otherwise invested by activities being undertaken in the SNS SAC. These include:

- National Energy Systems Operator (NESO) for matters relating to energy generation, connection dates and transmission;
- Office for Environmental Protection (OEP) for matters relating to the assessment and compliance with environmental standards;
- Office of Gas and Electricity Markets (OFGEM) as the UK's independent energy regulator; and
- Prospective Developers and/or Operators who are yet to commit to activities within a given season.

3.2 Decision Making Concepts

To help facilitate and coordinate noisy activities for a given season, the Development Coordination Forum (DCF) was established in 2023. The DCF is made up of representatives of key Stakeholder groups (project Developers, Regulators, and Government bodies) within the SNS SAC. The DCF was continued and further developed in 2024 as a primary means of establishing and coordinating SNS SAC activities during the 2024 summer season, supported by industry-established Simultaneous Operations (SIMOPS) process.

Wherever possible, it is expected that the mediation process should be managed via coordination and cooperation (as achieved through the DCF and SIMOPS to date) to reach mutually agreeable decisions as to which scheduled activities occur and when, as well as overall maintaining noise levels below the thresholds. However, there are potential scenarios where reaching mutually agreeable solutions may not be possible, leading to conflict.

The key to addressing potential conflicts is understanding of the possible decision-making processes which would drive the coordination and conflict resolution pathway. Invariably, this involves some degree of hierarchical prioritisation – the rigidity, simplicity, and transparency of which can vary depending upon the underlying decision-making process. The challenge then becomes striking the balance between providing flexibility to provide appropriate solutions across various potential scenarios, without the pathway becoming excessively complex.

Decision-making processes are intrinsically shaped by those with the responsibility for designing, implementing, and enforcing them, as different entities will have different priorities and perspectives. This is why an established, consistent, and transparent pathway is essential – to facilitate consistent decision making and reduce uncertainty and inconsistency in any conflict resolution outcomes.

Several suggestions were raised by Stakeholders as to how decision-making processes could be managed. Those suggestions believed to be most relevant and/ or applicable for use in managing potential conflicts in the SNS SAC are captured in Table 3-2

Table 3-2 Decision-making concepts and functional hierarchies initially identified for consideration.

DECISION-MAKING CONCEPT	DESCRIPTION
Base-case/ Status Quo	Current system. Developers try to agree using JNCC's Marine Noise Registry (MNR) as a guide, resulting in significant risk of project delay. This only solves part of the issue. SIMOPS planning via the MNR or similar planning/ communication tools does not solve what happens in the event of an unavoidable threshold breach.
First past the post	Priority is given on a first-come-first-served basis determined by consenting date. First past the post is not an acceptable option due to the different planning horizons of different operations. These planning horizons are also not fully within the control of the industry but rather relate to regulatory pathways and decisions on the timing of licensing rounds and announcement of awards which then dictate where and when seismic surveys may be planned.
Noise mitigation-based hierarchy	Greater priority could be assigned to those projects which have taken efforts to reduce the amount of noise being produced by their activities. This may be a consideration but should not detriment those industries for which the introduction of sound into the environment is a necessary characteristic of the work rather than a by-product of another activity. While certain levels of noise avoidance may be possible for a seismic survey through equipment selection, the key requirement is to ensure that the source is capable of mapping the relevant geological target – therefore survey requirements may constrain equipment choices. For piling and UXO activities, whilst there are available abatement technologies to reduce the sound input at or near the source, in reality, factors such as compatibility and availability may limit their feasibility. As such, realistically implementable options may be limited..
Operational-based hierarchy	Decisions guided by activity-based hierarchy, informed by specific operational challenges, including Health & Safety. Operational constraints need to be a key part of any approach, though more information on how both Regulators and Operators envisage this should look in practice would be helpful to evaluate the appropriateness of this potential pathway. The Stakeholder engagement undertaken during this project has highlighted that there is a general lack of understanding of relevant challenges and constraints between sectors, mostly at the planning level, but perhaps operationally as well. Considering operational challenges is central to establishing an equitable approach.
Activity-based noise threshold limitations	Pathway which prescribes acceptable noise limits to given activities. For planning, this is essentially equivalent to using EDRs within the current framework, but with the additional requirement to monitor and report on the sound levels, providing evidence for both noise levels and any breaches. The evidence base to support an activity-based approach is lacking at present. This can be seen from the lack of clarity in how many existing EDRs have been

	derived, and the resulting lack of Stakeholder confidence in their appropriateness and suitability in application. Furthering the use of an activity-based approach will require significantly more evidence to have confidence in the approach.
Developer-led decision making	Decisions on coordination and operational/ activity priorities are Developer led. A concern for Developer-led decision making is that impartial decisions may not be made. While there are good examples of intra-sector cooperation, the risk of bias remains, especially where decisions requiring the prioritised need for cessation/ postponement of activities are required.
Regulator-led decision making	Decisions on coordination and operational/ activity priorities are Regulator led. Provided the Regulator is acting in a balanced, evidence-led way that ensures equitable access for all sectors, a Regulator-led approach may be palatable. However, the lack of alignment between regulatory systems up to now does not give confidence in this approach.
Socio-political-based decision making	Decisions on coordination and operational/ activity priorities are aligned to specific socio-political targets, e.g., Energy Security, Net Zero, etc. This may be challenging given that these targets may not be mutually exclusive but could provide a top-down perspective as the driving emphasis is determined at a Central Government level without necessarily requiring their direct intervention.

3.2.1 Stakeholder Feedback on Decision Making Approaches

The qualitative insights gathered from Stakeholder feedback are summarised below and further highlight the key priority criteria identified through Stakeholder engagement.

Base-case/ Status quo – It was reiterated that the current system, although workable with planning and SIMOPS, does not adequately detail procedures for addressing conflict arising from unavoidable threshold breaches, or the consequences of any inadvertent breaches.

First past the post - This was generally reaffirmed as not being an acceptable option. It was conceded that prioritisation based on this concept was easy and definitive in principle but would likely result in a 'race to the top' among Developers. Furthermore, practical concerns were raised around differences in planning horizons associated with different operations which are not fully in the control of the industry, often influenced by regulatory frameworks.

Noise mitigation-based hierarchy – This suggestion was considered reasonable, but it would be important to ensure that industries where sound is an essential part of the work, rather than a by-product, are not excluded. Considerations of the cost and supply chain availability of abatement technologies would also be required.

Operational-based hierarchy – Operational constraints need to be a key part of any framework and form the basis of establishing and maintaining an equitable approach across sectors. It was also stated that the coordination framework development process to date has highlighted a general lack of cross-sector understanding of relevant challenges and constraints at both planning and operational levels.

Activity-based noise threshold limitations – It was noted that this essentially mirrors the current system of using managing activities via the EDRs. It was felt that for such a framework to be deemed appropriate, it would need to be supported by a much more appropriate evidence base.

Developer-led decision making – There was a concern that developer-led decision-making may not be practical. While there are good examples of cooperation within sectors, achieving the necessary level of cooperation between different sectors is likely to be much more challenging, especially when it involves escalating beyond SIMOPS planning and accepting the need to halt activities under certain circumstances.

Regulator-prescribed decision making – Provided that the Regulators are acting in a balanced, evidence-led way that ensures equitable access for all sectors, it was considered that a Regulator-led approach may be appropriate given the overlap in their wider remits. However, concerns were raised that the lack of alignment and consistency displayed to date does not inspire confidence in such an approach.

Socio-political-based decision making – It was noted that sectors are already actively working towards various Government targets such as Net Zero and Energy Security. Consequently, although this supports better cross-sector coordination, it does not necessarily promote a means of establishing priorities where multiple parallel objectives exist.

3.3 Establishing Priority Criteria

A focus during the development of the potential coordination and conflict resolution pathways ensured that wherever possible they aligned with the priorities of the Stakeholders (as captured in the *Technical Note* and summarised in *Table 3-3*). These priorities all related to practical challenges, limitations, discrepancies, or disparities that Stakeholders encountered under the existing regulatory regime.

Consequently, eight *Priority Criteria* were derived by Xodus (representing the common-most recurring priorities raised by Stakeholders). These Priority Criteria formed the foundation for the proposed pathways, ensuring that they are fit for purpose and meet Stakeholder expectations.

Table 3-3 Priority Criteria forming the foundation and guiding principles for the development of the Pathways.

PRIORITY CRITERION	DESCRIPTION
Transparency	Stakeholders across all sectors have oversight of all project and activity pipelines, as well as the decision-making processes that may impact them.
Ease of use	The simplicity of use offered by a given pathway, including administrative requirements and time demands.
Existing Industrial Alignment	The requirement for a pathway to be aligned to established working practices (across all phases of offshore activities), as opposed to requiring change.
Existing regulatory Alignment	The requirement for a pathway to be aligned to current regulatory procedures (across all phases of offshore activities), as opposed to reforming regulatory practices.
Time to Introduce	The speed with which a pathway can be introduced and implemented for use.
Flexibility	The level of adaptability and flexibility a pathway enables with regards to situational uncertainties and changes.
Equality	The inclusiveness and consistency a pathway provides across all involved sectors and parties.
Accountability	The effectiveness with which a pathway can be enforced and/or hold specific sectors and parties to account for any infringements.

3.3.1 Stakeholder Feedback on Priority Criteria

The following section summarises the feedback gathered through surveys and engagement with the key Stakeholder groups.

Transparency – It was stated that transparency depends on various other behaviours and considerations. A key message was that sufficient transparency in decision-making processes is essential for people to have confidence in the outcomes. However, it was also suggested that full transparency across all aspects of projects may not be necessary, especially where sensitive information is involved.

Ease of Use – Avoiding additional burden to an already involved process was raised as an important consideration. It was suggested that this is particularly important regarding aspects which have direct impacts on the efficacy of planning and coordination around daily or seasonal noise thresholds, particularly the submission of data to the MNR or other activity tracking platforms. It was further noted that that complexity of any framework should be carefully considered in helping to facilitate acceptance and uptake across multiple sectors.

Existing Industrial Alignment – While aligning with existing industry practices is important, some reform is needed to ensure compliance and equity across sectors, recognizing their commonalities. It was also stated that any required reform would need to be managed carefully via cross-sector consultation with all marine industries.

Existing regulatory Alignment – It was suggested that regulatory alignment should not be a driving consideration in conflict resolution, or when implementing improvements to existing frameworks, as substantive changes are unlikely to be achieved quickly. Rather, it was suggested that regulatory processes are better utilised in informing 'good industry practices' and identifying where improvements are required. It was also suggested that aligning to the current regulatory system should not be the goal of any new pathway, but rather that the focus should be to produce a new system which achieves Government and nature conservation objectives through an evidence-based approach.

Time to Introduce – The consensus was that although there is an impetus to providing timely solutions to ease challenges in the SNS SAC, this should not compromise the fairness and appropriateness of those solutions. However, it was also stated that a balance must be struck to ensure projects are not negatively impacted by a lack of reform in the meantime.

Flexibility – It was stated that maintaining operational flexibility is crucial given the interdependency of the offshore sectors. However, not all activities are equally affected by delays, as the impact varies based on the size, complexity, and costs involved. The point was also made that any framework should also be inherently flexible, open to change and refinement to meet developing evidence bases.

Equality – It was suggested that achieving equity, rather than equality, would be more appropriate. Equitable access would not necessitate all projects or sectors having the same allocation of time, space, or resources, but rather that these should be tailored to the operational needs of given sectors and activities, ensuring activities are conducted properly.

Accountability – The need was raised for both Regulators and Developers to be accountable. Regulators have a responsibility for managing processes in such a way that minimises the risk of any noise threshold breaches and respond to applications in a timely manner. This impetus should not be made solely the responsibility of Developers and Operators.

3.3.2 Most Imperative Priority Criteria for Conflict Resolution Pathways

As part of the Stakeholder engagement process, stakeholders were asked to score the priority criteria they considered most important for the conflict resolution pathways. These responses were collated and averaged across all Stakeholder responses to determine the criteria that were of collective greatest importance (see Appendix B for details).

Transparency, *Accountability, and Equality* were identified as the top criteria that any Pathway being developed or implemented should seek to deliver (Figure B-3)

4 RECOMMENDATIONS FOR IMPROVING COORDINATION AND CONFLICT RESOLUTION

Building on the lessons learned from the 2024 DCF summer campaign, the Technical Note, and the considerations outlined in Section 3, the following section summarises the refined suggestions for a coordination and conflict resolution pathway.

The recommendations are divided into three key areas:

1. Baseline changes for improving coordination;
2. Reforming the vehicles for achieving coordination and conflict resolution;
3. Managing and resolving conflicts

The recommendations within this section are not intended to be prescriptive. Instead, key areas (including parameters and baseline changes) where improvements can be made will be highlighted and where applicable, data gaps and limitations noted. It should also be noted that there are multiple ways to approach the implementation of these systems and actions. Therefore, whilst specific recommendations are provided, they represent balanced opinions and should not be seen as the only viable option.

4.1 Baseline Changes to Improve Planning and Coordination

There has been notable improvement in coordination efforts during 2024 – namely the establishment of the existing DCF, SIMOPS procedures, and earlier issuance of the Call for Information by the Regulators. However, further recommendations have emerged which aim to maximise these coordination efforts. Effective coordination at every stage of managing the summer campaign remains the most effective means of avoiding conflict. Particularly, early planning and greater transparency pre-campaign can greatly aid in identifying and mitigating potential future challenges.

To improve coordination, there are opportunities for improvements at different phases of activities and during the summer campaign, see Figure 4-1. These should be regularly reviewed and developed to facilitate continual improvement.

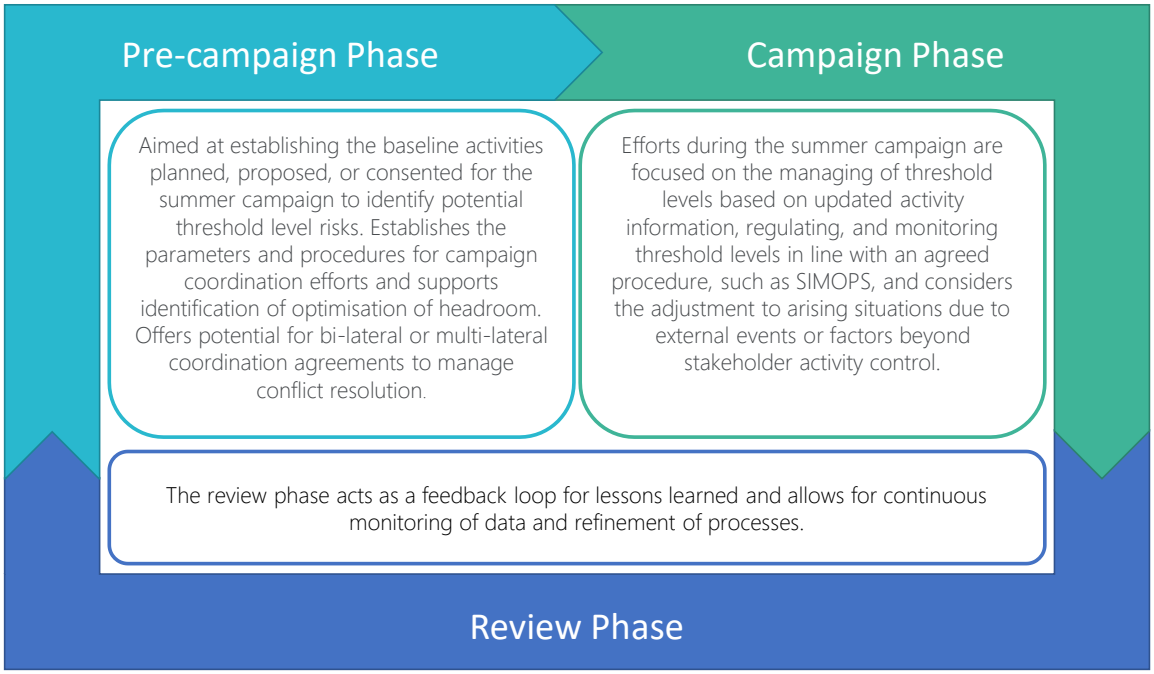


Figure 4-1 Differentiation of coordination phases

Although some baseline changes can be implemented directly into the coordination and conflict resolution pathways for noise activity in the SNS SAC, others require more complex consideration.

4.1.1 Improve Current Guidelines on Noise Modelling and EDR approaches

The current guidance on EDRs and noise modelling approaches was a recurring theme through Stakeholder engagement and the literature review. More specifically, a lack of consistency on noise modelling assumptions and methodologies across project phases and sectors, as well as the current potential revision of area parameters for the EDRs is hindering the identification and optimisation of potential threshold levels and associated headroom. A lack of clarity on the evidence-base underlying the current EDRs remains, impacting the acceptance of their appropriateness. However, it is acknowledged that there are ongoing efforts to address this. The proposed baseline changes and recommended priority actions for Regulators, the JNCC and industry to address this are as follows:

- Promote more transparent alignment of the current noise levels modelled by projects versus the percentage deterrent area for specific activities, as used in the selected coordination spreadsheet;
- Enhanced transparency on the alignment (or misalignment) between percentage deterrent area and the EDRs;
- Clarity on minor exceedance of the 24-hr window when assessing daily impacts;
- Clarity for industry on the weight of evidence required to update the EDR; and
- Formalising and communicating a process on the frequency of new evidence review and subsequent implementation of updates, as required.

The overall objective would be to reduce overly conservative assumptions in scenarios to allow appropriate decision making considering the likely increase in activities in the SNS SAC. Particularly for UXO clearance in OSW, the topic of seeking additional granularity earlier through targeted UXO surveys was flagged throughout the Stakeholder engagement with supply chain respondents. The resulting optimised modelling approach and scenarios could then provide clarity on where additional headroom may be available and elicit a discussion on headroom definitions and 'comfort' levels for industry and Regulators. The importance of the noise modelling and associated monitoring of actual noise impacts and levels is further discussed in the subsequent section.

Further reform is required to the way that the EDR & noise modelling guidance is implemented and captured. If the use of EDRs is to persist, it is recommended that the EDRs are formally reviewed and updated on at least a two-yearly basis. This would involve JNCC conducting a systematic review of novel research pertinent to the EDR argument, and consideration of any new evidence.

A formal statement as to the EDRs for use in any given season should then be issued detailing any changes planned. This process should be timed to enable updated EDRs to be applied to assessments for the subsequent season.

For those activities where EDRs are less certain, it would be useful for the JNCC to highlight where the current data limitations exist that are preventing a meaningful review of the EDRs. This would allow planning of more focused applied research studies to lessen these deficiencies, and build supporting evidence, either for the EDR to remain as stated, or to be amended appropriately.

An alternative approach worthy of consideration would be to directly assign project-specific areas of disturbance (stated as a percentage of the SNS SAC which may be disturbed). This would have to be implemented in a standardised, documented way enabling clear understanding of how conversions are managed between modelled noise levels and disturbance areas. This approach has the potential to better align noise levels used in the consent process to be carried forward into post-consent management to eliminate discrepancies. For activities that do not warrant noise modelling to be consented, and do not wish to invest in modelling services, the existing EDR approach could be applied. If managed appropriately, this would decrease uncertainty in how the existing percentage area impacts of each specific activity are calculated and managed.

4.1.2 Improve noise activity tracking and coordination data and systems

Considering the current discrepancies between information held within the MNR and the SNS Activity Tracker, the requirement for an accurate, early data tracker on noise activity, with consideration for contingencies and timeshare or stand-by aspects, was flagged. Stakeholder feedback suggested that the MNR in its current form would not be the most appropriate or suitable for forecasting or planning purposes. The MNR was noted to currently require specific training and deemed less accessible than the activity tracker currently being used as part of the 2024 DCF, where SIMOPS updates are shared via email. Two implications were drawn from this for further refinement of the coordination and conflict resolution pathways, one being the consideration of lead times for overall updates and agreement on a single source of truth tracker across scoping and the summer campaign, the second focusing on the accessibility and logistics of tracker updates, which could form part of the centralised coordination role was identified as an option.

In the context of scoping and planning, it was highlighted that there is a need to clarify and optimise the current guidance for noise impact assessment, which is based on worst-case scenario assumptions. This approach could be improved by incorporating best-case scenario considerations from the start. Additionally, noise modelling assumptions – particularly those relating to and estimations of population disturbance – should be aligned between Environmental Impact Assessment (EIA) applications and estimation of EDRs for the management of the SNS SAC to ensure appropriateness and consistency of approach.

Within this context of tracking of information, and echoed in wider discussions of this report, the streamlining of monitoring approaches is recommended to also cover the proposed versus actual activities undertaken. Whilst this currently may rely on Stakeholder self-reporting and updates through the SIMOPS procedure, explicit guidance and parameters should form part of the updated approach for coordination and conflict resolution.

4.1.3 Align Consenting Requirements between Regulators

Further alignment on consenting requirements and application timelines between Regulators (MMO and OPRED) would promote better coordination efforts, increase transparency, and enhance the ability to forecast any potential threshold breaches during the summer campaign.

As the timescales discrepancies across industry and consenting processes remain a key issue, a wholesale change to approach may be required. The Marine Management Organisation (MMO) timelines require a six-month lead time for SIP applications prior to the start of the summer campaign, and the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) has reiterated that it mirrors this timeframe, albeit informally. It is recommended that this position is formalised into a specific commitment by OPRED. Although Regulators have indicated that setting a cut-off date for applications is not feasible because consenting procedures must remain open year-round, the lead times required in OSW for processing applications, as well as for planning and forecasting potential threshold levels, have effectively created a de facto cut-off date for at least one industry. To create a level-playing field and support overall coordination 'compliance', consent conditions (including any requirements for coordination) would need to be aligned to ensure in-combination assessments are covered by all industries or are managed solely by either Regulators or the JNCC through the use of MNR, utilising a standardised forecasting approach. Understanding the process by which Regulators would take decisions on the level of activities to be consented on any remaining undetermined or planned scopes would facilitate this process. It would also ensure that activities can be planned with additional noise-level scenarios or mitigation options in consideration. This would need to include working with Regulators and the JNCC to understand any specific definitions and assumptions for headroom left within the forecasts, and scheduling for noise activity for the respective summer campaign.

It was recognised that when mapping out the potential daily noise threshold levels for upcoming summer campaigns, the projects and activities being included and considered would continue to fall into one of three categories:

1. Already fully approved activities;
2. Activities in planning and have not yet submitted applications; and
3. Activities which have submitted applications but are yet to be determined.

It is recommended that all relevant projects, irrespective of permit, licence, or consent determination status, should be part of the DCF and join initial meetings looking at anticipated threshold risks for the summer campaign. This also

requires consistent alignment between the Regulators as to which (if any) activities are exempt from consideration. This would afford participating Stakeholders and Regulators greater equality in approach, and a full view of any potential threshold breach risks and understand remaining pinch points. It would also further mitigate the risk of a two-tiered system, whereby smaller or shorter activities with potentially low-level noise impacts would be introduced during the summer campaign on an ad-hoc basis.

Formal alignment of the regulatory regimes would best be led and managed by Central Government.

4.1.4 Reform the Call for Information

As part of the pre-campaign period there needs to be a scoping phase – a period of time designed to initiate engagement between Operators, forecast anticipated activity levels, and model these against noise threshold levels. This scoping phase encompasses the August of one calendar year until March of following year when the respective summer campaign and summer activities will occur. The scoping phase helps identify any risk or pinch point areas that need optimization for planned or yet-to-be approved activities to proceed. Recent key adjustments to the existing Call for Information have involved launching the Call for Information in August to ensure there is sufficient lead time for threshold level forecasting and the subsequent set up of the existing DCF.

The scoping phase is initiated with the dedicated Call for Information from Regulators MMO and OPRED to establish baseline activities looking to proceed. To ensure a transparent and coordinated process for established baseline forecasts, this Call requires clear guidance on the approach, methodology and assumptions as well as activity information to be collected. The Call would be issued at least six months prior to the start of the summer campaign. This recommendation is based on Stakeholder feedback and on the current state of play in 2024, and has already been shifted to August of the preceding year on the request of the Stakeholders. This should provide sufficient notice to request the required level of detail for facilitate effective planning but avoid being excessively premature to an extent where uncertainty jeopardises the quality of data provided. There will be an expectation on Developers and Operators to ensure information provided is as accurate as possible at the time of the Call.

Given the extended duration of current consenting timeframes within the OSW sector, there is greater granularity available for OSW projects. However, Stakeholder feedback has indicated that information regarding OOG and CCS activities could be made available to facilitate forward planning, even if formal applications have not yet been submitted. The Call for Information would not therefore represent a cut-off point for applications, which has been rejected by Regulators as an option. The Call for Information and subsequent coordination process would enhance transparency, but applications thereafter would be submitted at Developers' and Operators' own risk in terms of lead times to activities.

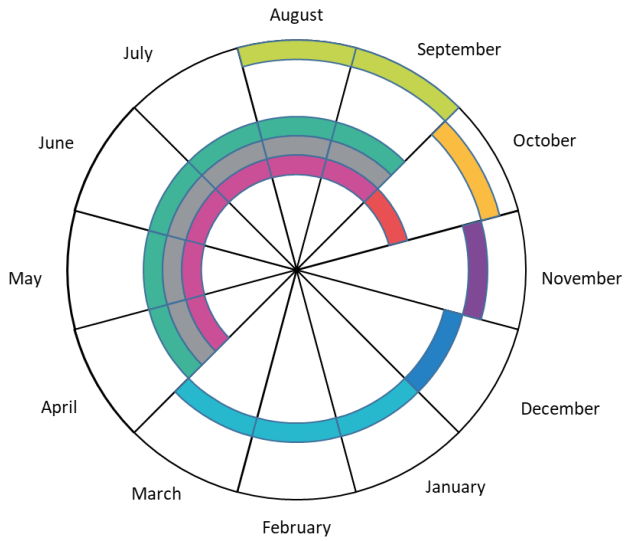
Clarity has been sought on the details of this Call from Regulators, and for consideration to be added on adequate stand-by contingencies and timeshare procedures incurred during offshore campaigns. It has also been noted that the Call for Information should not represent a cut-off date for consents applications, which will continue to be run throughout the year, despite the current timelines for consent determination across energy sectors implying a de facto cut-off if summer campaign activities are to be achieved.

4.1.5 Implement a Coordination and Conflict Management Framework

The framework presented in Figure 4-2Error! Reference source not found. illustrates the overarching activities and timelines it is believed are required to effectively manage activities in the SNS SAC. The framework runs on an annual cycle from August, launching with the Call for Information and concluding with the subsequent year's summer campaign end in September.

The framework represents a continuous process that relies on clear communication, transparency, and Stakeholder engagement to manage the increased levels of activity and forecasted potential threshold breach risks. The timing of certain activities within the framework have been aligned to those already being actioned as part of efforts to prepare for the 2025 summer campaign. However, the timing of specific activities should be reviewed and reconsidered as required based upon 'lessons-learned' across various seasons.

Recommendations currently focus on a Call for Information to be launched in August and be concluded by the end of September. The ISG inception would follow in early October, resulting in fortnightly meetings (as required) to collaboratively review threshold levels and associated project information for both consented and planned activities for the subsequent summer campaign using the MNR. Any threshold conflicts that cannot be mitigated despite additional forecasting or modelling with noise abatement measures and rescheduling efforts, would be referred to the CCF and Regulators by mid-January of the summer campaign year for further steps as outlined in the Escalation Frameworks.



Phase	Actions	Responsible Parties
Pre-campaign	Call for information (Regulator led)	CCF
	Establish ISG	CCF
	Noise Threshold Review	CCF
	Identification of Potential Threshold Breaches	CCF (supported by ISG)
	Establish Bi- and Multi-lateral Agreements and SIMOPS (including re-start) procedures	ISG (supported by CCF)
During-campaign	Summer Installation & Offshore Activities Occur	ISG
	Agreed SIMOPS Coordination and Prioritisation Processes in Action	CCF and ISG
	Agreed Terms for Conflict Resolution in Action	CCF and ISG
Post-campaign	Lessons Learned / Debrief	CCF and ISG

Figure 4-2 Timings of activities required to manage noise thresholds in the SNS SAC

4.2 Reforming the Vehicles for Achieving Coordination and Conflict Resolution

4.2.1 Reform and Replace the Existing DCF

Since 2023, and particularly in 2024, coordination of activities in the SNS SAC has been managed via the DCF and primarily achieved by SIMOPS in the field. Although this has proved successful to date, there is a lack of clear definition in the roles, responsibilities, and authority within the DCF, and how this translates through to SIMOPS – particularly in the event of conflict.

Developers have previously voiced their preference to manage day-to-day SIMOPS in the absence of Regulator or Government input wherever possible, however it is acknowledged that where conflicts arise, input from these authorities may be required. This in turn would require a clear understanding of the appropriate points of contact, and procedures that should be followed. Likewise, it is important that Regulators and Government retain a level of oversight on SIMOPS procedures to aid in identifying and avoiding potential conflicts.

To better streamline procedures, it is recommended that the existing DCF be more deliberately delineated into two groups:

1. A Central Coordination Function (CCF); and
2. An Industry SIMOPS Group (ISG)

The intent would be that these two groups effectively work hand-in-glove with each other, and thus retain the functionality of the existing DCF. In many respects, the form of the CCF and ISG would be similar, with each being made up of a selection of active members and passive observers. However, delineating the two groups in a more deliberate manner aids in the ability to more clearly assigning roles and responsibilities, whilst also providing a formal means of addressing conflict. Both the ISG and CCF would have the ability and responsibility to resolve potential conflicts at agreed levels and authority

The intention of having both active members and passive observers within each group is to aid in conflict resolution. Active members in each respective group responsible for the decision making, whilst passive observers would provide additional support and perspectives where required. Both the ISG and CCF would be expected to work towards resolving conflict albeit via different mechanisms (see Section 4.3), with both groups sharing information and helping facilitating decision-making as necessary, with the CCF retaining responsibility for implementing a resolution to conflict where conflicts cannot be resolved within the ISG.

It is recommended that there is a direct bridge of information and go-between for the CCF and ISG. Primarily, this would be facilitated via a third-party SIMOPS Coordinator, however it is also recommended that a technical advisory function sits between both groups. The JNCC are an ideal organisation to assume this position as a technical advisor. This not only reflects the JNCC's role in ensuring the ecological health of the SNS SAC, but also their existing efforts at monitoring noise levels, their input into noise forecasting, and the fact that their function spans both the current regulatory regimes. By embedding the JNCC in both the CCF and ISG, there would be a

greater oversight of the specific coordination concerns faced by the SIMOPS. In the event that an unavoidable conflict occurs which requires escalation, the JNCC would be well placed to provide a detailed impartial perspective.

It is appreciated that additional funding may need to be sought to facilitate the roles and/or additional involvement from various bodies in both the ISG and CCF. OWIC are funding a SIMOPS Coordinator role for the 2025 summer season as a pilot. Should this pilot prove successful and beneficial, it is recommended that future funding be sought from the CCF to facilitate the SIMOPS Coordinator role, as well as wider support from JNCC and the observer roles.

Details of the proposed CCF and ISG are given below.

Central Coordination Function (CCF)

The CCF would comprise of the MMO and OPRED as the two principal offshore Regulators, with the Office for Environmental Protection (OEP) acting as an independent third party and chair of the group. The OEP was selected as the third party and chair given it has a remit to promote environmental protections by holding government and other public authorities to account. JNCC would contribute as technical advisors, with other relevant non-regulatory bodies acting as passive observers (Figure 4-3). Delays in projects, particularly those caused by conflict, are likely to affect developers' grid/network connection plans, or payments to TCE. Therefore, it is recommended to invite NESO, OFGEM, and TCE to CCF meetings as observers, who could comment and advise on the potential impacts on wider planning and system access, and positively contribute to the overall planning approach. Likewise, although technically represented by OPRED and MMO, separate Defra and DESNZ representatives are also recommended to be invited to CCF meetings as observers to ensure wider governmental perspectives are captured. However, the central role of the Regulators as decision-makers will be retained. Coordination and communication between the CCF and industry stakeholders would be supported by additional resource in the form of a SIMOPS Coordinator.

The primary purpose of the CCF would be to act as a formal coordination point and to provide a decision making function between the various Stakeholders, which was a suggested need identified during the previous Stakeholder engagements. Alongside implementing the CCF, appropriate ToR would also have to be discussed and agreed, which would be combined responsibility of the CCF members, potentially with a degree of input from Central Government as deemed necessary. ToR would then be owned by OEP as the CCF chair.

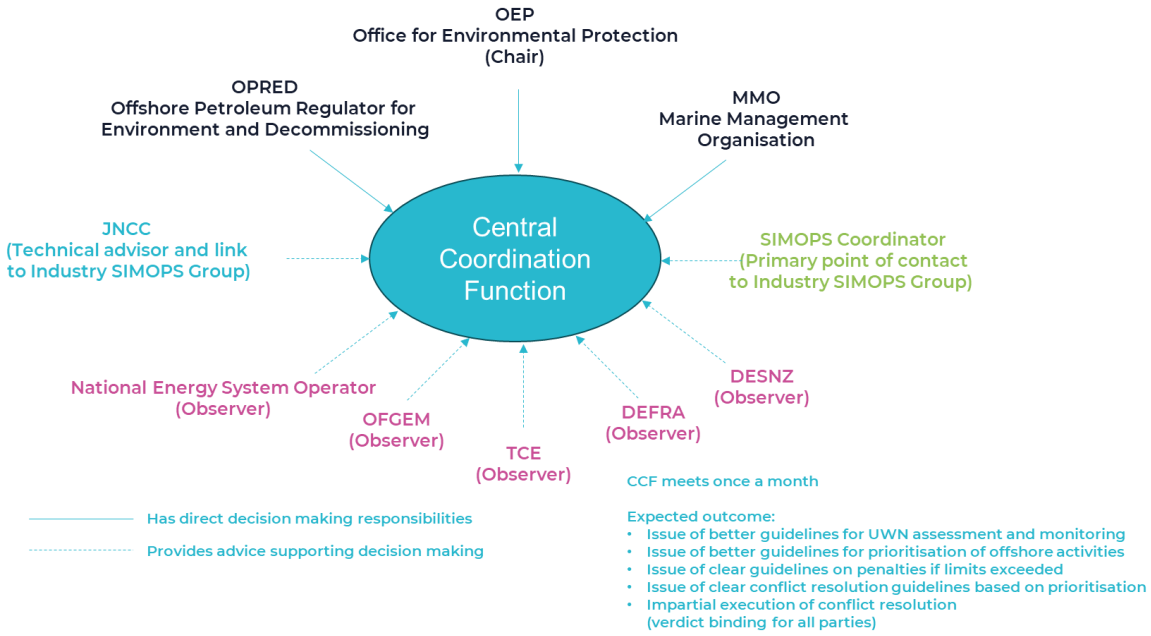


Figure 4-3 Composition of Central Coordination Function

Role in coordination

With regards to coordination, the CCF would act in an administrative role, and the main body responsible for planning and organisation prior to the commencement of the summer campaign. This is designed to reduce some of the noted administrative burden and organisational load currently placed on Developers and Operators, whilst retaining a level of oversight of the ISG. Communication and coordination with the ISG would be facilitated via an independent SIMOPS Coordinator. The SIMOPS Coordinator would act to help facilitate any conversations required with the ISG as deemed appropriate and/or necessary.

The CCF would be responsible for establishing the ISG each year, including identifying and approaching the required Developers and Operators – including those with prospective, but unconfirmed activities. Based on Stakeholder feedback, this should occur shortly after the Call for Information within the September period and no later than three months before the start of the summer campaign.

During the summer campaign, the CCF should be leading communications and providing regular updates to the ISG via the SIMOPS Coordinator. Likewise, the CCF would need to ensure that activity updates from the ISG are provided to the CCF (via the SIMOPS Coordinator) within an agreed timeframe, frequency, and format. This would include the ISG members ensuring that regular updates to the MNR and any other appropriate planning tools are made to aid in any necessary reforecasting of activities.

It is expected that the CCF serves to examine lessons learned and debrief Stakeholders after each summer campaign to identify any key issues, ongoing gaps within the coordination process or conflict resolution challenges, and establish necessary updates for the subsequent campaigns.

Role in conflict resolution

The CCF would be the body responsible for making and enacting decisions in the event that conflicts cannot be avoided or resolved by the ISG.

Within the CCF, only OPRED, MMO, and the OEP would be directly involved in conflict resolution decision making, with responsibilities to reach either a consensus or quorum position. Correspondingly, it is essential that the representatives of these bodies have sufficient seniority and authority to make necessary decisions and see them implemented without undue delay.

If a conflict arises, it may be difficult to resolve it to the satisfaction of all parties. It is highly likely that there will be developers whose surveys or constructions activities will be delayed. This will affect developers' grid/network connection plans, or payments to TCE. Therefore, it is recommended to invite NESO, OFGEM, and TCE to CCF meetings as observers. The two departments of the UK Government, Defra and DESNZ are already represented by OPRED and MMO, but representatives of these two departments are also recommended to be invited to CCF meetings as observers.

The composition make-up of the CCF is intended to maintain impartiality and fairness of the conflict resolution process. However, if this should be challenged, or an increasing number of projects are delayed or cancelled due to noise threshold issues – threatening the UK's energy security and independence – this composition and functionality of the CCF should be reviewed. Any such review should be undertaken during the post-campaign 'lessons learned' and be undertaken pragmatically by the CCF with input from the ISG where appropriate. It is not implied that this will happen, but such checks and balances extend confidence to the market where financial value of investments is in the order of billions of pounds.

The process and details of the conflict resolution process are outlined in more detail in Section 4.3.

Industry SIMOPS Group (ISG)

The ISG would be exclusively industry-led, and be responsible for the day-to-day SIMOPS coordination efforts during the summer campaign. Whilst the CCF would retain oversight of the ISG, the CCF only being actively involved during this period should a (potential) conflict arise or where otherwise deemed necessary and appropriate by either and/or both parties.

The ISG would be convened by the CCF, and would comprise all known operators with planned and/or prospective activities planned for the upcoming season. The administration and coordination of the ISG would be facilitated by an independent SIMOPS Coordinator role. JNCC would also sit within the ISG, and act as technical advisors as and when requested by industry members, with NESO acting as a passive observer (Figure 4-4). The terms of reference of the ISG would be closely aligned with the terms established for the 2024 DCF, in terms of overall aims and personnel required to attend for effectiveness.

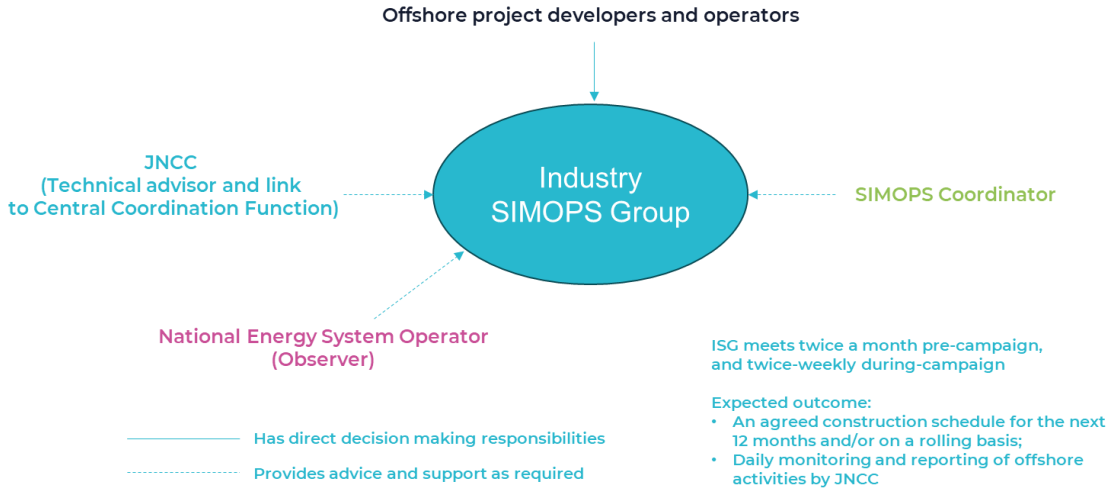


Figure 4-4 Composition of Industry SIMOPS Group

Role in coordination

The ISG would be formed and is expected to be principally driven to avoid conflict via SIMOPS. As such, the ISG would be responsible for establishing SIMOPS procedures (including re-start procedures following unanticipated halts or delays) during the pre-campaign period with support from the CCF. The ISG would then be responsible for implementing these procedures during the summer campaign season. All parties in the ISG would be required to adhere to the established and agreed procedures put in place for coordination and conflict resolution. By extension, all parties considering noisy activities during the summer campaign would be expected to engage with the Call for Information, regardless of activity status or level of planning.

As part of the SIMOPS procedures, the ISG (facilitated by the SIMOPS Coordinator) would be responsible for monitoring for potential conflicts during the summer campaign and informing the CCF of any such potential conflicts at the earliest opportunity. This is envisaged as being at least one week ahead of a potential breach, and no less than three days in advance to enable suitable time to resolve the conflict.

There is a key role to play for Marine Warranty Surveyors (MWS) and Client Representatives within the SIMOPS procedure and overall construction campaign that has so far not been present in the coordination discussions. MWS are responsible for ensuring compliance with technical, quality, and HSE procedures according to industry standards and insurance requirements, and ultimately are in a position of authority to halt operations that would deem the respective activity non-compliant. MWS and Client Representatives would therefore be part of the wider network managing UWN activity and threshold considerations, providing SIMOPS inputs and updates, as well as being involved in any non-compliance and enforcement procedures should they arise. Any guidance or updated requirements as part of the UWN potential threshold breach considerations, information sharing under coordination efforts, or monitoring requirements for noise levels may then further need to be upheld by MWS and Client Representatives and including in any contractor agreements accordingly.

In addition to facilitating coordination between Stakeholders and reducing burdens, the non-industry representation within the ISG would create a consistent element running across seasons, as opposed to Developers and Operators which will inherently vary between seasons. Such stability would improve feedback and continuous improvement to be managed and implemented in collaboration with the CCF. Consequently, there would be benefits to the SIMOPS Coordinator role being resourced and funded via the CCF to ensure consistency across seasons.

Role in conflict resolution

Unavoidable conflict within the ISG would be managed through bilateral and/or multilateral agreements between affected parties, and form the initial level of conflict resolution. Consequently, bilateral and/or multilateral agreements should be considered during the pre-campaign period so that they can be quickly refined and agreed in the event of conflict during the summer season. A key focus point will be on finding options for compromise in line with established protocols and to avoid additional escalation. If such agreements cannot reach a resolution to the conflict, the conflict would be escalated to the CCF for resolution.

Conflict may also arise where several activities have been unexpectedly halted or delayed, and competing for priority during the subsequent restart period. Re-start protocols would need to be discussed and agreed by the ISG as part of the pre-campaign SIMOPS planning, so that re-start following any widespread halts to activities can be enacted quickly and effectively, and not risk further delays

The process and details of the conflict resolution process are outlined in more detail in Section 4.3.

4.3 Managing and Resolving Conflicts

4.3.1 Escalation Framework

A fundamental component of conflict resolution is that there should be a named party responsible for making any decision. However, a common theme throughout this project is the unified agreement that decision-making sitting at the Central Government level is not a workable or desirable solution. The length of time this would require would be incompatible with operational needs. While authoritative, Central Government level decision-making processes would also be less transparent, engender more uncertainty, potentially bring about accusations of political bias, and may be less influenced and informed by industry needs. However, there is a significant gap in authority between Developer-based agreements or disagreements and Central Government level input.

Feedback from Stakeholders re-emphasised the importance of reducing the potential for threshold breaches as much as possible. However, a residual risk for potential threshold breaches remains given the scale of anticipated activity. An escalation and associated conflict resolution framework are a necessary consideration and a key area of uncertainty for Developers and Operators at the moment.

There are two envisaged levels of escalation as part of the ISG and CCF process. More manageable conflict and coordination challenges would be addressed at lower levels of escalation and within the ISG, avoiding the need for CCF or Central Government involvement. Failure to reach a mutual resolution at the ISG level would necessitate an

escalation to the CCF for decision-making, with the Central Government involvement retained as a last resort that is to be avoided as much as possible.

At a simple level, the CCF would be used as an additional level of decision-making laying between the ISG and Central Government – effectively facilitating an arbitration role between parties unable to reach mutual consensus without intervention. This CCF-facilitated level would seek to achieve an outcome by consensus or quorum[1]. Figure 4-5 gives a proposed escalation pathway including the ISG, CCF, and Central Government.

Although decisions on conflicts can be escalated from the ISG to the CCF, the intent would be that immediately upon identification of a potential conflict, both the ISG and CCF concurrently begin their respective conflict resolution processes. The rationale for this is to give both groups equal and sufficient time to coordinate and attempt resolution. Consequently, in the event that a conflict is escalated from the ISG to the CCF, the issue is already under consideration, and a decision on the next steps may already be immediately available. This process ensures that decisions can be enacted as swiftly as possible, which is particularly important during the summer campaign when time pressures will be greatest.

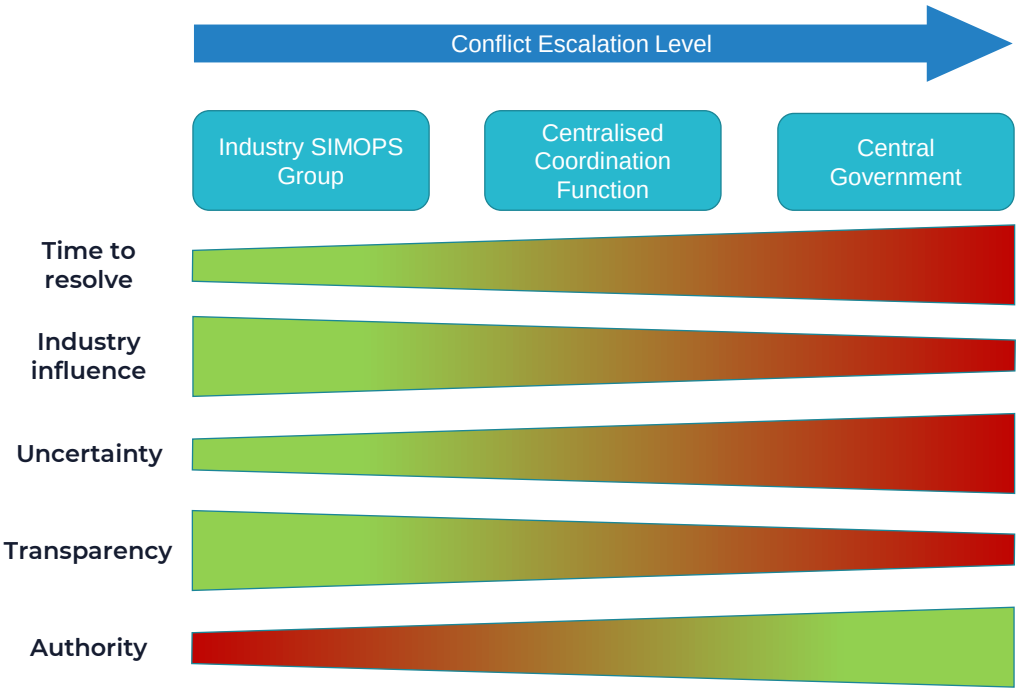


Figure 4-5 Pros and cons of conflict resolution at different levels of escalation. Width of bars represents a relative amount. Colour represents an aspect which is more (green) or less (red) preferable

For an escalation framework to function effectively, it needs to set out clear criteria which would warrant escalation to a higher authority. Likewise, it would have to be evidenced that the specified resolution procedures and approaches

[1] *Achieving consensus means that all the participants in the discussion agree (on a proposal/result/plan etc). Achieving quorum means that a majority of the participants in the discussion agree.*

at lower levels of escalation have been attempted but without success, and therefore that further escalation is warranted.

This can be aligned with the existing consent conditions for Developers and Operators to evidence cooperation and coordination efforts to mitigate noise activities and prevent threshold breaches. Based on case studies outlined in the regulatory review and Technical Note (Appendix A), such consent conditions could include the following:

- Evidence of producing and adhering to sound management plans, including communication and update protocols with other Operators or Developers within the SNS SAC
- Evidence of participation in daily and monthly coordination meetings as recommended through the ISG, including submitting associated offshore activity updates and respective noise levels in line with agreed protocols
- Evidence of participation in and adherence to protocols as established and agreed within the SIMOPS process and the ISG, including ensuring communication and contact details of all vessels and relevant offshore personnel during noise activity periods
- Evidence of coordination agreements with other Developers or Operators submitted to the Regulators outlining respective protocols

Each level of escalation should also have a defined time-period over which it must be demonstrated that all reasonable efforts were made to resolve the conflict, and potential costs or penalties levied on those (including non-industry parties) who fail to meet these expectations. This would incentivise parties to prioritise decision making efforts and prevent escalation to higher levels of authority through inaction. Conflict resolution efforts at the lower escalation levels of the ISG, for example, are anticipated to be made over very short periods of time, owing to the existing time pressure and commercial sensitivities under which affected projects operate. This is the premise for incentivising compromise and conflict resolution at a lower level, as escalation of conflicts to CCF and Central Government level introduces more risk and uncertainty for Developers and Operators.

Establishing a working escalation framework would require in-depth discussion and agreement between the Regulator and Central Government on several aspects, including what constitutes appropriate decision-making and authority for various levels of potential conflict. As such, speculating on the specifics of how any such a framework may function lies beyond the scope of this project. However, broader considerations relevant to conflict resolution within the ISG, CCF and Central Government have been outlined below. These are based on wider industry examples, government documentation and guidance, as well as outputs from the Stakeholder engagement efforts.

ISG-level Conflict Resolution Considerations

The ISG's conflict resolution and associated escalation role is largely focused on the period during the summer campaign. However, the necessary systems and approaches for managing conflict will need to be firmly established during the pre-season period. The main aim for the group would be to avoid escalation of conflicts that would require CCF and Central Government involvement. The principal vehicle for resolving conflict would be the compromise options under the SIMOPS process, subject to the necessary noise threshold headroom and project activity available, as well as any wider coordination and bilateral or multilateral agreements established between Developer and Operator Stakeholders. Actions that parties may consider include rescheduling individual activities where possible, identifying activities that could be conducted just outside the main summer campaign where noise threshold headroom may be greater, and allowing shorter duration offshore activities with quick turnarounds to fill

any gaps within the schedule. Section 5.2 outlines potential conflict scenarios during the summer campaign where this conflict resolution role is exemplified.

Bilateral and multi-lateral agreements

Agreements between individual project Developers and Operators are an increasing occurrence as lease and seabed areas continue to be awarded in close proximity or overlap with one another. Impacts include both potential adverse effects of one project to another, as well as potential adverse in-combination effects of multiple activities within the same area. Both examples may result in bilateral agreements between the Developer and Operator parties to establish terms and conditions that manage the potential conflicts or consequences of these impacts or set the process for managing them. As previously discussed, bilateral coordination agreements may also constitute a consent condition set by the Regulator where in-combination impacts are likely, to establish the necessary protocols and actions that maintain environmental thresholds.

Multilateral agreements should be established which all ISG members would agree to. These would cover mutual terms and common expectations for all participating Developers and Operators. In addition, where Developers and Operators identify a specific likelihood of conflict with another project, additional bilateral agreements between these parties should be established prior to the summer campaign where possible.

These agreements can also include the procedural terms for the ISG and associated SIMOPS procedure

- Financial compensation: Developers and Operators may agree on specific compensation terms for any adverse commercial, contractual or schedule impacts that one project experiences due to the activities of another.
- Cost-sharing and activity streamlining: Developers and Operators may also agree at the beginning of the summer campaign to specific cost-sharing efforts which offer mutual benefit to both parties and projects as well as the potential to align schedules for compatible simultaneous activities.
- Future prioritisation: Whilst a prioritisation of one sector over another was generally rejected as part of the Stakeholder engagement process, ISG participants may look to consider possible last resort options as part of their bilateral agreements and ISG protocols if this reduces the chance of escalation to Regulator and Central Government level. Any prioritisation consideration would also be assumed to subsequently guide the SIMOPS process and re-start procedures.

SIMOPS Process

The SIMOPS process offers two aspects to conflict resolution considerations: a platform/vehicle for compromise and solutions-scoping, and evidence of appropriate-endeavours as part of any subsequent escalation pathway to Regulator or Central Government level. The frequency and format of activity and noise-level updates within this process is designed to provide the level of transparency and foresight required by the ISG Stakeholders to anticipate and adjust to potential threshold breach risks. The coordinated meetings herein offer the platform for compromise and solutions development through re-arranging activities where required and re-calculating daily noise levels accordingly.

Escalation is anticipated to be required where all parties have:

- adhered to the established protocols;
- provided the required offshore activity updates in line with the ISG process;
- met and demonstrated all appropriate and available opportunities to reschedule or re-arrange offshore activities to maintain threshold levels and continue summer campaigns (as agreed within ToR and SIMOPS plans); and
- agreed that the situation is not solvable through the terms of any bilateral agreements (as applicable) and compromise cannot be established without additional CCF involvement

Section 5 outlines several potential conflict scenarios where escalation may be required, including in instances where a re-start or rescheduling order for offshore activities cannot be agreed on following adverse weather effects or offshore health and safety incidences. The SIMOPS Coordinator would be in a position to keep the CCF informed of any potential escalation situations and initiate this pathway.

Given the time constraints for action during the summer campaign while offshore activities are ongoing, any gridlock in compromise and conflict resolution within the ISG needs to be flagged to the CCF quickly to seek additional options and next steps. The shift from the ISG and CCF as an escalation could also be viewed as an additional incentive to establish compromise by the affected Stakeholders. Protocols for escalation, including any circumstances requiring mandatory escalation, should be captured as part of potential bi- and multi-lateral agreements, as well as within the SIMOPS protocols.

Under the assumption of twice-weekly ISG meetings, it is recommended that planned activities are reviewed and discussed at least a week in advance to identify any pinch-points or potential threshold breaches. Where potential threshold breaches are identified the ISG would inform the CCF. Early involvement of the CCF is aimed at leveraging additional insights and possible solutions from the CCF observers. Both groups would then have opportunity to coordinate in attempt to avoid conflict via SIMOPS procedures in the first instance. If focused SIMOPS efforts are unable to adequately address the upcoming potential breach before the next ISG meeting (three days prior to the potential breach), then the situation will be elevated in status, and constitute a conflict scenario.

Once escalated to a conflict scenario, both the ISG and CCF will begin following their respective conflict resolution procedures in order to find a solution. By both parties working on potential solutions in parallel, this maximises the time available to make informed decisions. Therefore, in the event that the ISG are unable to find a resolution and elevate the conflict to the CCF for resolution, the CCF will not be disadvantaged by the loss of any time the decision to escalate may have taken. Although both the ISG and CCF will be leveraging different processes to seek a resolution, both groups are expected to provide support to the other as necessary. This may involve information sharing between the groups, or the CCF offering arbitration support to the conflicted ISG members.

Wherever possible, conflicts would be resolved by the ISG, with the CCF only implementing their solution where no time-effective solution has been reached by the conflicted ISG parties. In such cases, evidence that appropriate efforts were made to resolve the conflict before escalating decision-making to the CCF would be required. Evidence supporting the escalation of a conflict to the CCF for resolution would include any pre-agreed terms held within planning consent conditions and required by the Regulator, and material evidence of coordination efforts. It is recommended that the requirements of evidence is firmly agreed upon by the CCF during the pre-campaign planning and coordination efforts, and clearly communicated to the ISG so that it can be appropriately captured in

the ToR for the SIMOPS protocols. These requirements of evidence would need to be clearly defined and avoid any ambiguity to ensure any need for conflict escalation is equally clear and unambiguous.

Where conflict situations arise within the ISG during the pre-campaign coordination efforts, such as the identification of continued high likelihoods of threshold breaches during the campaign despite mitigation efforts, the timeline for escalation within the ISG is assumed to be longer. Upon inception of the ISG meetings at the beginning of October, following the Call for Information, it is recommended that the group meets every two weeks for ongoing identification and review of potential noise threshold levels using the MNR and JNCC guidance as well as available project information. Should conflict situations as outlined in Section 5.1 arise, and a compromise on the summer campaign cannot be found as part of in-combination assessments, it is envisaged that JNCC and ISG make an application to the CCF within the first two weeks of January at the latest.

During the pre-campaign, there is inherently more time, and therefore less urgency to resolve conflicts. However, swift and expedient addressing of conflicts is still preferable as this facilitates wide planning. Given that the Regulators would be embedded within the CCF, it is envisaged that they would be able to respond to any identified conflicts within seven days (subject to the complexity of the specific challenge) with decision-making and resolutions expected to revolve around planning consent. Projects which are already in an advanced state of planning and approval (i.e., fully consented / licenced / permitted) would be prioritised at this time, with projects at less advanced stages of planning and approval at greater risk if a compromise on the summer campaign cannot be found. As with the conflict scenarios during the summer campaign, JNCC and other observers on the CCF would be leveraged to support conflict resolution through technical, policy, environmental or regulatory input.

Re-Start Procedure

During the pre-campaign period, a schedule for all planned activities will be outlined. This will highlight potential pinch-points and/or potential noise threshold breaches in the upcoming season. However, it is possible that scheduled activities will have to halted or delayed due to unforeseen, unpredictable, and uncontrollable reasons. Halts and delays are typically a result of factors including major accidents, equipment failures, or adverse weather conditions. However, activities could also be forced to halt to avoid exceedance of an upcoming daily noise threshold. If one or more scheduled activities are halted, a restart procedure is necessary for operations to continue.

Following any halts to activities, the affected parties will look to restart operations as soon as possible. To restart operations, an updated schedule of activities must be established by the ISG based on an agreed, or most feasible, order combination which allows for the noise threshold to be maintained. For a short-duration activity with limited contribution to the daily threshold, this may be relatively simple to manage. However, if multiple activities with larger EDRs are forced to halt for a significant duration (i.e., due to adverse weather), this would present a challenge.

For short-duration delays to individual projects, in the first instance it is expected that the ISG would attempt to manage these via SIMOPS (as informed by the established tracker and/or MNR) and incorporate them into the existing schedule. Where this is not feasible, or where more significant delays occur which severely disrupt the existing schedule, more significant restructuring of the campaign schedule might be required. In such a case, the

ISG would be expected to inform the CCF of the scheduling disruption, and for the CCF and ISG to collaborate in reforecasting and rescheduling activities.

The flexibility and collaborative nature of the SIMOPS procedure, along with previous similar occurrences in other sectors, should promote a swift solution to an agreed re-start queue when faced by a halt in operations. This may involve some activities being promoted in the schedule, or a staggered restart to operations. In any event, it should be managed in such a way as to minimise future pinch points.

Achieving buy-in from ISG members is fundamental in achieving an effective process which manages and facilitates re-start and any new activity queues promptly. As such, an agreement on re-start procedure would form part of the early scoping phase to minimise any additional conflict during the summer campaign. This includes any agreed-upon system for determining the order in which multiple activities re-start in the event of significant, widespread halted operations.

Where a re-start order cannot be identified, or it is not feasible to reschedule all impacted activities within the remainder of the summer campaign, it is expected that a regulator-based decision-making process would come into effect via the CCF.

CCF-level Conflict Resolution Considerations

Where compromise within the ISG is not possible and agreed-upon standards of evidence (as captured in the CCF ToR and communicated to the ISG) has been made available showcasing appropriate-endeavours and consent conditions have been adhered to, the next steps decision-making is expected to be escalated to the CCF level.

The observers and technical advisory Stakeholders within the CCF can be leveraged to provide additional insights and advice to support resolving any gridlocks ahead of further escalation. This could include the pragmatic application of new and emerging evidence in decision making, provided this is implemented in a fair and consistent manner.

Regulators should review the available evidence of coordination and attempts at conflict resolution in line with prescribed planning conditions, including any associated advice from JNCC. As before, this evidence base could comprise any agreement terms between stakeholders, the adherence to SIMOPS and other coordination protocols, supplier engagement and rescheduling efforts, HSE conditions, and other rationale explaining why a mutually agreeable solution could not be reached.

Establish and implement a decision-making matrix

A key requirement for effective conflict resolution at the CCF level is clearly defined process by which decisions will be reached in a transparent, consistent, and equitable manner. A robust decision-making matrix would enable the CCF to facilitate conflict resolution and minimise any need for further escalation to Central Government level, and prevent the uncertainty and significant delays this would likely introduce.

It is essential that the CCF have robust decision-making processes enabling rapid and transparent decisions, given the expectation that resolutions from Central Government would at best take months, if not years. These types of delays may be manageable (albeit highly detrimental) during pre-campaign, but are completely incompatible with

conflicts arising during the summer campaign, which would necessarily require workable solutions within days. Thus, the CCF would necessarily be the highest level of authority for conflicts arising during the summer campaign. Given the imperativeness, an immediate action for the CCF would be to develop and fully detail a decision-making matrix.

The decision-making matrix would need to set out a clear framework for how conflicted activities would be considered, and how the ultimate conflict resolution decisions will be reached. Such a decision-making matrix need not conflict with the Regulators' established position that all conflict evaluations be conducted on a case-by-case basis.

Conflict resolution will inherently require that difficult decisions are made. Feedback during stakeholder engagements repeatedly highlighted widespread opposition to implementing any form of consistent activity prioritisation, and it is recognised that this remains a contentious issue. However, a suitably designed decision-making matrix need not automatically favour given activities or sectors.

Suggested criteria that could be considered are outlined below along with potential risks and opportunities.

- Development status of the project
  Prioritisation could be assigned based upon specific commercial and/or regulatory milestones that projects need to adhere to. This would include consideration of the risks and consequences should a project be delayed, including lost value and knock-on programme delays. This would likely benefit larger multifaceted projects, but disadvantage smaller, more independent activities.
- Health and Safety
  Considering whether delays to given activities represents a health and safety risk, either to individual projects, or more generally.
- Operational constraints
  This would consider whether any delays would detriment existing works and/or future progress. This would consider whether pausing or delaying activities currently in progress poses additional operations risks, or is likely to incur additional delays and/or additional scheduled work.
- Rescheduling requirements
  This would prioritise projects based on minimising risks of having to significantly reschedule multiple activities for the remainder of the summer campaign.
- Coordination and planning efforts
  This option would favour those activities that demonstrate a greater willingness to cooperate and compromise. This would be based on coordination and collaboration documentation and evidence.
- Duration of proposed offshore activities
  Focusing on the overall duration of activities may help limit further scheduling conflicts during the summer campaign. It may be more feasible to postpone shorter activities, rather than longer-duration operations. However, it would not be appropriate to continually detriment shorter-duration activities, especially at short notice when this would undoubtedly have financial implications. Constraints on this criterion also arise from the 24-hour window approach and daily exceedance considerations.

- Sound intensity of the offshore activity (EDRs)

  This criterion would involve assessing the contribution of conflicted activities to the daily thresholds. This could be managed by prioritising either the activities with a smaller or larger EDRs depending on the available headroom and number of conflicted activities. However, always prioritising activities by their EDR would likely favour activities with smaller EDRs, and disadvantage those which inherently produce more noise. However, focusing on the disturbance potential of the activity, and thus on the environmental impact, is in line with overarching aims of SNS SAC.
- Implementation of noise abatement and/or noise avoidance

  Consideration could be given to those projects which have taken efforts to reduce the amount of noise being produced by their activities – either via avoidance or abatement. However, the feasibility of implementing noise abatement and avoidance measures differs between sectors and activities. As such, prioritising projects in this manner risks being unduly disadvantaging certain projects and industries more than others.
- Alignment with wider UK Strategic Targets

  Consideration would be given as to whether certain activities fundamentally align more closely with the UK's various strategic targets and objectives, e.g., energy security, Clean Power 2030, economic growth etc.
- Wider environmental impacts

  Priority could be assigned based on wider environmental considerations. This could include making decisions based upon the impact delays could have on aspects such as carbon emissions, etc. However, careful consideration would be required, as circumstances and the nature of different activities and may differently affect the ability to mitigate wider environmental impacts.
- Innovation and contribution to wider scientific evidence aiding environmental management

  Consideration could be given as to whether projects and/or activities are contributing to the advancement of the scientific evidence base aiding future environmental management. This could include trialling new technologies aimed at reducing noise, or undertaking voluntary noise monitoring etc. This would have to be carefully balanced to ensure activities are not unduly disadvantaged where is not possible/feasible for them to contribute to such innovation efforts.

As previously stated, the decision-making matrix would need to be implemented in a fair, equitable, and transparent manner that doesn't directly and/or consistently detriment any given industry or activity. Failure to do so would likely see opposition raised to the process by the Developers and Operators. One option to aid equitability would be to ensure that the decision criteria are considered holistically, rather than sequentially whereby the order in which criteria are considered may influence outcomes. In any case, it would be advisable the Regulators consult with industry when developing their approach.

If implemented correctly, a known and established CCF decision-making matrix could be used to incentivise Developers and Operators to plan their activities in a way that better aligns with the decision-making matrix, and not risk unduly disadvantaging themselves in the event of a potential future conflict. This in itself may lead to more considered approaches towards planned activities, and contribute to a lower likelihood that conflicts arise.

Central Government Conflict Resolution Considerations

Where a conflict cannot be resolved by either the ISG or CCF, the last-resort option of Central Government decision-making would have to apply – noting that this would only be viable during for conflicts identified during the pre-campaign phase.

This escalation would comprise an application by the CCF (and conflicted parties within the ISG) to the Secretary of State. The Secretary of State may then pursue the option of seeking independent evaluation to support decision-making, adding further potential delays to the process.

4.3.2 Repercussions of Threshold Breaches

The scope of this report was to establish a Framework for the avoidance and management of potential conflicts to avoid breaching UWN thresholds in the SNS SAC. The consequences and repercussions arising from any realised breaches are therefore out of the scope of this report to define.

Where a potential threshold breach is already alleged to have occurred, the respective non-compliance policies for Regulators would be initiated.

4.4 Summary of Conflict Resolution Framework Recommendations

There is a recognised potential for unavoidable conflicts at various phases during the summer campaign. Potential conflicts in each of these phases present different challenges and require different approaches to management. This section outlines a general framework.

The proposed changes (Table 4-1) are suggestions that would provide notable benefits to various aspects of coordination and conflict resolution pathways, and would be beneficial regardless of any variations in how pathways are ultimately implemented. These should therefore be prioritised for discussion and consultation with relevant Stakeholders. These recommendations build upon the notable efforts already undertaken by the 2024 DCF to establish and strengthen workable solutions.

Table 4-1 Summary of proposed changes to aid coordination and conflict resolution

ACTION TO UNDERTAKE	RESPONSIBLE PARTIES	PRIORITY CRITERIA ACTION IMPROVES
PRE-CAMPAIGN		
Formally streamline and unify consenting and application processing timelines between OPRED / Marine Management Organisation (MMO). **This should be done at the earliest opportunity.**	Regulators	Transparency Equality
Reform the Call for Information milestone for OPRED and MMO to allow for noise collation and analysis of threshold breaches and headroom availability. **This should occur no later than the August prior to the upcoming season**	Regulators	Transparency
Establish a working Conflict Resolution Framework (see Section 4.3). **This would need to be realised and implemented prior to commencement of summer campaign.**	Regulators Government Developers/Industry	Transparency Accountability
Upgrade of MNR as fit-for-purpose for both initial scoping and overhead or threshold breach scenarios and operational use and update during campaign. **This should be done at the earliest opportunity.**	Government JNCC	Transparency
Standardised / confirmed guidance on noise modelling approach, EDR and 24-hour period confirmations. **This should be done at the earliest opportunity.**	Government JNCC	Transparency Equality

ACTION TO UNDERTAKE	RESPONSIBLE PARTIES	PRIORITY CRITERIA ACTION IMPROVES
Regulators to establish a Central Coordination Function and Industry SIMOPS Group (see Section 4.2.1) which will be responsible for managing activities within the SNS SAC. It is recommended that this system be implemented for the 2026 summer season. Where feasible, key functions (e.g. a SIMOPS Coordinator role) should be trialled or otherwise incorporated into the 2025 summer season	Regulators Government JNCC Developers/Industry	Accountability
DURING SUMMER CAMPAIGN		
Maintain SIMOPS Procedure for coordination and management purpose, including agreed process to streamline information update during activities. Required throughout the SNS SAC summer season.	Regulators Government Developers/Industry	Transparency Accountability
Case-by-case review of threshold breaches or risks identified during summer season based on set criteria agreed across all parties. This should be implemented as soon as any (potential) breaches are identified.	Regulators Government JNCC	Accountability Equality
Establishment and agreement on monitoring and reporting measures in case of threshold breach. This should be done at the earliest opportunity.	Regulators Government JNCC	Accountability Equality

ACTION TO UNDERTAKE	RESPONSIBLE PARTIES	PRIORITY CRITERIA ACTION IMPROVES
Early identification of potential conflict through MNR and CCF beyond that of the scoping and precampaign phase. This should begin immediately following the Call for Information, and completed before the January prior to the upcoming season.	Regulators Government JNCC	Transparency Accountability

5 EXAMPLED CONFLICT SCENARIOS

To illustrate how the proposed coordination and conflict resolution frameworks could be implemented various scenarios will be discussed. The goal of highlighting these scenarios is to demonstrate not only how the framework(s) can be implemented within real-world scenarios, but also provide confidence to key stakeholders that high likelihood and/or high consequence risks have been considered and suitably mitigated.

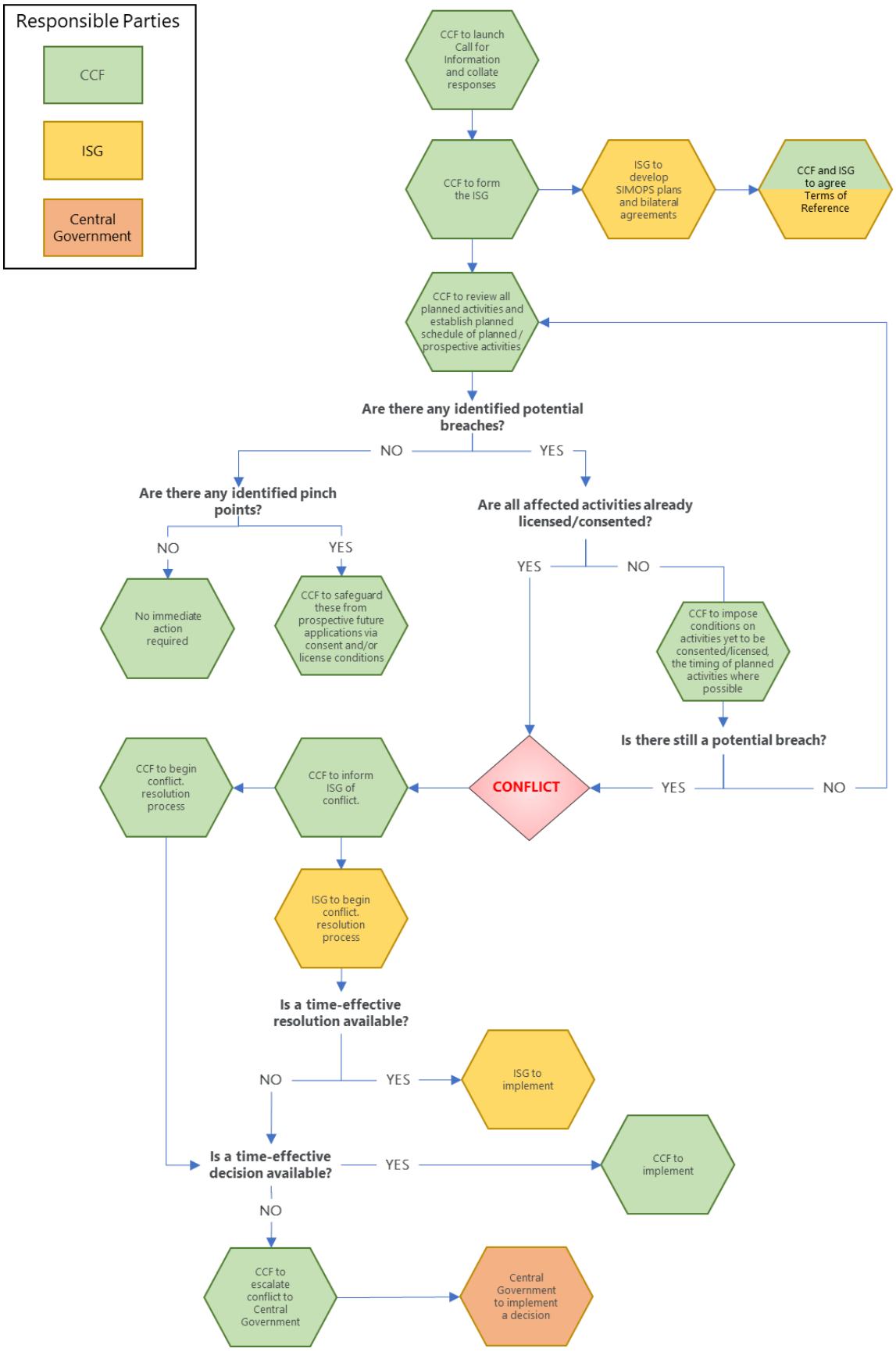
The scenarios within the following section consider coordination and conflict resolutions within different phases of a project's lifecycle, as well as more specific conflict scenarios which may arise.

5.1 Scenario 1 - Potential Threshold Breach Pre-Campaign

Scenario Description

Context: During the pre-campaign phase (i.e., during the planning stage) there is a high likelihood that potential breaches will be forecast due to the high levels of uncertainty and worst-case scenario estimations. Therefore, there is an early opportunity for the CCF and ISG to refine these estimates and mitigate against these potential breaches.

Process for Scenario 1 – Pre-campaign Coordination and Conflict Resolution



Description

Following the Call for Information, the respective ISG and CCF groups (representing Developers, Operators and Regulators) will be established for the upcoming campaign.

Parallel to convening the ISG and CCF, the modelling of anticipated noisy activity scenarios and the threshold review for the upcoming season will be undertaken. It is proposed that this remains the responsibility of the Regulators as supported by the JNCC. To ensure transparency and consistency, this should be delivered using the agreed single tracker tool through upgrading or use of MNR functionality. This tool and process would subsequently support the project management of the various offshore installation and survey campaigns.

Maintaining compliance with seasonal threshold levels would remain the responsibility of the Regulators, and managed as part of the consenting, licencing, and permitting process, so greater focus during the pre-campaign planning would be on managing daily threshold limits. At this stage of planning (i.e., >2 months before the start of the summer season), foreseeable pinch points in daily threshold limits could vary in scale – from as short as a day, to more protracted periods of risk. Alternatively it could be that potential breaches may only occur towards the end of the season should there be significant accumulated delays across several activities.

In the first instance, the ISG should aim to avoid daily threshold conflict in first place through co-ordinated planning and bi- or multilateral agreements. The form of these agreements would have to be decided between the impacted parties. There is likely to be a degree of urgency in these discussions to avoid commercial and contractual challenges.

This should result in an amended activity schedule, shared on tracker tool, and agreed between those involved in SIMOPS.

If agreement cannot be made, matters will be escalated to CCF whereby regulators will have a say. If agreement still cannot be made, it will be escalated to Central Government – this will result in lengthy delays, and significant risks and cost to projects, and therefore needs to be avoided.

Roles and Responsibilities

Role of ISG: The ISG will lead the initial discussion and agreement of the SIMOPS procedure for the subsequent summer campaign with an immediate focus on the identified pinch points. Where possible, immediate action should be taken by the ISG supported by the CCF, to mitigate and avoid potential conflict.

Role of CCF: The CCF will be called upon when agreement between developers and operators cannot be met within the ISG.

Outcomes

Opportunities: The threshold review will enable identification of possible pinch points that require early optimisation of activity timing and give an indication remaining headroom.

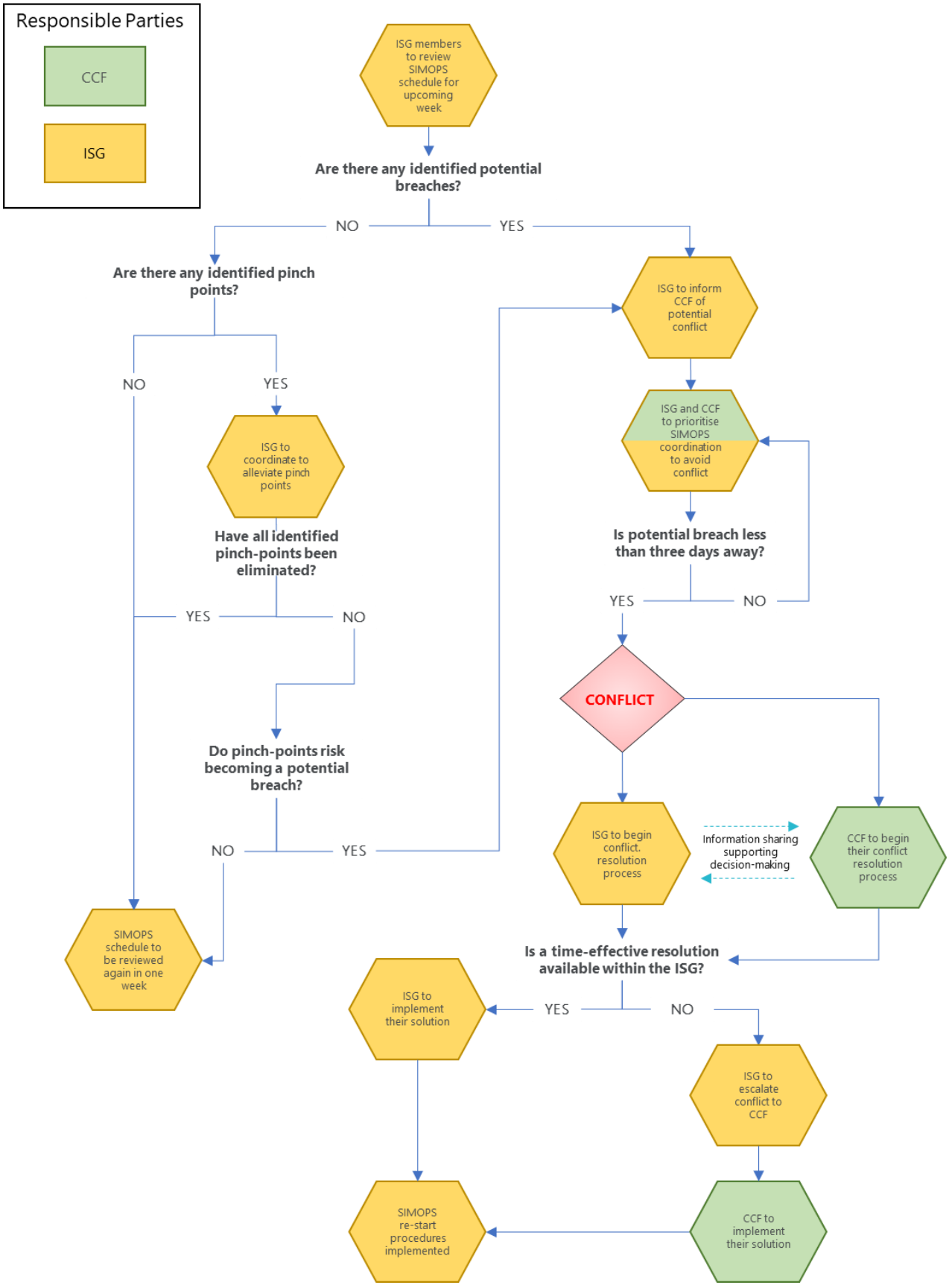
Risks/ Challenges: Operational constraints of some projects, for example the specific foundation-based timing of piling activities in OSW and vessel lead times will need to be managed by the SIMOPS process. The threshold review offers an earlier opportunity to manage potential conflict and seek compromise on activity scheduling ahead of mobilisation. It should be reiterated that projections during this time are still likely to be based limited certainty, and often represent worst-case scenarios. Consequently, for this process to be most effective, more realistic assumptions (EDRs and disturbance periods) are required to generate more realistic assessment of risk of potential pinch-points.

5.2 Scenario 2 - Potential Threshold Breach During Summer Campaign

Scenario Description

Context: It is possible that during the summer campaign there is an opportunity for potential threshold breaches to be forecast. These may be a result of potential human or technical errors, as well as unexpected failures, incidents or weather conditions that could disrupt the SIMOPS procedure. These forecasted disruptions may require campaign activity schedules to be delayed or adjusted to prevent the threshold breach from occurring.

Process for Scenario 2 – During Summer Campaign Coordination and Conflict Resolution



Description

The ISG is principally responsible for the management of coordination during the summer campaign. This will be centred around the continued application of the SIMOPS procedure, and ensuring visibility through regular updates on undertaken activities and the actual remaining noise threshold budgets and outstanding of activities required to fit into these.

Through access to an effective and efficient noise tracker, if during the SIMOPs procedure the potential for a threshold breach is identified, the ISG will implement a flexible, agile approach to establishing ad-hoc meetings to discuss solutions and potential to re-order activities. In addition to ensuring these parties are present to agree to potential delays or adjustments in schedules, it is hoped that bi- or multi-lateral agreements formed as part of the SIMOPs procedures can be relied upon to resolve these issues without escalation or conflict. However, if agreement cannot be reached, then this will be escalated to the CCF.

The CCF will rely upon on their decision-making matrix to inform which/if projects can continue as planned or with adjustment. Considerations in this situation reflect criteria such as crew health and safety, operational constraints, and the potential opportunity to reschedule and progress some activities ahead of others.

Roles and Responsibilities

Role of ISG: The role of the ISG when faced by a potential forecasted breach during the summer campaign is to not only champion the accurate reporting within a marine noise tracker so that these potential forecasted breaches can be reported, but also ensure that if a potential unexpected pinch point emerges that updates to campaign activity schedules can be resolved quickly and effectively. If this cannot be achieved, the ISG will call upon the CCF to intervene.

Role of CCF: The CCF is proposed to be responsible for maintaining the singular central tracker that captures noisy activities, threshold updates, and ongoing forecasts for the remainder of the summer season. During this time, the role of the JNCC should be further discussed and revised to better leverage continual monitoring and updated forecasting of threshold levels throughout the summer campaign.

Role of other stakeholders: Additional Stakeholders within this landscape would be the respective offshore personnel and contractors, such as MWS, marine coordination suppliers or client representatives that would provide crucial input and information, and who would need to be made aware of any new procedures

Outcomes

Opportunities: The ISG retains the ability to retain autonomy during SIMOPS, but with a clear procedure to follow in the event that potential threshold breaches arise, including a clear understanding of the procedures surrounding timely conflict resolution.

Risks/ Challenges: A key consideration for the coordination pathway during the summer campaign is the likely requirement of various levels of flexibility and adaptability, within the set daily and seasonal threshold levels. It is assumed that events and incidences outside of a project's control will arise, including adverse weather events or equipment failures. This will be overcome through an agile and reactive SIMOPs procedure and terms of engagement with the ISG and CCF.

6 CONCLUSION

This report has highlighted the learnings from the Technical Note which details the regulatory review, Stakeholder engagement, and analysis which have informed the pathway development process, as well a summary of the scenario testing that was undertaken. Xodus has put forward a recommended annual coordination framework to support and improve coordination, and has outlined an escalatory conflict resolution process through which different types of conflict could seek to be resolved.

It is clear that the current system is not entirely sufficient for managing the noise threshold limits in the SNS SAC in a manner that is ecologically effective or operationally practical. To address this, this report sets out a number of recommendations to refine and existing processes to streamline and support coordination and conflict resolution.

Specific timelines for the implementation of these recommendations have not been assigned. However, the target would be to realise each recommendation as swiftly as reasonably practicable.

6.1 Intended Next Steps

The immediate next steps would be for the recommendations of this report to be reviewed by the primary stakeholders – particularly those in regulatory positions – and to consider the feasibility and practicalities of their implementation.

It is realised that some aspects of the proposed recommendations may not be immediately workable for reasons beyond Xodus' understanding. However, it is believed that the broader suggestions presented hold merit, and that means of addressing the underlying shortcomings identified should be investigated.

Realistically, it is expected that prior to implementing the recommendations of this report would likely necessitate further consultation with Stakeholders to ensure that the specific means being considered for implementation are broadly acceptable.

6.2 Remaining Challenges

Despite the recommendations provided, notable challenges remain even in a scenario where all recommendations are fully embedded in practice. It is accepted that there will always be a degree of limitation in the availability of data for managing noise thresholds and SIMOPS, as there will always be uncertainty during the planning phases, and a degree of delay in the retrospective updating of conducted activities.

It is understood that the recommendations provided, while based on a wealth of collective knowledge and experience, nonetheless address a relatively novel challenge – albeit a challenge likely to remain for the foreseeable future given anticipated future activity levels. The recommendations regarding the streamlining of coordination activities and conflict avoidance have been derived and refined from years' worth of SIMOPS and coordination efforts, as well as having had the chance to learn lessons on the management of the specific issues throughout the 2024 summer season. In contrast, the recommendations for how unavoidable conflict should be managed are inherently less robust and evidenced as this scenario has not yet occurred.

Actioning of many of these recommendations also represents a significant undertaking, and the timelines required to practically implement the recommendations remains uncertain. Nonetheless, it is believed that the recommendations posed would benefit the handling of conflicts should they occur, and perhaps more importantly, minimise the likelihood that they ever materialise.

REFERENCES

Xodus (2024) Underwater Noise: Coordination and Conflict Resolution- Technical Note. Xodus document: A-200708-S00-R-TECH-001

De Montis, A. (2000). Criteria for quality assessment of MCDA methods. 3rd biennial conference of the European society for ecological economics. 3-6.

Joint Nature Conservation Committee (JNCC), Natural England and Department of Agriculture, Environment and Rural Affairs (2020). Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). June 2020. Available online at: https://assets.publishing.service.gov.uk/media/5ed7ba3c86650c76ab17fcc5/SACNoiseGuidanceJune2020.pdf [Accessed 01/10/2024].

APPENDIX A SUMMARY OF WP1 & WP2 OUTPUTS

This appendix provides a brief outline summary of WP1 and WP2 for ease of reference. For a detailed account of the information presented below, please see the Technical Note.

A.1 WP1 Outputs

WP1 focused on evidence gathering through literature review and Stakeholder engagement to inform coordination and conflict resolution pathway development. The outcomes of WP1 outlined the overall challenges, limitations and opportunities for coordination based on literature reviews, synthesis of previous Stakeholder fora and workshops, and key perspectives from targeted Stakeholder engagement. This was complimented by a lessons-learned and legislative benchmarking exercise (WP2) which was designed to draw upon experience from other countries and sectors where relevant.

Throughout the literature review and Stakeholder engagement process, recurring challenges and limitations were identified with regard to UWN coordination processes. These centred around Regulator coordination and alignment (Section 4.1.3) and key priorities (Section 3.3) considered to coordination approaches, and practical limitations that would constrain the required flexibility and feasibility of any proposed coordination processes. This also encompassed any regulatory uncertainties or misalignment between respective sector Regulators that could prevent a level playing field from the start.

A.1.1 Literature Review

The focus of the literature review was placed on benchmarking research for other associated sectors and countries on coordination and conflict resolution processes, as well as the review of outputs from previous relevant Stakeholder engagements and subsequent provision of additional complementary research. These included:

The regulatory context of UWN in the SNS SAC:

- Detailing considerations of the Marine Noise Registry (MNR) and Effective Deterrent Ranges (EDRs).
- Monitoring activities; and
- Noise Monitoring.
- Global and regional UWN framework studies in the United Kingdom (UK), United States of America (USA) and the Gulf of Mexico, Norway, and Australia:
- USA – Cumulative Impact and Military Zone Coordination.
- Australia – Multi-use Spatial Planning Considerations; and
- UK, Norway, and Gulf of Mexico – Time Sharing Procedure Application for Seismic Survey.

While the examples provided currently do not quite match the scale, urgency, and level of complexity of the underwater noise threshold situation in the SNS SAC, they nonetheless provided several common factors for consideration. This included the existence of single points of contact, such as the Department of Defence (DoD) Clearinghouse function (USA), to facilitate and collate standpoints, lead Stakeholder engagement and support information collation; the continued focus on efforts in integrated marine spatial planning and associated data

acquisition to reduce coordination and conflict challenges overall; and clear processes and principles to guide conflicting activities where this is unavoidable.

A.1.2 Stakeholder Engagement

Xodus engaged with Stakeholders who were actively involved with activities being undertaken in the SNS SAC, including representatives from sectors including:

- Supply Chain;
- Regulators;
- Government, NGOs & Trade Bodies;
- O&G and CCS; and
- OSW.

Sessions were held as both semi-structured interviews and *ad-hoc* follow up discussions on topics covering, *inter alia*, regulatory process, operational challenges, and supply chain practicalities. The key conversations points and takeaway messages were as follows:

Regulator Coordination and Alignment:

- A recurring theme throughout each of the Stakeholder sessions was the recognition of discrepancies in consenting timelines and associated activity durations across the different industries, and their impacts on individual sector projects.
- Proposed greater alignment and coordination between Regulators of different sectors were flagged as an important next step, with possible facilitation and support from other Stakeholders, including Government bodies.
- Proposed detailed outline of information and possible solutions requested.
- A strong emphasis on industries being self-reporting and a set focus on complying with consenting conditions was noted as part of the Regulator session. This was at odds with the growing message from other Stakeholders, and particularly from Developers and Operators, that an overarching CCF is required to manage the increasing complexity of maintaining threshold levels. The potential inclusion of the OEP or TCE in this landscape and potential future pathway was deemed by Government and Regulatory Stakeholders as out of the OEP remit.
- Limitations were also flagged regarding the potential need to change overall policy and regulation in consenting. Any change to policy or regulation would require Government action and was not considered achievable in the short term. It was estimated that any such change would take between one and five years to implement.

Key Criteria considered important for effective Coordination Pathways:

- An enhanced level of transparency on activities and processes from all Stakeholders, ensuring awareness across OSW, OOG and Regulators on upcoming campaigns and any associated challenges. Of course, particular care must be taken to ensure GDPR compliance.
- Flexibility to ensure that new lessons learned through the 2024 summer campaign and any changes to overall marine spatial planning guidance can be incorporated.
- A level of enforcement and clear guidance on roles and responsibilities, including consideration of any roles for external third-party actors to provide support in facilitating updates and keeping activities in check; and
- Lastly, that coordination should apply across all industries, going beyond current DCF and the Southern North Sea Offshore Wind Forum (SNSOWF).

Practical Coordination Limits

- The supply chain and Developer and Operator sessions sought to gain further context and justifications behind the practical limitations on coordination and conflict resolution.
- Limitations included contractor lead times and the impacts on scheduling flexibility and contingencies.
- Lessons learned from existing processes and tools, such as the 2024 Summer Activity Tracker and the JNCC MNR were highlighted.
- In terms of existing and new coordination tools, the updated MNR Phase III outputs and current 2024 Summer Activity Tracker were mentioned as providing opportunities to test Stakeholder usage and identify lessons learned for future coordination activities between different sectors.
- Regarding contractor lead times for key noise activities of Unexploded Ordnance (UXO) surveys, UXO clearances, piling activities and seismic surveys, Stakeholders acknowledged that there is greater flexibility in seeking, organising, and contracting the initial surveys versus contracting and undertaking of UXO clearance and piling activities, with the latter particularly requiring several months to years of engagement; and
- For seismic surveys, complexity was flagged in the planning and associated lead time impacts from multi-party seismic campaigns across various licences, with up to 24-month timeframes to achieve full buy-in.

A.2 WP2 Outputs

WP2 consisted of a regulatory review conducted by law firm Shephard and Wedderburn LLP. Undertaken alongside WP1, the purpose of the regulatory review also provided an open and transparent account of how Stakeholder engagement processes have been undertaken, and insight into the context influencing these discussions. A key takeaway for consideration in the context of coordination and conflict resolution opportunities is the difference in the level of public consultation as mandated through OOG and OSW consenting regimes. There is greater visibility on OSW applications due to a mandatory 30-day public consultation periods across projects. This includes access to information through Freedom of Information (FoI) systems, although this particular approach was not referenced or utilised in the regulatory review. As a result of these differences, OSW receives more public scrutiny of plans that require revisions and potential delays to project progress. This means there is not a level playing field in the level of information in the public domain from both sectors that could be used to inform coordination processes. This also places a requirement on OSW projects to outline design or scheduling considerations earlier, whilst OOG related project information and proposed survey or installation plans may be available only at shorter notice in the context of coordination of overlaps.

There is a degree of variation to the coordination requirements within UWN threshold management in OOG consents between different projects. On writing this report in October 2024, it is understood that respective guidance on any coordination, evidence or reporting requirements that are in line with the JNCC guidelines have yet to be confirmed by the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED).

Both OOG and UWN are required to coordinate, but the requirements differ. Currently, Site Integrity Plans (SIPs) and associated consideration of in-combination effects represent the main guidance for OSW Developers. This lack of official alignment concerning UWN management between sectors complicates proceedings for all parties. If requirements were the same for all involved, it would simplify coordination.

- The discrepancies between consenting and application timeframes for OSW and OOG of six months versus 30 days respectively is another barrier to effective UWN coordination. Stakeholders involved in this study have indicated that this is a key factor which leads to delays in UXO clearance consent and commencement. Given that multiple requests from OOG projects could fall into the six-month period with SIPs take place, it has also been reasoned that this is in part responsible for the revision of the SIPs.
- Revision of SIPs will also have an impact on resourcing. Efficiency assessments are required to be reviewed and this will involve time, effort, and financial backing from those involved.
- In terms of consenting, OSW developments are required to go through the MMO only, whereas OOG are required to go through several different bodies for licences, permits, and consents. Regardless of the route to achieving consent, there are uncertainties in overall lead times for seismic survey and construction planning, as well as a lack of clarity of offshore activity plans until close to campaign start.
- While a focus to date has been on coordination of impacts due to seismic survey activities and associated consents, the Environmental Impact Assessment (EIA) requirements for Pipeline Works Authorisation in OOG construction projects could also pose another area of threshold coordination in future, with initial indicative application timeframes of four to six months outlined in the regulatory review.

A.3 Collating WP1 and WP2 to inform conflict resolution processes in WP3

Coordination pathways will need to include decision-making criteria and principles to manage a dispute that may arise regarding the approval of activities under the UWN threshold management. There was some broad agreement between Stakeholders on what criteria should be considered when identifying appropriate coordination and conflict resolution processes.

Key principles were discussed during the Stakeholder holder engagement phase that were broadly considered by Stakeholders as not helpful in enabling coordination and conflict resolution. These included the following:

- Implementing prioritisation elements, as seen in the proposed SIMOPS procedure from OSW Developers, based on commercial or schedule implications and associated flexibility or length of consent held. While this

initial document was not designed for cross-sector use, feedback highlighted the need for potential alternative solutions that take overall commercial implications or scale of activity out of the scope.

- Any potential prioritisation in the SIMOPS procedure could ultimately result in a continuous 'first-come, first-served' basis that the majority of Stakeholders considered should be avoided.
- A 'hotel booking system' approach was met by general reluctance. Regulator feedback specifically emphasised the importance of not prioritising any specific sector.
- It was acknowledged that there may be a perceived lack of fairness in any pathway or approach due to their being so many Stakeholders involved. There is potential for an imbalance in the recognition that all projects have vested commercial and contractual interests, and implications if delays on activities occur due to noise management thresholds. Ensuring that all Stakeholders are treated fairly is a priority. Consequently, it is important that decision making is undertaken on principles of equity, rather than equality. This would ensure that commercial consequences are considered in the context of the affected parties – not simply on absolute monetary costs – ensuring that smaller Operators are not unfairly disadvantaged; and
- An arbitration system that would lead to Ministerial or Regulator level decision-making, as this was expected to lead to significant project delays with resulting commercial and contractual implications for all involved parties.

There were also criteria raised to be considered with regards to Operational Constraints, most notably:

- Supply chain and procurement lead time considerations;
- Weather windows and operational safety elements;
- Consent and environmental impact related parameters, such as EDRs; and
- Scheduling and associated commercial concerns for project impacts.

APPENDIX B PATHWAY DEVELOPMENT PROCESS

B.1 MCDA Survey Form

Underwater Noise Conflict Resolution - Multi-Criteria Decision Analysis

Introduction

This survey has been created by Xodus Group to support the OWIC Pathways to Growth Underwater Noise Conflict Resolution project.

This survey provides a chance to contribute to the Multi-Criteria Decision Analysis (MCDA) scoring system, which will be a key tool in how Xodus inform, structure, and score different framework approaches being developed to address the challenges and/or facilitate the coordination and/or resolution of conflicts relating to noise-generating activities in the SNS SAC. This will be achieved by determining how various stakeholders prioritise features of any framework.

Stakeholders will also be invited to suggest conceptual approaches which should be considered when developing frameworks. These concepts are the structural core around which given frameworks will be developed, and thus will dictate the overarching approach and priorities of any given framework.

Xodus appreciates that some of the questions may touch upon subjects already discussed through the 2024 engagement process. However, our current aim is to establish *specific* positions/perspectives on criteria and themes which have repeatedly been raised and identified as priorities in our engagements to date.

Objectives

· To identify and understand, from a stakeholder perspective, what are considered to be the priorities of any framework looking to address issues relating to coordination and conflict resolution of activities in the SNS SAC.

· To use this information to inform the MCDA scoring system under which potential frameworks will be compared and contrasted.

· Provide an opportunity to suggest specific criteria and concepts you would like Xodus to consider in our framework development process.

Time required and deadline

It is anticipated that the survey will take approximately 10 minutes to complete (excluding optional questions)
Responses are requested by Friday 21st June, 2024.

Data Collection

The responses to this survey are completely anonymous, with only business entities being identifiable if you are happy to include this information. No personal data will be collected, stored, or processed. For any questions that are not relevant or applicable to your respective stakeholder group or current engagement, please insert N/A.

If you have any questions, please do not hesitate to get in touch with Craig Stenton, Lead Environmental Consultant and Project Manager - craig.stenton@xodusgroup.com

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If you have any questions, please do not hesitate to get in touch with Craig Stenton, Lead Environmental Consultant and Project Manager - craig.stenton@xodusgroup.com

Prioritisation of Criteria

The criteria below were carefully selected following out stakeholder engagements to date, and represent the common-ground themes of importance most frequently raised across stakeholder groups. These **criteria form the practical requirements** against which frameworks will be contrasted and scored.

In the questions below you will be asked to rank how you prioritise various criteria of any potential framework aiming to address the issues of coordination and conflict resolution.
Please note: depending on the device you view this form on, you may need to scroll horizontally to see all possible answer options.

It is understood that some of the considerations behind the questions asked below may be complex and multifaceted.
If you are unable to discern a preference for any given pair of criteria, please score these as being *Equal / Functionally Equivalent*.

Where you feel criteria could be interpreted in a different ways or considered in different contexts, we would appreciate feedback via the comments option as to how you chose to interpret the criteria in your scoring.

The criteria definitions are as below:

TRANSPARENCY - The oversight that all stakeholders across all sectors see all project / activity pipelines, and decision making processes that may impact them.

EASE OF USE - The simplicity of use offered by a framework, including administrative requirements and time demands.

EXISTING INDUSTRIAL ALIGNMENT - The importance that a framework is aligned to established working practices (across all phases of offshore activities), as opposed to requiring reform.

EXISTING REGULATORY ALIGNMENT - The importance that a framework is aligned to current regulatory procedures (across all phases of offshore activities), as opposed to reforming regulatory practices.

TIME TO INTRODUCE - The speed with which a framework can be introduced and implemented for use.

FLEXIBILITY - The amount of adaptability and flexibility a framework enables with regards to situational uncertainties and changes.

EQUALITY - The inclusiveness and consistency a framework offers across all involved sectors / parties.

ACCOUNTABILITY - The effectiveness with which a framework can be enforced, and hold specific sectors / parties to account for any infringements.

3. How do you prioritise the importance of **TRANSPARENCY**? *

	Strongly Disagree	Disagree	Somewhat Disagree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
TRANSPARENCY is more important than **EASE OF USE**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **EXISTING INDUSTRIAL ALIGNMENT**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **EXISTING REGULATORY ALIGNMENT**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **TIME TO INTRODUCE**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **FLEXIBILITY**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **EQUALITY**	◯	◯	◯	◯	◯	◯	◯
TRANSPARENCY is more important than **ACCOUNTABILITY**	◯	◯	◯	◯	◯	◯	◯

4. Do you have any additional comments on the theme of **TRANSPARENCY**, or the pairings above? (Optional)

Enter your answer

5. How do you prioritise the importance of **EASE OF USE**? *

	Strongly Disagree	Disagree	Somewhat Disagree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
EASE OF USE is more important than **EXISTING INDUSTRIAL ALIGNMENT**	◯	◯	◯	◯	◯	◯	◯
EASE OF USE is more important than **EXISTING REGULATORY ALIGNMENT**	◯	◯	◯	◯	◯	◯	◯
EASE OF USE is more important than **TIME TO INTRODUCE**	◯	◯	◯	◯	◯	◯	◯
EASE OF USE is more important than **FLEXIBILITY**	◯	◯	◯	◯	◯	◯	◯
EASE OF USE is more important than **EQUALITY**	◯	◯	◯	◯	◯	◯	◯
EASE OF USE is more important than **ACCOUNTABILITY**	◯	◯	◯	◯	◯	◯	◯

6. Do you have any additional comments on the theme of **EASE OF USE**, or the pairings above? (Optional)

Enter your answer

7. How do you prioritise the importance of **EXISTING INDUSTRIAL ALIGNMENT**? *

	Strongly Disagree	Disagree	Somewhat Disagree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
EXISTING INDUSTRIAL ALIGNMENT is more important than **EXISTING REGULATORY ALIGNMENT**	○	○	○	○	○	○	○
EXISTING INDUSTRIAL ALIGNMENT is more important than **TIME TO INTRODUCE**	○	○	○	○	○	○	○
EXISTING INDUSTRIAL ALIGNMENT is more important than **FLEXIBILITY**	○	○	○	○	○	○	○
EXISTING INDUSTRIAL ALIGNMENT is more important than **EQUALITY**	○	○	○	○	○	○	○
EXISTING INDUSTRIAL ALIGNMENT is more important than **ACCOUNTABILITY**	○	○	○	○	○	○	○

8. Do you have any additional comments on the theme of **EXISTING INDUSTRIAL ALIGNMENT**, or the pairings above? (Optional)

Enter your answer

9. How do you prioritise the importance of **EXISTING REGULATORY ALIGNMENT**? *

	Strongly Disagree	Disagree	Somewhat Disagree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
EXISTING REGULATORY ALIGNMENT is more important than **TIME TO INTRODUCE**	○	○	○	○	○	○	○
EXISTING REGULATORY ALIGNMENT is more important than **FLEXIBILITY**	○	○	○	○	○	○	○
EXISTING REGULATORY ALIGNMENT is more important than **EQUALITY**	○	○	○	○	○	○	○
EXISTING REGULATORY ALIGNMENT is more important than **ACCOUNTABILITY**	○	○	○	○	○	○	○

10. Do you have any additional comments on the theme of **EXISTING REGULATORY ALIGNMENT**, or the pairings above? (Optional)

Enter your answer

11. How do you prioritise the importance of **TIME TO INTRODUCE** *

	Strongly Disagree	Disagree	Somewhat Disgree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
TIME TO INTRODUCE is more important than **FLEXIBILITY**	◯	◯	◯	◯	◯	◯	◯
TIME TO INTRODUCE is more important than **EQUALITY**	◯	◯	◯	◯	◯	◯	◯
TIME TO INTRODUCE is more important than **ACCOUNTABILITY**	◯	◯	◯	◯	◯	◯	◯

12. Do you have any additional comments on the theme of **TIME TO INTRODUCE**, or the pairings above? (Optional)

Enter your answer

13. How do you prioritise the importance of **FLEXIBILITY**? *

	Strongly Disagree	Disagree	Somewhat Disgree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
FLEXIBILITY is more important than **EQUALITY**	◯	◯	◯	◯	◯	◯	◯
FLEXIBILITY is more important than **ACCOUNTABILITY**	◯	◯	◯	◯	◯	◯	◯

14. Do you have any additional comments on the theme of **FLEXIBILITY**, or the pairings above? (Optional)

Enter your answer

15. How do you prioritise the importance of **EQUALITY**? *

	Strongly Disagree	Disagree	Somewhat Disgree	Equal / Functionally Equivalent	Somewhat Agree	Agree	Strongly Agree
EQUALITY is more important than **ACCOUNTABILITY**	○	○	○	○	○	○	○

16. Do you have any additional comments on the theme of **EQUALITY**, or the pairings above? (Optional)

Enter your answer

17. Are there any specific **criteria (i.e. practical requirements)** you believe should have been included / excluded among these options? If so, please state these and provide a short description for clarity. (Optional)

NOTE: It cannot be guaranteed that suggestions will be carried forward directly into the MCDA, but all feedback will be considered on its merits during other aspects of our framework development process.

Enter your answer

Framework Concepts

Framework concepts are the structural core around which given frameworks will be developed, and thus will dictate the overarching approach and priorities of any given framework.

A non-exhaustive list of *potential* framework concepts raised by stakeholders to date are given below as an example:

Base-case/ Status Quo - Current system. Developers try to agree using MNR as a guide resulting in significant risk of project delay.

First past the post - Framework where priority of activities is prescribed on a first-come-first-served basis determined by consenting date.

Noise mitigation-based hierarchy - Framework where priority is given to developers/activities that have implemented the most comprehensive noise avoidance/abatement measures.

Operational based hierarchy - Framework built around activity-based hierarchy, informed by specific operational challenges, including Health & Safety.

Noise mitigation-based hierarchy - Framework where priority is given to developers/activities that have implemented the most noise avoidance/abatement measures.

Activity-based noise threshold limitations - Framework which prescribes acceptable noise limits to given activities.

Developer-led decision making - Framework where decisions on coordination and operational/activity priorities are Developer led.

Regulator-prescribed decision making - Framework where decisions on coordination and operational/activity priorities are Regulator led.

Xodus' current approach is to consider multiple concepts, including options which have been been identified by stakeholders as favourable and unfavourable. This is to aid us in understanding what aspects of frameworks are most effective, and which create obstacles.

Xodus are making deliberate efforts to ensure that any concepts which could be conceived as favouring or targeting particular sectors are effectively counterbalanced by an appropriate alternative to ensure parity across sectors.

Whilst multiple concepts are currently being considered to inform our approach, the intent is that understanding derived from this process will be used to inform and formulate up to five frameworks which will be carried forward for refinement.

18. Do you have any thoughts or suggestion on **concepts (overarching approach and priorities)** which you think a framework should align to, and/or that we should consider in the approach described above?
If so, please state these and provide a short description for clarity. (Optional)

NOTE: It cannot be guaranteed that suggestions will be carried forward directly to the refinement stage, but all feedback will be considered on its merits during the framework development process.

Enter your answer

B.2 Defining Stakeholder Priorities

The proposed pathways for improving UWN coordination and conflict resolution were developed based on:

- The identified priorities of Stakeholders: Transparency, Accountability and Equality;
- Consideration of the applicability and effectiveness of different decision-making approaches at key points to support the overall process;
- Consideration of existing coordination tools efforts and limitations;
- Lessons learnt during 2024; and
- Stakeholder feedback throughout the project.

In addition, the preferred pathway options outlined in Section 3.3.1 were used to inform if one Stakeholder or decision-making approach over another should be prioritised. The initial recommendations did not distinguish between several unique or distinct frameworks, but rather suggested a proposed pathway with recommended milestones, Stakeholder actions, potential meetings and procedures and associated timelines throughout the year.

This was considered in combination with the option for emphasis on different aspects of the pathways at each coordination or conflict juncture.

Having established what Priority Criteria would inform development of the pathways (Section 3.3) the next step was to determine which of these criteria were considered the overall priorities. It was evident from the engagement sessions that priorities and opinions varied both within and between sectors and understanding that some of the Priority Criteria have multifaceted considerations which could diametrically oppose one another.

To disentangle these complex priorities, the Priority Criteria were contrasted and weighted using Multiple Criteria Decision Analysis (MCDA).

MCDA is a holistic decision-making approach that helps evaluate and rank alternatives based on multiple criteria. It is particularly useful when decisions involve complex trade-offs among many different factors. This cross-disciplinary approach was used to benchmark the Priority Criteria, and further refine which considerations, alongside the learnings and inputs identified within the Technical Note from WP1, and the regulatory Review from WP2, would principally guide and inform development of the Coordination and Conflict Resolution Pathways.

This comparative assessment was used to provide clear and transparent guidance for developing the potential coordination and conflict resolution pathways. Specific efforts were taken to collate individual and sector-wide opinions in an unbiased and transparent manner, to ensure an appropriate representation of the cross-sector perspective.

Figure B-1 provides an overview of the MCDA methodology, which was conducted using an Xodus-developed approach based on an Established Priorities Analytical Hierarchy Process (De Montis *et al.*, 2000).

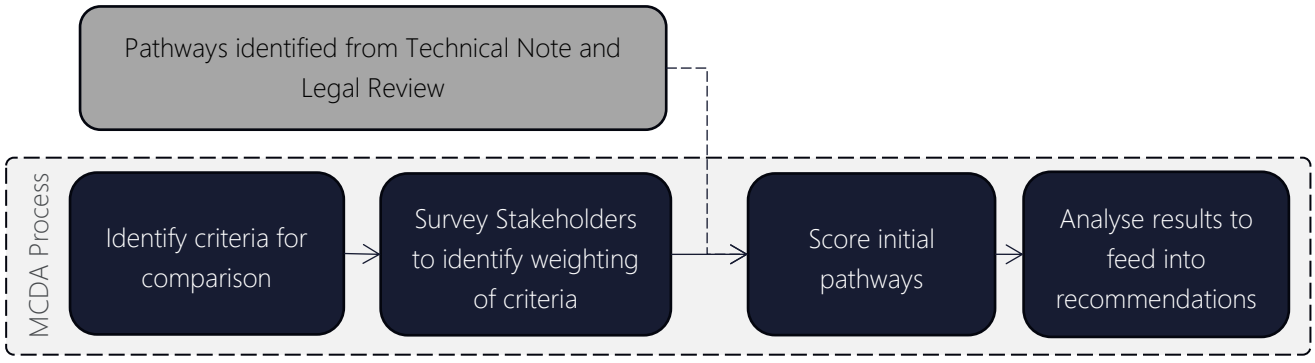

Figure B-1 MCDA Methodology Overview

B.2.1 Qualitative Pairwise Comparison of Priority Criteria

The first step of the MCDA is to identify the perceived relative importance of each criterion as determined by the Stakeholders. To do this, a Pairwise Comparison approach was used. Pairwise Comparison is a process of comparing two criteria at a time to determine which of the pair is considered most important. By comparing each of the criteria

against one another in this manner, an overall prioritisation score could be attributed to each criterion, and therefore provide an overall weighting.

Due to the breadth of Stakeholder roles within the working group, it was anticipated that there may be conflicting views on the relative importance of each criterion. To ensure that the priority-weightings of the Priority Criteria were reflective of Stakeholder opinions, an online survey form (B.3) was produced and shared among Stakeholders identified during WP1.

As a mandatory requirement, the survey required respondents to identify:

1) The Stakeholder role with which they most closely identified with; and
2) How they prioritise each pairwise combination of Priority Criteria (as in *Table 3-3*).

Pairwise comparisons of Priority Criteria were accomplished by posing questions in the form of

"[CRITERION A] is more important than [CRITERION B]"

with respondents required to qualitatively rate their opinion according to the predefined responses:

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Equal / Functionally Equivalent2
- Somewhat Agree
- Agree; or
- Strongly Agree.

B.2.2 Quantitative Scoring of Priority Criteria

As MCDA is a quantitative analysis, it required qualitative Stakeholder opinions to be quantified. Individual respondent scores were coded according to the values in *Table B-1*. Quantitative scores were weighted to place increased emphasis on opinions which indicated a strong priority for one of a given pair of criteria. These scores were symmetrically centred around Priority Criteria that were considered of equal importance or functionally equivalent.

[2] *Understanding that the considerations behind the questions posed could be complex and multifaceted, the option of 'Functionally Equivalent' was included to capture instances where Stakeholders considered and/or interpreted that a pair of Priority Criteria were co-dependent to an extent where they could not be meaningfully separated.*

Table B-1 Quantitative coding of individual Stakeholder pairwise Priority Criteria priorities

QUALITATIVE SCORE	QUANTITATIVE SCORE
Strongly Disagree	-2
Disagree	-1
Somewhat Disagree	-0.37
Equal / Functionally Equivalent	0
Somewhat Agree	0.37
Agree	1
Strongly Agree	2

Once individual Stakeholder responses had been quantitatively coded, respondents were separated out by their identifying Stakeholder roles (e.g., Statutory Nature Conservation Bodies (SNCB), Regulator, OSW Developer, etc.). For each pairwise criteria comparison, scores were then averaged within each identified sector to provide an average sector-based opinion score. All sector-based opinion scores were then averaged to form a collective opinion score (Figure B-2).

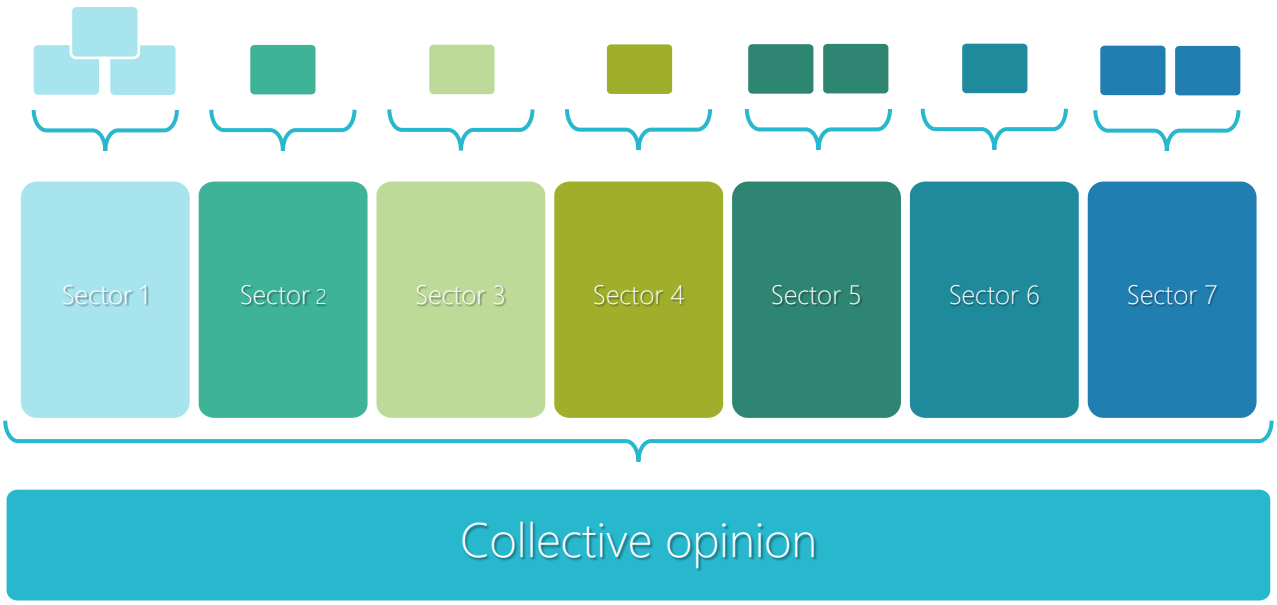

Figure B-2 Schematic showing how individual opinions were averaged into sector-based opinions, and sector-based opinions averaged to form a collective opinion

Figure B-3 shows the averaged results of the Pairwise Comparison exercise, displaying both the average priority score of individual criteria pairs, and the overall priority weighting of Priority Criteria.

Comparator / Focus	Transparency	Ease of use	Existing Industrial Alignment	Existing Regulatory Alignment	Time to Introduce	Flexibility	Equality	Accountability	Overall Priority
Transparency	0	0.77	0.48	0.86	0.67	0.56	0.24	0.33	20%
Ease of use	-0.77	0	-0.03	0.09	0.34	-0.01	-0.35	-0.6	10%
Existing Industrial Alignment	-0.48	0.03	0	0.31	0.06	-0.05	-0.41	-0.58	10%
Existing Regulatory Alignment	-0.86	-0.09	-0.31	0	0.18	-0.04	-0.45	-0.48	9%
Time to Introduce	-0.67	-0.34	-0.06	-0.18	0	-0.42	-0.49	-0.66	8%
Flexibility	-0.56	0.01	0.05	0.04	0.42	0	-0.24	-0.43	11%
Equality	-0.24	0.35	0.41	0.45	0.49	0.24	0	0.17	15%
Accountability	-0.33	0.6	0.58	0.48	0.66	0.43	-0.17	0	16%

Figure B-3 Collective priorities of Stakeholders as averaged across sectors. Results show both pairwise criteria priorities and the determined overall priorities

Transparency as a feature was collectively assigned greater priority than all other criteria, including *Accountability*. Although *Accountability* was established as the second-highest priority overall (based on how much higher a priority it was rated relative to most other criteria), it is worth noting that in direct pairwise comparison it was considered a lower priority than *Equality* (which was the third highest overall priority). This is reflective of the challenges in attempting to ascertain priorities across multiple criteria and serves to remind that although overall priorities can be established and ordered for the sake of guiding the development of the Pathways, it does not negate the influence or importance of the other criteria, particularly in more specific scenarios where there may be fewer competing considerations.

It is also worth noting that there are significant limitations to the established collective opinion as averaged across respondents. Despite efforts by Xodus and RenewableUK, the responses that were ultimately gathered represent a relatively small sample size upon which to infer and confer sector-based and Stakeholder-wide opinions. A notable example of this is a lack of any responses – and therefore contribution to the priority weightings – from any Stakeholders identifying as OOG or CCS operators. Responses were provided from the Seismic Surveys sector, which may share some OOG and CCS interests, but are unlikely to be fully aligned in their respective positions.

Similarly, of the sectors that did participate, the number of responses was limited, frequently comprising just a single response. Consequently, it is impossible to adequately establish whether the proffered opinion is representative of the overall sector, or be considered an outlying perspective. It is clear from informal discussions that some of the provided responses represent an informed opinion consolidating multiple individual perspectives into a single, concise response. However, it is not known which responses are collated opinions, nor from how widely any such opinions were captured. Nonetheless, the opinions captured during this process align with sentiments commonly raised throughout the wider stakeholder engagements undertaken, and the sample size is considered to capture opinions from those most impacted by the coordination challenges.

There are also specific potential limitations in the responses provided from the Government and Regulator respondents, as the survey was conducted during the pre-election period to the 2024 UK General Election. Consequently, these respondents may have been unable to provide full, in-depth responses due to the communication restrictions enforced upon them during this period.

The method taken to average the priorities across respondents and sectors also retains an element of potential bias specifically relating to the ***Existing Industrial Alignment*** and ***Existing regulatory Alignment*** criteria. These options were included to help establish the appetite and willingness for reforms which may require approaches which diverge from existing practices. However, in the averaging process, it is acknowledged that there are further sectors which would be described as more closely aligned to an 'industry-centric' than a 'regulatory-centric' perspective. This may partly explain the low priority score for ***Existing regulatory Alignment***, which was prioritised highly by the Regulator respondents specifically (data not shown). Nonetheless, ***Existing Industrial Alignment*** was scored similarly low in priority, which suggests 'industry-centric' respondents have a strong appetite and willingness for reform even if it engenders new ways of working. The low ***Time to Implement*** weighting suggesting that the respondents would be willing to accept a significant reform (potentially taking years to implement) if the new system improves ***Transparency***, ***Accountability***, and ***Equality*** across the regulatory process(es).

B.2.3 Number of Stakeholder Responses

A total of 11 responses representing opinions from seven different sectors were submitted to the online survey form used to ascertain the collective priorities of Stakeholders (*Table B-2*).

Table B-2 Number of responses per sector contributing to collective Stakeholder priorities

CONTRIBUTING SECTOR	NUMBER OF RESPONSES
Offshore Wind	3
Trade Body	1
Regulator	1
Non-Government Organisation (NGO)	1
Seismic Survey	2
SNCB	1
Government	2

B.3 Draft Pathway Recommendations

When considering how coordination processes could best be improved it was useful to consider the different phases of the process and the actions that sit within them. These are outlined in 3.1. For each scenario, a set of baseline changes as well as potential pathway variations were identified and discussed subsequently with Stakeholders for additional feedback and input.

Section 2 outlined an initial list of preliminary pathway concepts that could inform the main theme or emphasis during any decision-making or conflict resolution situations. The feedback received from Stakeholders on the individual concept pathways were combined with the earlier baseline changes to consider the following potential emphases provided in *Table B-3* for an overall decision-making pathway for the SNS SAC noise-level coordination. The emphases highlighted in the table below were used to inform the recommendations in Section 3 and are provided here for your information.

It must be noted that, subject to ongoing Stakeholder feedback, a single approach as outlined below may not be applied to subsequent recommendations but rather combinations of various emphases.

Table B-3 Preliminary Emphases for Pathway Concepts including Scoping Activity, Summer Campaign, and proposed Conflict Resolution.

EMPHASIS	SCOPING	SUMMER CAMPAIGN	CONFLICT RESOLUTION
Emphasis on Regulator-led process	Regulator to collate noise activity.	Regulator-driven coordination process during summer campaign, e.g., SIMOPS.	Operational priority following unscheduled delays driven by Regulator-set prioritisation.
	Regulator to determine headroom of noise thresholds for consent purposes.	SNCBs and NGOs in supporting function for monitoring of any non-compliance policies.	Regulators to be the principally responsible authority for any additional arbitration.
Emphasis on industry agreement & standardised prioritisation	Use of MNR as a fit-for-purpose planning tool.	Industry Council / DCF driven coordination of SIMOPS.	Operational priority following unscheduled delays driven by industry-set prioritisation.
	Establishment of a CCF / DCF will be responsible for decision making.	Regulator and trade bodies in supporting function for monitoring of any non-compliance policies.	CCF to be the principally responsible authority for any additional arbitration.
Emphasis on Centralised Coordination Function	Establishment of third-party body to manage coordination of season's activities.	Established third-party body responsible for managing coordination of SIMOPS.	Established third-party body facilitates investigation in case of breaches.
	Alternative options on funding and resourcing considerations.	Regulator and Industry in supporting function for monitoring of any non-compliance policies.	OPRED / MMO non-compliance & agreed Developer/Operator bilateral terms still apply.
Emphasis on noise mitigation and environmental impact	Voluntary commitment to use of NAS (where feasible).	Implementation of NAS to benefit of all parties.	Prioritisation of projects which most appropriately mitigated their noise production.
	Prescribed noise limits for certain activities against which consent can be granted.	Industry obligation to monitor and report actual noise levels as a consent condition.	Breaches in prescribed noise levels can be actioned, e.g., fines, refusal of future consent etc.

The emphasis on a Regulator-driven process is based on the previous concept of a regulatory led decision-making process and overall responsibility for leading the coordination effort. It relies heavily on the Regulator's ability to request, for example, the dedicated Call for Information as outlined in the baseline change recommendations, as well as the consenting conditions, compliance, and enforcement conditions of each Regulator as a means to determine accountability. While the Regulators would not implement a prioritisation approach, based on associated Stakeholder feedback, the established thresholds and associated consenting conditions provide the necessary limitations that promote wider Stakeholder compromise and flexibility. The emphasis within this pathway approach would require a continued effort in alignment of consenting timelines and coordination conditions between the different offshore sectors.

The noise-mitigation and environmental impact-based emphasis aligns strongly with the accountability and transparency criteria and promotes the identified need for standardisation of noise modelling, noise-levels for certain activities and approach to monitoring measures. Whilst most closely aligned with the current emphasis in the SNS SAC, it here further includes progressing discussions and inclusion of NAS across industries as part of any pathways and a push to create additional headroom and potential benefit from further noise reduction early on. The equality emphasis is reduced in this approach, as it recognises that not all sectors or activities may have the same requirement or access to noise mitigation and reduction technologies.

The industry alignment and CCF-based variations represent a combination of initial concepts outlined in Section 3.1, including operational-based activities and status quo, and incorporate the Stakeholder feedback on a potential multi-factor process. Industry alignment and standardisation emphases highlight the need to update and agree on a single tracking tool such as the MNR, as discussed within the recommended baseline changes, and relies on the lessons learned and currently tested approach in the summer 2024 campaign on using a DCF. The CCF emphasis builds on this by removing some of the management and facilitation burden for coordination efforts from industry and Regulators and calling for a third-party or other resource to support information collation, updates and ensuring compliance with agreed procedures throughout the year.

APPENDIX C SIMULATION TESTING & PATHWAY REFINEMENT

C.1 Approach to Simulation Testing

To facilitate a more detailed discussion of the proposed coordination and conflict management pathways for UWN before and during the summer campaign, Xodus internal experts held a half day workshop on 26th August 2024 to challenge and test these strategies. Participants in the simulation workshop represented the overall Stakeholder groups. Participants were assigned to a simulation role or perspective based on their professional experience and expertise across the regulatory, O&G Operator, CCS survey application, OSW consenting and development as well as wider supply chain space. The Xodus experts and their short biographies are presented in *Table C-1*.

Table C-1 List of internal experts and biographies for simulation testing.

EXPERT	BIO	SIMULATION ROLE / PERSPECTIVE
Ewan Edwards	Environmental Specialist - A specialist with expertise in marine mammals and underwater noise, with notable experience providing technical advice to Scottish Ministers, on marine infrastructure projects including offshore renewable energy developments, ports & harbours, and other regulated activities.	Regulators
Louise Davis	Environmental Specialist - An experienced Project Development Manager with significant experience in solving challenges and managing complex offshore energy projects.	Oil and Gas Developer
Charlotte French	Environmental Consultant - Significant knowledge of consent/licence applications across the United Kingdom Continental Shelf (UKCS), with a focus on Oil and Gas and Surveying activities.	Offshore Survey Provider
Jane Gordon	Lead Environmental Consultant - Focussed on renewables and subsea cables, with experience in supporting projects from the initial site selection phase through to consent/licence application.	Offshore Wind Developer
Craig Forbes	Environmental Consultant - Focused on environmental consenting in the offshore energy industry, he is involved in a broad array of projects including Oil and Gas permitting, modelling studies, EIAs and project management.	Carbon Capture & Storage Developer
Mitch Aldridge	Principal Consultant - Part of the project development and management team, negotiating long and short-term contracts on new wind farms both in the UK and mainland Europe, with operations experience for floating offshore wind in the UK and Portugal.	Renewables Operator and Supply Chain
Gordon Fisher	Project Manager - Primarily responsible for Offshore Construction Projects. Significant experience leading offshore	Renewables Operator and Supply Chain

EXPERT	BIO	SIMULATION ROLE / PERSPECTIVE
	wind projects through development, engineering, procurement, and construction phases, including as Commercial Director.	
Mairi Dorward	Environmental Specialist - An environmental expert and renewable energy specialist and has significant offshore environmental and regulatory knowledge, and experience in offshore operations in the oil, gas, and renewables sectors.	O&G / CCS Operator and Supply Chain

The workshop covered the potential threshold conflict scenarios as outlined in Section 5. This provided the opportunity to discuss the scenarios in detail and, with a wider technical expert audience, the limitations and barriers of each situation and decision-making points. The participants were able to discuss the feasibility of specific Stakeholders taking on a particular role and were given the opportunity to ask any remaining questions or clarifications that require additional follow-up.

Specific focus questions discussed during the workshop as well as at internal follow-up sessions. These discussions were based on the Stakeholder feedback received on the initial draft of the pathway scenario presentation and the overall coordination process, including the pre-campaign and during-campaign phases for projects planned for the summer season. These questions aimed to either confirm assumptions or identify constraints and possible mitigations:

- Is there more flexibility and less potential conflict during the pre-scoping phase when threshold levels are reviewed due to remaining un-consented applications? What is the process for already consented versus applied and not yet consented activities if both are reviewed during pre-scoping/coordination set up?
- How would the above change if either Regulators or projects further align consenting and application timelines further, for example there is a consolidation around a 6-month lead time on summer campaign activities?
- How robust is the SIMOPS procedure during summer coordination? Feedback has been that potential threshold breaches should not occur if this is upheld. Are there any points of failure and how likely is it that threshold breaches could occur by (human) error?
- Whether operations and other scheduled activities can continue after a potential threshold breach has been identified under non-compliance policies depends on individual circumstance according to Regulator feedback. What would be the impact in simulation if activities can continue versus if they are halted completely?
- What is the process when the SIMOPS procedure for the summer campaign is not agreed to by all parties?
- Would a fast-track, pre-permit application process work and provide benefits, would it be feasible and so what would it look like?

C.2 Outcome Discussion & Pathway Option Refinement

C.2.1 Alignment of Consenting Timelines and Coordination Group Setup

The workshop highlighted the likely effectiveness and necessity of establishing further alignment on consenting and application timelines to support coordination efforts and increase forecasting opportunities of any potential threshold breaches during the summer campaign.

Highlighted limitations included discrepancies between different Regulator Stakeholders, as well as noting that variations between Environmental Managers on consent applications do occur. While the MMO timelines direct a six-month lead time for SIP applications to the summer campaign start, and OPRED has reiterated that its message to industry mirrors this timeframe, the workshop indicated that other applications such as for seismic surveys through the North Sea Transition Authority (NSTA) have been denied if they are too early (e.g., >6 weeks prior to campaign start). There was general agreement that the level of project or campaign information required to inform noise-related activities and potential threshold levels would be available across sectors within the six-month lead time, however, more granular detail particularly for seismic surveys that could inform optimisation considerations is more likely to be ready within three months ahead of campaign start. Essentially, the Call for Information should provide a 6 month lookahead and there may be a 3-month update based on project refinements.

As the timescales across industry and consenting processes remain a key issue, a wholesale change to approach may be required. Whilst the feedback on setting a potential cut-off for applications from Regulators has been that this would not be an option (as consenting procedures need to be open throughout the year), the lead times required in OSW for processing applications as well as lead times to plan and forecast potential threshold levels have already effectively established a *de facto* cut-off date for at least one industry. To create a level-playing field and support overall coordination 'compliance', consent conditions would need to be aligned to ensure in-combination assessments are covered by all industries or undertaken solely by Regulators or the JNCC through the use of the MNR and a standardised forecasting approach. Understanding the process by which Regulators would take decisions on the level of activities to be consented on any remaining undetermined or planned scopes would equally facilitate this process and ensure activities may be planned with additional noise-level scenarios or mitigation options in mind. This would need to include working with Regulators and the JNCC to understand any specific definitions and assumptions for remaining headroom within the forecasts and scheduling for noise activity for the respective summer campaign.

It was recognised that when mapping potential noise threshold levels for upcoming summer campaigns, there would continue to be a situation where projects or activities fall into one of three categories:

1. Already consented activities;
2. Activities in planning and have not yet submitted applications; and
3. Activities which have submitted applications, but outcomes of which are yet to be determined.

It was recommended that all relevant projects, irrespective of licence or consent determination status should be part of the DCF and join the initial meetings looking at anticipated threshold risks for the summer campaign. This would enable participating Stakeholders and Regulators a full view on any potential threshold breach risks and understand

remaining pinch points. It would further mitigate the risk of a two-tiered system, whereby smaller or shorter activities with potentially low noise impacts would be introduced during the summer campaign at an ad-hoc basis.

Within this scoping and planning context, the existing guidance on which a project's noise impact assessment are based was flagged as area for clarification and optimisation. The current approach, based on utilising worst case scenario assumptions, could be adjusted or complemented by best case scenario considerations from the start, and noise modelling assumptions for OSW aligned with considerations captured in the prior EIA applications for reference. The overall objective would be to reduce conservatism in scenarios to the appropriate or feasible extent possible given the likely increase in activities in the SNS SAC. Particularly for UXO clearance in OSW, the topic of seeking additional granularity earlier through targeted UXO surveys was flagged throughout the Stakeholder engagement with supply chain. The optimised noise modelling approach and updated scenarios could then help to understand where additional headroom may be available and elicit a discussion on headroom definitions and 'comfort' levels for industry and Regulators. The importance of the noise modelling and associated monitoring of actual noise impacts and levels is further discussed in the subsequent section.

C.2.2 Noise Modelling and Monitoring Measures

A key output from the simulation workshop was the need to establish a standardised approach to monitoring of noise activities and levels during the summer campaign as well as reviewing and clarifying the approach to noise modelling and EDR considerations as part of the overall scoping process to identify potential threshold risks ahead of activities. This includes confirming an overall best- or worst-case scenario approach for noise levels for individual projects and activities planned, a review of the current EDR guidance in conjunction with outcomes from the recent Predators and Prey Around Renewable Energy Developments (PrePARED) research study, and working with different energy industries involved in the SNS SAC on establishing a consistent approach to noise modelling assumptions and methodologies. It was, for example, noted that there is currently already a potential discrepancy between how UWN is considered and managed between EIA applications and the consenting process, and during operations – with the former typically employing noise modelling techniques, but the latter being managed via the MNR using the more conservative EDR approach. As such, the reliability of the data and assumptions provided to inform noise modelling and associated potential threshold compliance requires ongoing discussion and review. A standard approach would be critical in enabling a constructive scoping phase that identifies potential threshold level pinch points during the summer campaign.

It is understood that the JNCC has recognised the need for review and potential updates to UWN modelling and monitoring, with work to be commissioned to explore potential options to review and update industry guidance. This includes updated guidance for noise impact assessments for pile driving and use explosives, as part of UXO clearance. The outputs from these scopes, as well as the discussions around the PrePARED study, form critical considerations and parameters for the coordination of noise activities in the SNS SAC. However, given the timing of the current discussions and duration of work, they are unlikely to be completed and fully available in time for the 2025 summer campaign coordination efforts that have been presented as part of this scope of work.

A related key question arising from the simulation workshop focused on the feasibility and use of ongoing monitoring measures during summer campaign activities to identify potential threshold breaches and ensure compliance. While previous guidance has outlined noise measurement and monitoring options from vessel-based surveys, hydrophones, static and drifting systems, to name a few, the discussion of how collected output data is used to inform

potential coordination or conflict situations has so far been lacking. An agreed approach between the JNCC, Regulators and project Developers and Operators on noise monitoring measures during the summer campaign would be expected to feed into both the regular SIMOPS procedure and threshold compliance, as well as be considered as part of any potential non-compliance situations and under MMO and OPRED associated enforcement policies. The JNCC (2020) guidance[3] itself notes an approach based on retrospective compliance testing, given the potential limitations of daily compliance review across a significant area and multiple Stakeholders. The registered noise level inputs captured by projects and reported as part of any SIMOPS procedure or wider DCF and incorporated into respective SNS SAC trackers would again rely on consistent, industry agreed approaches to ensure transparency and clarity.

C.2.3 SIMOPS Procedure Limitations

The first successful cross sector SIMOPS procedure has formed a key coordination element within the current 2024 summer campaign, creating a way to bring activities and various Stakeholders under the same terms of reference for information sharing and frequency of activity updates. It is a well-established process across offshore energy project construction and installation campaigns with clear processes including for suppliers and sub-contractors involved in project delivery. The simulation workshop sought to discuss in more detail, and on a practical and logistics level, the resilience of the SIMOPS procedure and identify potential limitations of the approach. Feedback from the initial pathway development presentation indicated a position that potential threshold breaches should not pose a risk if a SIMOPS procedure is in place. The simulation workshop explored this in the context of potential human error, lessons learned from in-house experts with previous experience on SIMOPS procedures, and regarding the monitoring and JNCC perspective on retrospective compliance testing discussed in the previous section.

There was general acknowledgement as part of the simulation that both human error and technical or equipment failure can impact the robustness of the SIMOPS procedure and compliance with existing industry standards. The potential that activities overrun and/or are allowed to continue due to mitigating circumstances (such as rare instances where health and safety concerns mean that halting work results in greater risk to human health) also fall within this scope. Thus, there is a need for more granular coordination between wider Stakeholders in the wider DCF. This includes key contractors such as marine coordinators, Marine Warranty Surveyors (MWS), the installation or overall survey contractor and the client or Developer/Operator. The potential for human or technical errors also promotes the need for discussion and clarification on appropriate and consistent monitoring measures to noise levels within the coordination and conflict resolution context as discussed in the previous section, in terms of fostering accountability and transparency given the potential knock-on impacts for other Developers and Operators.

There is a key role to play for MWS and Client Representatives within the SIMOPS procedure and overall construction campaign that has so far not been present in the coordination discussions. MWS are responsible for ensuring compliance with technical, quality, and HSE procedures according to industry standards and insurance requirements, and ultimately are in a position of authority to halt operations that would deem the respective activity non-compliant. MWS and Client Representatives would therefore be part of the wider network managing UWN activity and threshold considerations, providing SIMOPS inputs and updates, wider coordination discussions as well as being involved in any non-compliance and enforcement procedures should they arise. Any guidance or updated requirements as part

[3] https://assets.publishing.service.gov.uk/media/5ed7ba3c86650c76ab17fcc5/SACNoiseGuidanceJune2020.pdf

of the UWN potential threshold breach considerations, information sharing under coordination efforts, or monitoring requirements for noise levels may then further need to be upheld by MWS and Client Representatives and including in any contractor agreements accordingly.

Lastly, the potential for human or technical errors (e.g., the need to await arrival of specialised expert personnel, additional vessels, and repair activities) as well as circumstances such as major equipment failures also represent key factors for project delays. These all pose potential knock-on impacts on wider coordination of activities, particularly where there is limited headroom and schedule manoeuvring within the daily noise threshold levels. In such circumstances, effective and efficient processes would be needed to ensure activities within the daily noise thresholds can be rearranged and schedules optimised to allow activities overall to progress. This would leverage action from the offshore site Stakeholders above, as well as the wider DCF.

C.2.4 Pathway Refinement Considerations

The following outputs and key considerations taken from the simulation workshop into the final discussion and recommendations of this work scope are detailed below:

- Ensuring any dedicated Call for Information is open to and utilised by all Stakeholders seeking to undertake noise-based activities in the SNS SAC in the subsequent summer campaign, regardless of planning and consenting status. This is to ensure all potential Stakeholders are informed of and agree to the procedures that will guide coordination and conflict resolutions measures within the summer campaign. It further enables a more transparent forecasting exercise of the potential threshold risk levels and associated optimisation efforts.
- The alignment of consenting approaches to enable more effective coordination and establish a level-playing field between sectors is paramount. This would include establishing clear communication and access to guidelines or procedures to Stakeholders, while alignment timeframes and requirements promotes the transparency, accountability, and equality that have been identified as key criteria.
- Noise modelling standardisation and an agreement on the monitoring approach to establish potential threshold breaches must be included within any coordination considerations as they would inform potential conflict resolution situations and support the overall push for transparency and equality in the process.
- The need to account for potential human or technical errors, as well as unexpected failures or incidents that could disrupt the SIMOPS procedure. These disruptions may require delays or adjustment of the established activity schedule for the DCF and all Stakeholders. A flexible, agile approach to establishing ad-hoc meetings to discuss solutions and potential to re-order activities whilst maintaining threshold levels should be incorporated from the early scoping phase to then guide the summer campaign, with clear responsibilities in a CCF that could help facilitate this and remove some of the burden from industry. Additional Stakeholders within this landscape would be the respective offshore personnel and contractors, such as MWS, marine coordination suppliers or client representatives that would provide crucial input and information, and who would need to be made aware of any new procedures; and
- The role of the JNCC should be further discussed and revised to take a more active approach, through and alongside the MNR as a potential tracking tool, to facilitate and monitor the maintenance of threshold levels throughout the summer campaign. This could be within both the initial threshold review period during the

scoping phase as well as supporting efficient and constructive modelling updates during the summer campaign, particularly where monitoring measures and compliance testing is required.

Offshore Wind Industry Council

The Offshore Wind Industry Council (OWIC), a senior Government and industry forum, was established in May 2013 to drive the development of the world-leading offshore wind sector in the UK. It is comprised of members drawn from the leading UK and global firms in the offshore wind industry, including developers and original equipment manufacturers. The Council — which is coChaired by Industry and the UK Minister of State for Energy Security and Net Zero — brings together industry and government to realise the UK's offshore wind ambitions for 2030 and beyond.

XODUS

As a global energy consultancy, we unite our unique and diverse people to share knowledge, innovate and inspire change within the energy industry.

We provide support across the energy spectrum, from advisory services to supply chain advice, including all engineering and environmental expertise in between. We strive to ensure global energy supply is maintained as we work together to realise a net zero world.

As we progress through the energy transition, Xodus continues to deliver high quality, fit for purpose solutions to the industry, no matter the energy challenge. The key sectors we provide energy services includes oil and gas, offshore wind, carbon capture, utilisation and storage, cables and interconnectors, hydrogen and marine energy.

As an active participant of the United Nations Global Compact (UNGC), we champion responsibility across everything we do, and promote others do the same.

We believe, together, we will deliver a responsible energy future.