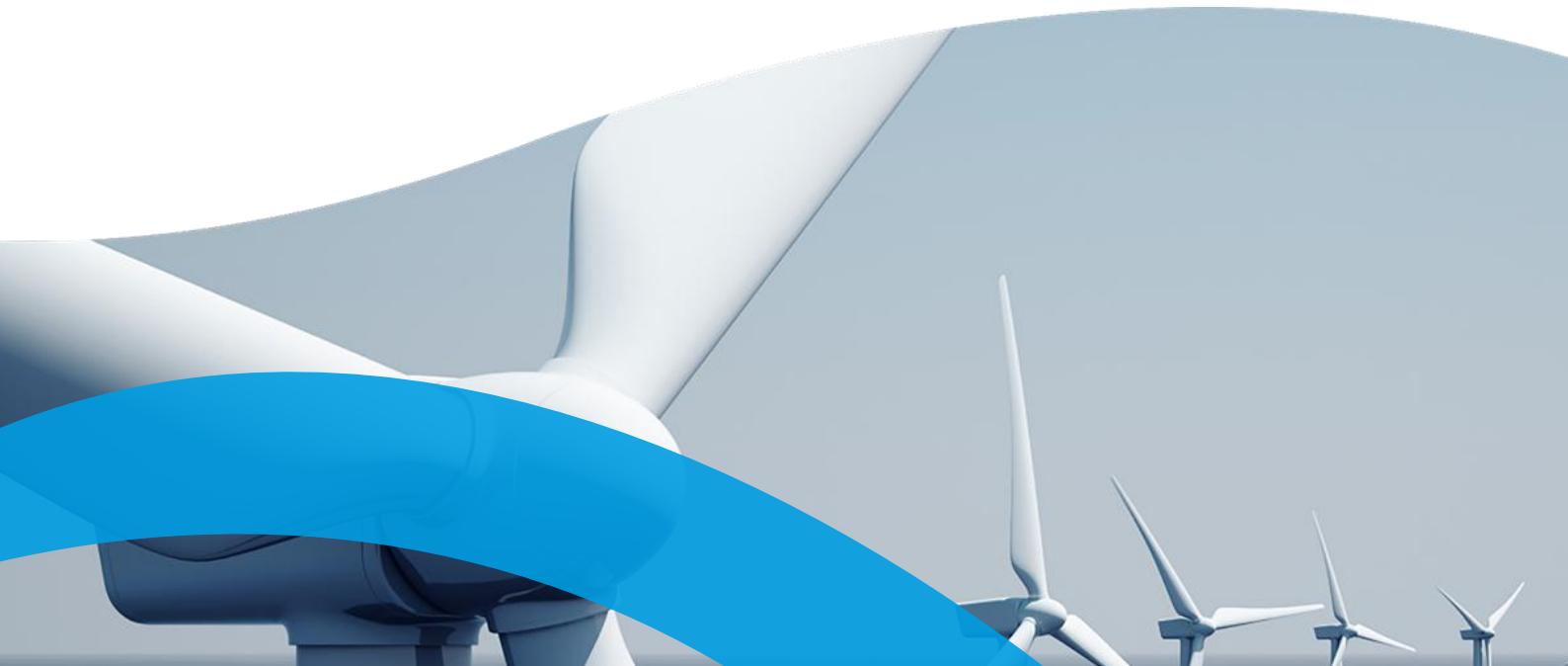
Muir Mhòr Offshore Wind Farm

Environmental Impact Assessment Report

Volume 2, Chapter 21: Summary of Embedded Commitments, Mitigation and Monitoring



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Glossary

Term	Definition
Array Area	The area in which the generation infrastructure (including Wind Turbine Generators and associated foundations, inter-array cables, interconnector cable) and Offshore Electrical Platform(s) will be located.
Developer	Muir Mhòr Offshore Wind Farm Limited
Floating Foundations	The floating structures on which the Wind Turbine Generators are installed.
Foundation anchors	The structures which anchor the Floating Foundations to the seabed, connected to the foundation mooring.
Foundation mooring	The mooring structures which connect the Floating Foundations to the anchors.
Horizontal Directional Drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Inter-Array Cables	Cables which link the wind turbines generators to each other and the Offshore Electrical Platform(s).
Interconnector cable	Cable which links the Offshore Electrical Platforms to one another, allowing for power to be transferred between the platforms.
Landfall	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS) where the offshore export cables are brought onshore.
Offshore Electrical Platform(s) (OEP(s))	Offshore platform consisting of High Voltage Alternating Current (HVAC) equipment, details depending on the final electrical set up of the Project.
Offshore Export Cable Corridor (ECC)	The area within which the offshore export cables will be installed.
Offshore export cables	The subsea electricity cable circuits running from the Offshore Electrical Platform to the landfall which will transmit the electricity generated by the offshore wind farm to the onshore export cable(s) for transmission onwards to the onshore substation and the national electrical transmission system along with auxiliary cables such as fibre optic cables.
Offshore transmission infrastructure	The proposed transmission infrastructure comprising: Offshore Electrical Platform(s) and associated foundations and substructures; the offshore export cable(s); and the landfall area up to MHWS.
Project	Muir Mhòr Offshore Wind Farm – comprises the wind farm and all associated offshore and onshore components.
Proposed Development	The offshore Muir Mhòr Offshore Wind Farm project elements to which this Offshore EIAR relates.
Secondary mitigation	Additional measures (further to embedded commitments) implemented to further reduce environmental effects to ‘not significant’ levels (where reasonably practicable) in instances where the initial assessment concludes there is the potential for a significant effect to occur.
Wind Turbine Generator (WTG)	The wind turbines that generate electricity consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment.

Acronyms

Term	Definition
AD	Air Defence
ADD	Acoustic Deterrence Device
AEZ	Archaeological Exclusion Zone
AIS	Automatic Identification System
CAA	Civil Aviation Authority
CaP	Cable Plan
CBRA	Cable Burial Risk Assessment
CCR	Climate Change Resilience
CEA	Cumulative Effects Assessment
CMS	Construction Method Statement
COLREGs	International Regulations for Preventing Collisions at Sea
CoP	Construction Programme
DESNZ	Department for Energy Security and Net Zero
DGC	Defence Geography Centre
DP	Decommissioning Programme
DSLP	Development Specification and Layout Plan
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
EPS	European Protected Species
ERCoP	Emergence Response and Cooperation Plan
FIR	Fishing Industry Representative
FLO	Fisheries Liaison Officer
FLOWW	Fisheries Liaison with Offshore Wind and Wet Renewables group
FMMS	Fisheries Management and Mitigation Strategy
GHG	Greenhouse Gases
HDD	Horizontal Directional Drilling
HSE	Health and Safety Executive
HVAC	High Voltage Alternating Current
IAC	Inter-Array Cables
ICES	International Council for the Exploration of the Sea
IMO	International Maritime Organization
INNS	Invasive Non-Native Species
IOU	Infrastructure and Other Users
JNAPC	Joint Nautical Archaeology Policy Committee
LMP	Lighting and Marking Plan
LSE	Likely Significant Effects
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate – Licensing Operations Team
MGN	Marine Guidance Note
MHWS	Mean High Water Spring

Term	Definition
MLWS	Mean Low Water Spring
MMMP	Marine Mammal Mitigation Protocol
MOD	Ministry of Defence
MPA	Marine Protected Area
MSL	Mean Sea Level
NATS	National Air Traffic Services
NC	Nature Conservation
NLB	Northern Lighthouse Board
NSP	Navigational Safety Plan
O&M	Operation and Maintenance
OEP(s)	Offshore Electrical Platform(s)
OREIs	Offshore Renewable Energy Installations
OW	Offshore Wind
OWIC	Offshore Wind Industry Council
PAD	Protocol for Archaeological Discoveries
PEMP	Project Environmental Monitoring Programme
PS	Piling Strategy
PSR	Primary Surveillance Radar
SAR	Search and Rescue
SCDS	Supply Chain Development Statement
SOLAS	Safety of Life at Sea
SSC	Suspended Sediment Concentration
SSR	Secondary Surveillance Radar
TMZ	Transponder Mandatory Zone
UK	United Kingdom
UKHO	United Kingdom Hydrographic Office
UWN	Underwater Noise
UXO	Unexploded Ordnance
VMNSP	Vessel Management Plan and Navigational Safety Plan
VMP	Vessel Management Plan
VMS	Vessel Monitoring System
WSI	Written Scheme of Investigation
WSP	Wet Storage Plan
WTG	Wind Turbine Generator

21. SUMMARY OF EMBEDDED COMMITMENTS, MITIGATION AND MONITORING

21.1. INTRODUCTION

BACKGROUND

21.1.1. Muir Mhòr Offshore Wind Farm Limited (hereafter referred to as 'the Developer') is proposing to develop the Muir Mhòr Offshore Wind Farm (hereafter 'the Project'). The Project is made up of both offshore and onshore components. The subject of this offshore Environmental Impact Assessment Report (EIAR) is the offshore infrastructure of the Project seaward of Mean High-Water Springs (MHWS) which is hereafter referred to as 'the Proposed Development'.

21.1.2. The Muir Mhòr Array Area covers an area of approximately 200 km^2 and is located approximately 63 km east of Peterhead on the east coast of Scotland. The offshore infrastructure of the Proposed Development includes Wind Turbine Generators (WTGs) and associated floating foundations, the Offshore Electrical Platforms (OEP(s) and associated foundations, the Inter-Array Cables (IAC), an interconnector cable, offshore export cables and landfall.

21.1.3. A full Environmental Impact Assessment (EIA) has been carried out and presented in this EIAR. Further information on impact assessments and additional detail on suggested mitigation measures and monitoring, please see the relevant Chapter.

21.1.4. This Chapter of the EIAR presents a summary of the embedded commitments, secondary mitigation, and monitoring commitments detailed for the Proposed Development.

21.1.5. The summaries presented within this document are taken from the related topic Chapters:

- Volume 2, Chapter 7 (Marine and Coastal Processes);
- Volume 2, Chapter 8 (Marine Water and Sediment Quality);
- Volume 2, Chapter 9 (Benthic, Subtidal and Intertidal Ecology);
- Volume 2, Chapter 10 (Fish and Shellfish Ecology)
- Volume 2, Chapter 11 (Offshore and Intertidal Ornithology);
- Volume 2, Chapter 12 (Marine Mammals);
- Volume 2, Chapter 13 (Commercial Fisheries);
- Volume 2, Chapter 14 (Shipping And Navigation);
- Volume 2, Chapter 15 (Marine Archaeology And Cultural Heritage);
- Volume 2, Chapter 16 (Military and Civil Aviation);
- Volume 2, Chapter 17 (Socio-Economics, Tourism And Recreation);
- Volume 2, Chapter 18 (Climate);
- Volume 2, Chapter 19 (Infrastructure and Other Users); and
- Volume 2, Chapter 20 (Major Accidents and Disasters).

21.2. MARINE AND COASTAL PROCESSES

EMBEDDED COMMITMENTS

21.2.1. The embedded commitments identified for Volume 2, Chapter 7 (Marine and Coastal Processes) are provided in Table 21-1.

21.2.2. The embedded commitments (C-01, C-02, C-03, C-05, C-06, C-08, C-09, C-29, C-34) will collectively act to mitigate the impact of offshore infrastructure on marine and coastal processes. Commitments such as the use of scour protection (C-01) and cable burial (C-29) safeguard seabed integrity by preventing scour and erosion of the seabed. Adherence to plans like the Cable Plan (CaP) (C-02), Development Specification and Layout Plan (DSLP) (C-03), and micro-siting (C-34) will ensure that installation, routing, and construction are optimised to minimise disruption to sensitive habitats.

Table 21-1 Embedded commitments identified for Volume 2, Chapter 7 (Marine Physical and Coastal Processes)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection or other appropriate mitigation to be employed around seabed infrastructure where there is the potential risk for significant scour to develop.	Tertiary	CaP Construction Method Statement (CMS)
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-06	Development of and adherence to a Construction Programme (CoP). This will detail the timeline and duration of the primary construction and commissioning activities.	Tertiary	CoP
C-08	Development of and adherence to an Environmental Management Plan (EMP). This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a Decommissioning Programme (DP). The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the Cable Burial Risk Assessment (CBRA) and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-34	Offshore infrastructure will be micro-sited, where reasonably practicable (to an extent not resulting in a hazard for marine traffic and Search & Rescue (SAR) capability), around any sensitive seabed habitats including Annex I habitat (if present), informed through the undertaking of survey works pre-construction.	Primary	DSLP Project Environmental Monitoring Programme (PEMP)

SECONDARY MITIGATION

21.2.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on marine and coastal processes receptors as the Likely Significant Effects (LSE) in the absence of further mitigation (beyond the embedded commitments set out in Table 21-1) are not significant in EIA terms.

PROPOSED MONITORING

21.2.4. No marine and coastal processes monitoring is proposed to test the predictions made within the assessment of Likely Significant Effects (LSE) or Cumulative Effects Assessment (CEA) on marine and coastal processes receptors as LSE were predicted during construction, Operation and Maintenance (O&M) and decommissioning phases of the Proposed Development.

21.2.5. During the O&M phase, monitoring will be undertaken for engineering and asset security purposes. This monitoring during the O&M phase will identify if the seabed morphology has changed and/or cables become exposed. Detailed monitoring commitments will be agreed with Marine Directorate – Licensing Operations Team (MD-LOT) post-consent, as required.

21.3. MARINE WATER AND SEDIMENT QUALITY

EMBEDDED COMMITMENTS

21.3.1. The embedded commitments identified for Volume 2, Chapter 8 (Marine Water and Sediment Quality) are provided in Table 21-2.

21.3.2. The embedded commitments (C-01, C-02, C-03, C-05, C-06, C-08, C-09) collectively aim to mitigate the impact of offshore infrastructure on marine water and sediment quality. Scour protection (C-01) helps reduce the erosion of sediment surrounding the Proposed Development's infrastructure. Adherence to the CaP (C-02), DSLP (C-03), CMS (C-05) and CoP (C-06) ensures that installation, routing, and construction are optimised to minimise disruption to the sediment and quality of the surrounding waters. Setting out an EMP (C-08) and a DP (C-09) will mitigate against pollution during and in the long term of Proposed Development ensuring preservation of marine water and sediment quality.

Table 21-2 Embedded commitments identified for Volume 2, Chapter 8 (Marine Water and Sediment Quality)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection or other appropriate mitigation to be employed around seabed infrastructure where there is the potential risk for significant scour to develop.	Tertiary	CaP CMS
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-06	Development of and adherence to a CoP. This will detail the timeline and duration of the primary construction and commissioning activities.	Tertiary	CoP
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP

SECONDARY MITIGATION

21.3.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on marine water and sediment quality receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-2) are not significant in EIA terms.

PROPOSED MONITORING

21.3.4. No marine water and sediment quality monitoring is proposed to test the predictions made within the assessment of LSE or CEA on marine water and sediment quality receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.4. BENTHIC SUBTIDAL AND INTERTIDAL ECOLOGY

EMBEDDED COMMITMENTS

21.4.1. The embedded commitments identified for Volume 2, Chapter 9 (Benthic Subtidal and Intertidal Ecology) are provided in Table 21-3.

21.4.2. The embedded commitments (C-01, C-02, C-08, C-09, C-10, C-29 and C-34) collectively aim to mitigate the impact of the Proposed Development on Benthic, Subtidal and Intertidal receptors. Commitments such as the use of scour protection (C-01) and cable burial (C-29) safeguard seabed integrity, preventing scour and erosion of the seabed avoiding, where possible, sensitive habits which may be of importance to benthic receptors. Adherence to plans like the CaP (C-02) and micrositing (C-34) will ensure that installation, routing, and construction are optimised to minimise disruption to sensitive habitats. Environmental management (C-08) further prevents pollution, while a DP (C-09) ensures long-term prevention of the environment, including benthic subtidal and intertidal habitats post-project.

Table 21-3 Embedded commitments identified for Volume 2, Chapter 9 (Benthic Subtidal and Intertidal Ecology).

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection to be installed around seabed infrastructure where there is the potential for scour to develop.	Tertiary	CaP CMS
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species (including production of, and adherence to, an Invasive Non-Native Species (INNS) plan), pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP. The VMP will confirm the types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	VMP
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the CBRA and detailed within the CaP. In areas where the CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-34	Offshore infrastructure will be microsited and the cable will be microrouted, where reasonably practicable and where required (to an extent not resulting in a hazard for marine traffic and SAR capability), around any sensitive seabed habitats including Annex I habitat (if present). The location of potential Annex I habitat has been determined from site characterisation surveys and will be informed further via pre-construction surveys.	Primary	DSLP EMP

SECONDARY MITIGATION

21.4.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on benthic subtidal and intertidal ecology receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-3) are not significant in EIA terms.

PROPOSED MONITORING

21.4.4. No benthic subtidal and intertidal ecology monitoring is proposed to test the predictions made within the assessment of LSE or CEA on benthic subtidal and intertidal ecology receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.4.5. The Developer will engage with MD-LOT, NatureScot, and other relevant key stakeholders to identify and contribute to targeted and proportionate regional or strategic monitoring to better understand the environmental effects of offshore wind taking account of known evidence gaps as set out in Evidence Maps published through the Scottish Marine Energy Research (ScotMER) forum (Scottish Government, 2024) or any successor programme formed to facilitate these research interests, or any developer-led regional groups. This monitoring commitment will be secured in the Section 36 Consent and associated Marine Licences via the requirement for a PEMP.

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21.5. FISH AND SHELLFISH ECOLOGY

EMBEDDED COMMITMENTS

21.5.1. The embedded commitments identified for Volume 2, Chapter 10 (Fish and Shellfish Ecology) are provided in Table 21-4.

21.5.2. The embedded commitments (C-01, C-02, C-05, C-08, C-09, C-14, C-15, C-29, C-31, C-37 and C39) collectively aim to mitigate the impact of the Proposed Development on fish and shellfish receptors. Commitments such as scour protection (C-01) and cable burial (C-29) safeguard seabed integrity, preventing scour and erosion of the seabed avoiding, where possible sensitive habitats which may be of importance to fish. Adherence to plans like the CaP (C-02) and CMS (C-05) ensures that installation, routing, and sensitive habitats and consider piling activities that may disturb fish and shellfish. Environmental management (C-08) further prevents pollution, while decommissioning (C-09) ensures long-term preservation of the environment, including fish and shellfish habitats post-project. Unexploded Ordnance (UXO) removal (C-31) considers the need to minimize noise creation by prioritising low-order deflagration which will reduce potential noise impacts to fish. Entanglement Management Plan (EMP) (C-37) will benefit both larger fish species, including migratory fish, whilst (C-39) avoids direct disturbance within the Turbot Bank Nature Conservation (NC) Marine Protected Area (MPA).

Table 21-4 Embedded commitments identified for Volume 2, Chapter 10 (Fish and Shellfish Ecology)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection or other appropriate mitigation to be employed around seabed infrastructure where there is the potential risk for significant scour to develop.	Tertiary	CaP CMS
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-14	Development of and adherence to a Piling Strategy (PS) (applicable where piling is undertaken). The PS	Tertiary	PS

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	will detail the method of pile installation and associated noise levels. It will describe any mitigation measures to be put in place (e.g., soft starts and ramp ups, use of Acoustic Deterrent Devices (ADD)) during piling to manage the impacts of Underwater Noise (UWN) on sensitive receptors.		
C-15	Development of and adherence to Marine Mammal Mitigation Protocol (MMMP). This will identify appropriate mitigation measures during offshore activities that are likely to produce UWN and vibration levels capable of potentially causing injury or disturbance to marine mammals. This will be developed alongside the PS and referred to in European Protected Species (EPS) license applications.	Tertiary	MMMP
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the CBRA and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-31	UXO hazards will be avoided where practicable and appropriate. If avoidance is not possible, decision making will relate to removal, with detonation considered if avoidance or removal is not possible. If detonation is required, and where practicable and appropriate, low-order deflagration will be the preferred method. Licensing of UXO clearance works will be subject to a standalone Marine Licence application. These applications will provide details of measures to seek to minimise impacts on marine mammals where appropriate.	Tertiary	Licensing of UXO clearance works will be subject to a standalone Marine Licence.
C-37	Development of and adherence to an EMP to reduce the potential entanglement risk to marine life.	Tertiary	EMP
C-39	The Turbot Bank NC MPA will not be crossed by the offshore Export Cable Corridor (ECC).	Primary	DSLP CaP

SECONDARY MITIGATION

21.5.3. Mitigation options are presented within Volume 4, Appendix 10 (In-Principle Fish Mitigation Plan) that shows how the predicted significant effects (based on the worst-case design scenarios) of increased Suspended Sediment Concentration (SSC) and deposition to the seabed, and underwater noise from piling activities during herring spawning can be reduced to levels that are not significant. The residual effect will be minor, which is not significant in EIA terms.

PROPOSED MONITORING

21.5.4. No fish and shellfish ecology monitoring is proposed to test the predictions made within the assessment of LSE or CEA on fish and shellfish ecology receptors as no residual LSE were

predicted during construction, O&M and decommissioning phases of the Proposed Development, after the application of the secondary mitigation outlined in Section 0 above.

21.5.5. The Developer will engage with MD-LOT, NatureScot, and other relevant key stakeholders to identify and contribute to targeted and proportionate regional or strategic monitoring to better understand the environmental effects of offshore wind taking account of known evidence gaps as set out in Evidence Maps published through the ScotMER forum (Scottish Government, 2024) or any successor programme formed to facilitate these research interests, or any developer-led regional groups. This monitoring commitment will be secured in the Section 36 Consent and associated Marine Licences via the requirement for a PEMP.

21.6. OFFSHORE AND INTERTIDAL ORNITHOLOGY

EMBEDDED COMMITMENTS

21.6.1. The embedded commitments identified for Volume 2, Chapter 11 (Offshore and Intertidal Ornithology) are provided in Table 21-5.

21.6.2. The embedded commitments (C-01, C-02, C-08, C-09, C-10, C-29 and C-34) collectively aim to mitigate the impact of the Proposed Development on offshore and intertidal ornithological receptors. Embedded mitigation measures within the CMS (C-05) and EMP (C-08) have been considered as part of the impact assessments. Vessel management strategies as part of the VMP (C-10) and adherence to the Scottish Marine Wildlife Watching Code (C-35) will reduce vessel-related disturbance to birds, which has also been considered as part of the impact assessments. The commitment of a minimum blade clearance height (C-33) will reduce bird collision impacts as bird flights hights are greater at lower heights. Adherence to the PS (C-14) will reduce pilling impacts to sensitive receptors such as seabird prey species. The EMP (C-37) will reduce the risk to birds from entanglement. The DP (C-09) will ensure long-term protection of the environment, including offshore and intertidal ornithological receptors, post-project.

Table 21-5 Embedded commitments identified for Volume 2, Chapter 11 (Offshore and Intertidal Ornithology)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP). The VMP will confirm the anticipated types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	VMP
C-14	Development of and adherence to a PS (applicable where piling is undertaken). The PS will detail the method of pile installation and associated noise levels. It will describe any mitigation measures to be put in place (e.g., soft starts and ramp ups, use of ADD) during piling to manage the effects of (UWN on sensitive receptors.	Tertiary	PS

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-33	Minimum blade clearance of 30 m above Mean Sea Level (MSL).	Primary	DSLP CMS
C-34	Offshore infrastructure will be micro-sited, where reasonably practicable (to an extent not resulting in a hazard for marine traffic and SAR capability), around any sensitive seabed habitats including Annex I habitat (if present), informed through the undertaking of survey works pre-construction.	Primary	DSLP PEMP
C-35	Adherence by vessels to guidelines laid out in the Scottish Marine Wildlife Watching Code	Tertiary	VMP
C-36	Development of and adherence to a Lighting and Marking Plan (LMP). The LMP will confirm appropriate lighting and marking mitigation whilst ensuring compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP
C-37	Development of and adherence to an EMP to reduce the potential entanglement risk to marine life.	Tertiary	EMP
C-40	Development of and adherence to a Wet Storage Plan (WSP) to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP

SECONDARY MITIGATION

21.6.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on offshore and intertidal ornithology receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-5) are not significant in EIA terms.

PROPOSED MONITORING

21.6.4. No offshore and intertidal ornithology monitoring is proposed to test the predictions made within the assessment of LSE or CEA on offshore and intertidal ornithology receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.6.5. The Developer will engage with MD-LOT, NatureScot, and other relevant key stakeholders to identify and contribute to targeted and proportionate regional or strategic monitoring to better understand the environmental effects of offshore wind taking account of known evidence gaps as set out in Evidence Maps published through the ScotMER forum (Scottish Government, 2024) or any successor programme formed to facilitate these research interests, or any developer-led regional groups. This monitoring commitment will be secured in the Section 36 Consent and associated Marine Licences via the requirement for a PEMP.

21.7. MARINE MAMMALS

EMBEDDED COMMITMENTS

21.7.1. The embedded commitments identified for Volume 2, Chapter 12 (Marine Mammals) are provided in Table 21-6.

21.7.2. The embedded commitments (C-05, C-06, C-08, C-09, C-10, C-14, C-15, C-31, C-35, C-37, C-38 and C-40) collectively aim to mitigate the impact of the Proposed Development on marine mammal receptors. Commitments such as the development and adherence to a MMMP (C-15) will help to reduce the risk of auditory injury to marine mammals during geophysical survey activities, UXO clearance and piling. Adherence to the VMP (C-10) and the guidelines laid out in the Scottish Marine Wildlife Watching Code (C-35) will assist with mitigating the risk of vessel collision and disturbance. Environmental management (C-08) further prevents pollution, while a DP (C-09) ensures long-term prevention of the environment, including marine mammal habitats post-project.

Table 21-6 Embedded commitments identified for Volume 2, Chapter 12 (Marine Mammals)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-06	Development of and adherence to a CoP. This will detail the timeline and duration of the primary construction and commissioning activities.	Tertiary	CoP
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP. The VMP will confirm the types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	VMP
C-14	Development of and adherence to a PS (applicable where piling is undertaken). The PS will detail the method of pile installation and associated noise levels. It will describe any mitigation measures to be put in place (e.g., soft starts and ramp ups, use of ADD) during piling to manage the effects of UWN on sensitive receptors.	Tertiary	PS

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-15	Development of and adherence to a MMMP. This will identify appropriate mitigation measures during offshore activities that are likely to produce (UWN) and vibration levels capable of potentially causing injury or disturbance to marine mammals. This will be developed alongside the PS and referred to in EPS licence applications.	Tertiary	MMMP
C-31	UXO hazards will be avoided where practicable and appropriate. If avoidance is not possible, decision making will relate to removal, with detonation considered if avoidance or removal is not possible. If detonation is required, and where practicable and appropriate, low-order deflagration will be the preferred method. Licensing of UXO clearance works will be subject to a standalone Marine Licence (and EPS licence) application. These applications will provide details of measures to minimising impacts on marine mammals where appropriate.	Tertiary	UXO MMMP
C-35	Adherence by vessels to guidelines laid out in the Scottish Marine Wildlife Watching Code	Tertiary	VMP
C-37	Development of and adherence to an EMP to reduce the potential entanglement risk to marine life.	Tertiary	EMP
C-38	Development of and adherence to a PEMP, which will set out commitments to environmental monitoring in pre-, during and post-construction phases.	Tertiary	PEMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP

SECONDARY MITIGATION

21.7.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on marine mammal receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-6) are not significant in EIA terms.

PROPOSED MONITORING

21.7.4. No marine mammal monitoring is proposed to test the predictions made within the assessment of LSE or CEA on marine mammal receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.7.5. The Developer will engage with MD-LOT, NatureScot, and other relevant key stakeholders to identify and contribute to targeted and proportionate regional or strategic monitoring to better understand the environmental effects of offshore wind taking account of known evidence gaps as set out in Evidence Maps published through the ScotMER forum (Scottish Government, 2024) or any successor programme formed to facilitate these research interests, or any developer-led regional groups. This monitoring commitment will be secured in the Section 36 Consent and associated Marine Licences via the requirement for a PEMP.

21.7.1. Volume 3, Appendix 9.2 (Marine Protected Area (MPA) Assessment) concludes a degree of uncertainty on the risk to Conservation Objectives of the Southern Trench MPA, due to disturbance of minke whale from underwater noise due to piling.

21.7.2. Given the disturbance thresholds used in the MPA assessment, the risk to the Conservation Objectives is considered to be low, and unlikely that construction activities associated with the Proposed Development would constitute significant disturbance to minke whales in the MPA. The achievement of these conservation objectives are not at risk of being hindered.

21.7.3. However, to address the uncertainty in this assessment conclusion, the Developer is committed to collaborating with stakeholders and academic institutions to address knowledge gaps regarding minke whale abundance and distribution, and behavioural response to disturbance through ongoing research and monitoring efforts. Improving knowledge will allow for greater certainty in the assessment of potential impacts to the conservation objectives.

21.7.4. Potential future studies that would help to decrease the uncertainty in this assessment could include:

- Surveys to better understand the distribution, density and abundance of minke whales within the MPA. This could consist of vessel or aerial line transect surveys of the MPA and surrounding area; and

21.7.5. Controlled exposure/ playback experiments to better understand minke whale responses to various underwater noise sources.

21.8. COMMERCIAL FISHERIES

EMBEDDED COMMITMENTS

21.8.1. The embedded commitments identified for Volume 2, Chapter 13 (Commercial Fisheries) are provided in Table 21-7.

21.8.2. The embedded commitments (C-02, C-03, C-07 to C-27, C-29, C-30, C-32, C-33 and C-36) collectively aim to mitigate the impact of the Proposed Development on commercial fisheries receptors. Commitments such as the development of a CaP (C-01), cable burial (C-29) and cable protection monitoring (C-32) safeguard seabed integrity and ensure that after installation fishing resumption is optimal. Adherence to a Fisheries Management and Mitigation Strategy (FMMS) (C-11), ongoing liaison (C-12), following best practice guidance (C-13)and advance warning (C-19) will ensure that the fishing industry are kept fully informed of activities and works related to the Proposed Development. The application of safety zones (C-17), use of guard vessels where appropriate (C-18), aids to navigation (C-24) and appropriate marking (C-25) will ensure that any fisheries activities will resume safely.

Table 21-7 Embedded commitments identified for Volume 2, Chapter 13 (Commercial Fisheries)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-07	All dropped objects will be reported. Where recovery is possible and the dropped object may cause a hazard, object will be retrieved.	Tertiary	EMP
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP). The VMP will confirm the types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	VMP
C-11	Development of and adherence to a FMMS. The FMMS will set out the means of ongoing fisheries liaison through construction and O&M phases of the Proposed Development and detail any mitigation	Tertiary	FMMS

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	measures of relevance to commercial fisheries to be put in place.		
C-12	Ongoing liaison with fishing fleets will be maintained during construction, maintenance and decommissioning operations via an appointed Fisheries Liaison Officer (FLO) and Fishing Industry Representative (FIR).	Tertiary	FMMS
C-13	Adherence to best practice guidance with regards to fisheries liaison and procedures in the event of interactions between the Proposed Development and fishing activities (e.g., Fisheries Liaison with Offshore Wind and Wet Renewables group (FLOWW), 2014; 2015).	Tertiary	FMMS
C-14	Development of and adherence to a PS (applicable where piling is undertaken). The PS will detail the method of pile installation and associated noise levels. It will describe any mitigation measures to be put in place (e.g., soft starts and ramp ups, use of ADD) during piling to manage the effects of UWN on sensitive receptors.	Tertiary	PS
C-15	Development of and adherence to MMMP. This will identify appropriate mitigation measures during offshore activities that are likely to produce UWN and vibration levels capable of potentially causing injury or disturbance to marine mammals. This will be developed alongside the PS and referred to in EPS licence applications.	Tertiary	MMMP
C-16	Development of and adherence to a NSP (forming part of the VMNSP). The NSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of Proposed Development activity to other sea users (e.g., via Notifications to Mariners).	Tertiary	NSP
C-17	Applications to be made, where appropriate, for Safety Zones (500 m) for construction and major maintenance works, and for pre commissioning works (50 m).	Secondary	Energy Act 2004 and Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007
C-18	Use of guard vessels where deemed appropriate to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Secondary	NSP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-19	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notifications to Mariners and Kingfisher Bulletins.	Tertiary	NSP
C-20	Participation in any fisheries working group to assist with liaison between the Proposed Development and the fishing community.	Tertiary	FMMS
C-21	Compliance with Maritime and Coastguard Agency (MCA) Marine Guidance Note (MGN) 654 (MCA, 2024) and its annexes where applicable (including consideration of a SAR checklist, an Emergency Response and Cooperation Plan (ERCoP) and Under Keel Clearance.	Tertiary	CaP CMS DSLP
C-22	Compliance of all project vessels with international marine regulations as adopted by the Flag State, notably the International Regulations for Preventing Collisions at Sea (COLREGs) (International Maritime Organisation (IMO), 1974) and the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974).	Tertiary	NSP
C-23	Notification of damage or decay to cables to the MCA, Northern Lighthouse Board (NLB) Kingfisher and United Kingdom (UK) Hydrographic Office (UKHO) within 24 hours of discovery.	Tertiary	CaP NSP
C-24	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised by NLB, MCA and Civil Aviation Authority (CAA) and Ministry of Defence (MOD) as appropriate. This will include a buoyed construction area around the Array Area in consultation with NLB and all Aids to navigation will be subject to an Aids to Navigation Management Plan undertaken post consent.	Tertiary	NSP LMP Aids to Navigation Management Plan
C-25	Appropriate marking of the Proposed Development on Admiralty and aeronautical charts. This will include provision of the positions and heights of structures to the UKHO, CAA, MOD and Defence Geographic Centre (DGC).	Tertiary	NSP LMP
C-26	Compliance with regulatory expectations on moorings for floating wind and marine devices published by MCA and the Health and Safety Executive (HSE).	Tertiary	CMS
C-27	Crossing and proximity agreements with known existing pipeline and cables operators will be sought.	Tertiary	Secured by commercial agreements with pipeline and cable operators.
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the cable burial risk assessment CBRA and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation	Primary	CaP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	and monitoring of cable protection will be employed.		
C-30	Adherence to the Supply Chain Development Statement (SCDS) in relation to local manufacturers and contractors.	Tertiary	SCDS
C-32	Cable protection surveys of offshore export cables will be undertaken post construction where mechanical protection of cables laid on the seabed has been deployed. This may include over-trawl surveys and/or side-scan sonar. Cable monitoring of offshore export cables will be undertaken post construction to monitor Electromagnetic Fields (EMF).	Tertiary	CaP
C-33	Minimum blade clearance of 30 m above MSL.	Primary	DSLP CMS
C-36	Development of and adherence to an LMP. The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP
C-38	Development of and adherence to a PEMP, which will set out commitments to environmental monitoring in pre-, during and post-construction phases.	Tertiary	PEMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP
C-42	Lighting and marking failures appropriately reported/rectified as soon as possible and interim hazard warnings put in place as required.	Tertiary	LMP

SECONDARY MITIGATION

21.8.3. Significant effects across the construction, O&M and decommissioning phases of the Proposed Development were predicted for certain fishing fleets (in the absence of mitigation). Secondary mitigation is included in the EIAR to address these effects as discussed below.

CONSTRUCTION

21.8.4. Secondary mitigation for Reduction in access to, or exclusion from established fishing grounds during the Construction Phase includes the following commitments:

21.8.5. The Developer is committed to implementing the MMS. An outline FMMS is provided in Volume 4, Appendix 4 (Outline Fisheries Management and Mitigation Strategy), which will be further developed in collaboration with and through engagement with the commercial fishing industry prior to construction commencing.

21.8.6. As defined in the Outline FMMS, the Developer is committed to delivering an adaptation fund during the construction phase to support commercial fisheries receptors where a major or moderate significant effect has been identified in relation to the Array Area. The adaptation fund will support these commercial fishing businesses affected by the Array Area during construction with the process, including evidence base, following Fisheries Liaison with

Offshore Wind and Wet Renewables group (FLOWW) guidance as defined in the Outline FMMS.

21.8.7. The Developer is proposing a package of commitments and mitigation being developed and delivered through the FMMS including:

- Commitment to monitoring of fisheries activity pre, during and post-construction using existing data sources including landing statistics, Vessel Monitoring System, Automatic Identification System, Offshore Fisheries liaison Officer (OFLO) observations and industry consultation. The monitoring is intended to validate the impact assessment assumptions (e.g., that fishing will not resume within the Array Area) and provide opportunity to inform the FMMS should any updates to the FMMS be necessary; and
- Commitment to funding research and/or initiatives relevant to the fisheries affected.

21.8.8. In addition, the Developer commits to surveys across areas of cable protection deployed across inter-array cables, interconnector cables and offshore export cables to establish that fishing can resume safely post construction, this may include surveys following consultation with commercial fishing industry. This will be secured within the FMMS.

21.8.9. The Outline FMMS provides details on proposed fisheries activity monitoring that will be undertaken utilising publicly available data sources, as well as scouting surveys, OFLO records and consultation with the fishing industry, to understand the effects on fishing activity in response to the construction of the Array Area.

21.8.10. Notwithstanding the above secondary mitigation, the loss of access to the Array Area during construction is unavoidable due to the inclusion of catenary mooring lines and anchor system of the floating WTGs. The Developer has therefore committed to an Obstacle Free Zone within the Array Area for the purpose of avoiding the grounds identified as extremely important to demersal otter trawlers targeting haddock and pelagic trawlers targeting herring, if required following further consultation with the fishing industry. . The Obstacle Free Zone is proposed to occupy approximately 13 km^2, 6.5 % of the total Array Area. The proposed Obstacle Free Zone will contain no operational infrastructure from the seabed surface upwards: floating foundations, foundation moorings, foundation anchors, wind turbine generators and offshore electrical platforms. Further information is provided in Volume 2, Chapter 13 (Commercial Fisheries).

21.8.11. In order to identify the best location for the Obstacle Free Zone, the Developer has agreed further data collection to take place in 2025 on board of fishing vessels in the area. This work has already been agreed with individual fishing companies. The final location and boundaries of the Obstacle Free Zone will be finalised post-consent through the FMMS approval process.

21.8.12. Based on the commitments provided in the FMMS, together with the Obstacle Free Zone and adaptation fund during the construction phase, the residual effect of this impact during construction is reduced to minor adverse significance for all receptors.

OPERATION

21.8.13. Secondary mitigation for Reduction in access to, or exclusion from established fishing grounds during the Operational Phase includes the following commitments:

- An Obstacle Free Zone within the Array Area;
- Commercial fisheries activity monitoring during first 2 years of operation;
- Fisheries fund to support specific projects or research agreed with the commercial fishing stakeholders.

21.8.14. The Developer is committed to a Fisheries Fund during the first five years of the operational phase. This is not intended to compensate individual fishing businesses, but to provide

funding to support the overall fisheries where significant effects have been identified i.e., the haddock, scallop and herring fisheries. The administrative functionality of the Fisheries Fund will be determined in consultation with the fishing industry and defined in the Final FMMS.

21.8.15. Following application determination, further work will explore the potential opportunity for this Fisheries Fund to be jointly delivered at a strategic regional level.

21.8.16. Based on the commitment to an Obstacle Free Zone, monitoring and Fisheries Fund, the residual effect is reduced to moderate adverse significance for the UK demersal otter trawl and UK pelagic otter trawl/purse seine fleets, and therefore is significant in EIA terms; and minor adverse significance or negligible for all other fleets, which is not significant in EIA terms.

21.8.17. This assessment and the resulting moderate adverse residual effect for UK demersal otter trawl and UK pelagic otter trawl/purse seine fleets takes account of the long term (35 year) exclusion from the Array Area for these fleets. While the Developer is committed to the Obstacle Free Zone and a 5-year Fisheries Fund, the assessment assumes fishing will not resume within the remainder of the Array Area during the entirety of the operational phase. Knowledge from the fishing industry has highlighted the southern and western portion of the Array Area as extremely important to fisheries. On this basis, it is not possible to lower the significance of effect beyond moderate adverse for the UK demersal otter trawl and pelagic trawl fleets.

21.8.18. While the Obstacle Free Zone could benefit other marine receptors, all offshore assessments (other than Volume 2, Chapter 13 (Commercial Fisheries) are based on surface piercing infrastructure throughout the Array Area, which represents an appropriate worst case scenario in the event that an alternative to the proposed Obstacle Free Zone that may be agreed with key fisheries stakeholders post-consent.

PROPOSED MONITORING

21.8.19. The aim of commercial fisheries monitoring is to understand variations in commercial fisheries activity in response to the construction of the Proposed Development and use this to inform future updates to the FMMS. The key objectives are to:

- Collate data on commercial fisheries landings and activity by ICES rectangle, including landing statistics and VMS data with the objective to extend the baseline assessment provided within the EIAR;
- Collate data on commercial fisheries landings by port monthly;
- Collate such other sources of evidence of commercial fisheries activity as may be reasonably available on a regular basis; and
- Monitor available data and evidence to better understand any variations and patterns in commercial fisheries activity.

21.8.20. Mitigation and/or any updates to the FMMS may be informed by an understanding of any changes in fishing activity as picked up by the monitoring proposed.

21.8.21. Further details on the commercial fisheries monitoring is provided in Table 13-28 of Volume 2, Chapter 13 (Commercial Fisheries).

21.9. SHIPPING AND NAVIGATION

EMBEDDED COMMITMENTS

21.9.1. The embedded commitments identified for Volume 2, Chapter 14 (Shipping and Navigation) are provided in Table 21-8

21.9.2. Adhering to relevant guidance (C-21 and C-26) ensures risk to navigational safety from offshore renewable energy developments is considered in the assessment of potential effects. Commitments ensuring the lighting and marking of the Proposed Development will be in line with the latest relevant available standard industry guidance as well as conforming to legal requirements in regard to Shipping and Navigation (C-24, C-36, and C-42). In regard to navigational safety, the application of appropriate safety zones (C-17), use of guard vessels where deemed appropriate (C-18), a VMNSP (C-10 and C-16), minimum blade clearance (C-33), marking of the Proposed Development on relevant nautical charts (C-25), and the advanced warning of any project works (C-19) will help ensure vessels remain on safe transits when in the area. Any project vessels carrying out work at the Proposed Development will be compliant with international marine regulations (C-22).

21.9.3. Adherence to additional plans, including the DSLP (C-03), Environmental Monitoring Plan (EMP) (C-08), and DP (C-09) will also be ensured. Commitments such as the development of a CaP (C-02), notification of cable damage (C-23), and cable burial (C-29) will ensure cables are buried, protected and maintained to remain safe in regard to Shipping and Navigation activity at all times. During all phases of the Proposed Development, engagement with fisheries will also be ongoing (C-12 and C-13).

Table 21-8 Embedded commitments identified for Volume 2, Chapter 14 (Shipping and Navigation)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and any post-installation monitoring.	Tertiary	CaP
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-08	Development of and adherence to an EMP. This will set out embedded commitments and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP. The VMNSP will confirm the types and numbers of vessels that will be engaged on the Proposed Development and will consider vessel coordination including indicative transit route planning.	Tertiary	VMNSP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-12	Ongoing liaison with fishing fleets will be maintained during construction, O&M, and decommissioning operations via an appointed FLO and FIR.	Tertiary	FMMS
C-13	Adherence to best practice guidance with regards to fisheries liaison and procedures in the event of interactions between the Proposed Development and fishing activities (e.g., FLOWW, 2014; 2015).	Tertiary	FMMS
C-16	Development of and adherence to a NSP (forming part of the VMNSP). The VMNSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of Proposed Development activity to other sea users (e.g., via Notice to Mariners).	Tertiary	VMNSP
C-17	Applications to be made, where appropriate, for Safety Zones (500 m) for construction and major maintenance works, and for pre commissioning works (50 m).	Secondary	Safety Zone Application (Undertaken Post consent),
C-18	Use of guard vessels where deemed appropriate to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, O&M, and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Secondary	VMNSP
C-19	Advance warning and accurate location details of construction, O&M, and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.	Tertiary	VMNSP
C-21	Compliance with MCA MGN 654 (MCA, 2021) and its annexes where applicable (including consideration of a SAR checklist, an ERCoP and Under Keel Clearance.	Tertiary	CaP CMS DSLP
C-22	Compliance of all project vessels with international marine regulations as adopted by the Flag State (the registered state of the vessel), notably the COLREGs (IMO, 1972/77) and the SOLAS (IMO, 1974).	Tertiary	VMNSP
C-23	Notification of damage or decay to cables to the MCA, NLB, Kingfisher and UKHO within 24 hours of discovery.	Tertiary	CaP VMNSP
C-24	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised by NLB, MCA and CAA and MOD as appropriate. This will include a buoyed construction area around the Array Area in consultation with NLB and all Aids to Navigation will be subject to an Aids to Navigation Management Plan undertaken post consent.	Tertiary	VMNSP LMP Aids to Navigation Management Plan
C-25	Appropriate marking of the Proposed Development on Admiralty and Aeronautical Charts. This will include	Tertiary	VMNSP LMP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	provision of the positions and heights of structures to the UKHO, CAA, MOD, and DGC.		
C-26	Compliance with regulatory expectations on moorings for floating wind and marine devices published by MCA and the HSE.	Tertiary	CMS
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the cable burial risk assessment and detailed within the CaP. In areas where the cable burial risk assessment deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-33	Minimum blade clearance of 30 m above MSL.	Primary	DSLP CMS
C-36	Development of and adherence to an LMP. The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP
C-42	Lighting and marking failures appropriately reported/rectified as soon as possible and interim hazard warnings put in place as required.	Tertiary	LMP

SECONDARY MITIGATION

21.9.4. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on shipping and navigation receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-8) are not significant in EIA terms.

PROPOSED MONITORING

21.9.5. No shipping and navigation monitoring is proposed to test the predictions made within the assessment of LSE or CEA on shipping and navigation receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.10. MARINE ARCHAEOLOGY AND CULTURAL HERITAGE

EMBEDDED COMMITMENTS

21.10.1. The embedded commitments identified for Volume 2, Chapter 15 (Marine Archaeology and Cultural Heritage) are provided in Table 21-9.

21.10.2. The embedded commitments (C-01, C-02, C-03, C-08, C-09, C-28, and C-42) collectively aim to mitigate the impact of the Proposed Development on marine archaeology and cultural heritage assets. Commitments such as the use of scour protection (C-01) safeguard seabed integrity, preventing scour and erosion of the seabed avoiding, where possible, potential to cause erosion and deterioration of marine archaeology and cultural heritage assets. Adherence to plans like the CaP (C-02) and a DSLP (C-03) will ensure that installation, routing, and construction are optimised to minimise impact on marine archaeology and cultural heritage. Environmental management (C-08) further prevents impacts to the environment, while a DP (C-09) ensures long-term prevention of the environment, including marine archaeology and cultural heritage. The archaeological assessment of survey datasets (C-28) and avoidance of identified seabed heritage assets (C-42) will facilitate the implementation mitigation measures which will be detailed in a WSI and enacted throughout all phases of the Proposed Development.

Table 21-9 Embedded commitments identified for Volume 2, Chapter 15 (Marine Archaeology and Cultural Heritage)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection or other appropriate mitigation to be employed around seabed infrastructure where there is the potential risk for significant scour to develop.	Primary	Secured within conditions attached to the Marine Licence. CaP and CMS Archaeological assessment of geophysical data relating to scour surveys.
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and requirement for any post installation monitoring.	Tertiary	Secured within conditions attached to the Marine Licence. The final layout will be presented within the CaP and conditions within the marine licence.
C-03	A DSLP will be developed and adhered to which will confirm the layout.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution	Tertiary	Secured within conditions attached to the Marine Licence. EMP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	prevention and waste management.		
C-09	Development and adherence to a DP.	Tertiary	Secured within conditions attached to the Marine Licence. The DP will outline measures for the decommissioning of the Proposed Development.
C-28	The archaeological assessment of marine geophysical and geotechnical survey datasets would facilitate the implementation of Archaeological Exclusion Zone (AEZs), micro siting of infrastructure, and the implementation of a Protocol for Archaeological Discoveries (PAD), as detailed in the Written Scheme of Investigation (WSI).	Primary	Secured within conditions attached to the Marine Licence. A WSI will include any recommended AEZs (for example in relation to seabed preparation, installation activities and installed infrastructure), along with recommendations for further schemes of investigation, and a PAD for reporting and investigating unexpected archaeological discoveries encountered during installation activities, with a Retained Archaeologist providing guidance and advising industry staff on the implementation of the PAD. AEZs around known features of archaeological interest will be avoided. No works that impact the seabed will be undertaken within the extent of an AEZ during construction, operational, or decommissioning phases. For features assigned A2 archaeological discrimination rating (potential seabed features), no AEZs are recommended. However, these features will be avoided, where possible. Where this is not possible, further appraisal is proposed prior to construction. For example, where geophysical surveys may be undertaken in advance of the Proposed Development, or during UXO survey, it is recommended that the data be assessed by a suitably qualified archaeological contractor. In relation to palaeogeography, targeted geoarchaeological work within the nearshore area will aid in determining the submerged archaeological potential of the area, including within nearshore areas where current baseline data within -20 m bathymetric contour is limited. The Retained Archaeologist will be consulted to advise on potential locations and samples to be acquired for geoarchaeological purposes from future geotechnical campaigns within the study area. Sub-bottom profiler data that may be acquired nearshore (e.g. for Horizontal Direction Drilling (HDD) routing purposes) will also be reviewed to support the understanding of Quaternary

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
			stratigraphy contextualizing the geotechnical log assessment. The WSI will be updated accordingly and agreed with MD-LOT to define appropriate geoarchaeological assessment methodologies. The WSI will include a PAD to be implemented for any archaeological discoveries. The PAD provides a mechanism to comply with the Merchant Shipping Act 1995, including notification of the Receiver of Wreck, and accords with th Code of Practice for Seabed Developers (Joint Nautical Archaeology Policy Committee (JNAPC), 2006). The PAD also makes provision for the implementation of temporary exclusion zones around areas of possible archaeological interest, for prompt archaeological advice, and, if necessary, fc archaeological inspection of important features prior to further activities in the vicinity.
C-42	Project infrastructure will avoid identified seabed heritage assets (such as protected wrecks) as described in the WSI.	Primary	Archaeological assessment of available marine geophysical survey datasets has been undertaken in support of Primary mitigation measures listed in Volume 2, Chapter 15 (Marine Archaeology and Cultural Heritage)

SECONDARY MITIGATION

21.10.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on marine and archaeology and cultural heritage receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-9) are not significant in EIA terms.

PROPOSED MONITORING

21.10.4. No marine archaeology and cultural heritage monitoring are proposed to test the predictions made within the assessment of LSE or CEA on marine archaeology and cultural heritage receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.11. MILITARY AND CIVIL AVIATION

EMBEDDED COMMITMENTS

21.11.1. The embedded commitments identified for Volume 2, Chapter 16 (Military and Civil Aviation) are provided in Table 21-10.

21.11.2. The embedded commitments (C-03, C-09, C-21, C-24, C-25, C-36, C-40 and C-42) mitigate some of the impacts of the Proposed Development on Military and Civil Aviation receptors. WTGs and other offshore infrastructure will create an aviation obstacle environment. Marking of obstacles on aeronautical charts (C-25) and lighting of obstacles (C24, C-36, C-42) will make all pilots aware of the new infrastructure in the Array Area. A WSP (C-40) will consider potential Military and Civil Aviation impacts and include notification of the movement of floating WTG obstacles from wet storage locations to the Array Area. The DSLP (C-03) and compliance with MGN 654 (MCA, 2021) and applicable annexes (C09) will address SAR requirements. A DP will ensure that any measures required for Military and Civil Aviation receptors are considered.

Table 21-10 Embedded commitments identified for Volume 2, Chapter 16 (Military and Civil Aviation)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-21	Compliance with MGN 654 (MCA, 2021) and its annexes where applicable (including consideration of a SAR checklist, an ERCoP and Under Keel Clearance. Consideration will also be given to MGN 654 SAR Annex 5 (MCA, 2024).	Tertiary	CaP CMS DSLP
C-24	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised by NLB, MCA and CAA and MOD as appropriate. This will include a buoyed construction area around the Array Area in consultation with NLB.	Tertiary	NSP LMP
C-25	Appropriate marking of the Proposed Development on Admiralty and aeronautical charts. This will include provision of the positions and heights of structures to the UKHO, CAA, MOD and DGC.	Tertiary	NSP LMP
C-36	Development of and adherence to an LMP. The LMP will confirm appropriate lighting and marking mitigation whilst ensuring compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-42	Lighting and marking failures appropriately reported/rectified as soon as possible and interim hazard warnings put in place as required.	Tertiary	LMP

SECONDARY MITIGATION

21.11.3. Secondary mitigation in respect of Allanshill and Perwinnes Primary Surveillance Radar (PSR) may involve:

- Blanking (not displaying radar data) over the Array Area (either at the radar head or in the radar display system) so as to remove the PSR data containing the WTG returns from the radar data presented to controllers; or
- In addition to blanking, introducing a Transponder Mandatory Zone (TMZ) over the Array Area which require all aircraft that wish to transit the TMZ airspace to be equipped with SSR transponders to enable controllers to track aircraft through what will otherwise be a 'black hole' in primary surveillance cover. Implementation of a TMZ would require the submission of an Airspace Change Proposal to the CAA. The formal airspace change process that has to be followed is detailed in CAP 1616: Airspace Change Process (CAA, 2023).

21.11.4. Consultation with National Air Traffic Services (NATS) will continue with the aim of delivering a suitable mitigation solution for Allanshill and Perwinnes PSRs prior to the operation and maintenance phase of the Proposed Development.

21.11.5. In August 2019 an Air Defence and Offshore Wind (AD&OW) Windfarm Mitigation Task Force was formed as a collaborative initiative between the MOD, what was then the Department for Business, Energy and Industrial Strategy (BEIS) and is now the Department for Energy Security and Net Zero (DESNZ), the Offshore Wind Industry Council (OWIC) and The Crown Estate. The Scottish Government and Crown Estate Scotland joined the Task Force in March 2022. The aim of the Task Force is to enable the co-existence of UK Air Defence and offshore wind by identifying potential mitigations and supporting processes, allowing offshore wind to contribute towards meeting the UK Government's Net Zero target without degrading the nation's AD surveillance capability.

21.11.6. In parallel with the work of the Task Force the MOD, through programme NJORD, is currently working on deploying mitigations as quickly as possible for the current Air Defence system using existing technologies, to enable offshore wind farms to be built that will become operational from 2025 onwards.

21.11.7. Consultation with the MOD will continue with the aim of delivering a suitable mitigation solution for Buchan AD PSR prior to the operation and maintenance phase of the Proposed Development.

21.11.8. Once mitigation solutions are implemented, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is high. The effect will, therefore, be of negligible significance, which is not significant in EIA terms.

PROPOSED MONITORING

21.11.9. No monitoring is proposed to test the predictions made within the assessment of LSE or CEA on military and civil aviation receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.12. SOCIO-ECONOMICS TOURISM AND RECREATION

EMBEDDED COMMITMENTS

21.12.1. The embedded commitments identified for Volume 2, Chapter 17 (Socio-Economics, Tourism and Recreation) are provided in Table 21-11.

21.12.2. This embedded commitments (C-09,C-10,C-11,C-12, C-13, C-16, C-19, C-20 and C-30) aim to mitigate the potential economic impacts associated with offshore infrastructure, such as those that reduce disruption to other users of the sea (C-10,C-16, and C-19) and those that will reduce effects on commercial fisheries (C-11, C-12, C-13 and C-20). In addition, adherence to the decommissioning plan is expected to reduce potential impacts on tourism and recreation receptors and the SCDS (C-30) sets out the commitments that the Developer has made on spending in Scotland.

Table 21-11 Embedded commitments identified for Volume 2, Chapter 17 (Socio-Economics Tourism and Recreation)

Code	Commitment	Type (Primary, Secondary or Tertiary)	How Commitment Secured
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	The DP will reduce disruption and impacts on tourism and recreation receptors.
C-10	Development of and adherence to a VMP (forming part of the VMNSP). The VMP will confirm the anticipated types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	The VMP will reduce potential economic impacts on other users of the sea.
C-11	Development of and adherence to a FMMS. The FMMS will set out the means of ongoing fisheries liaison through construction and operation and O&M phases of the Proposed Development and detail any mitigation measures of relevance to commercial fisheries to be put in place.	Tertiary	The FMMS will reduce potential economic effects on fisheries.
C-12	Ongoing liaison with fishing fleets will be maintained during construction, maintenance and decommissioning operations via an appointed FLO and FIR.	Tertiary	The FMMS will reduce potential economic effects on fisheries.
C-13	Adherence to industry practice guidance with regards to fisheries liaison and procedures in the event of interactions between the Proposed Development and fishing activities	Tertiary	The FMMS will reduce potential economic effects on fisheries.

Code	Commitment	Type (Primary, Secondary or Tertiary)	How Commitment Secured
C-16	Development of and adherence to an NSP (forming part of the VMNSP). The NSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of Proposed Development activity to other sea users (e.g., via Notice to Mariners).	Tertiary	The NSP will reduce potential economic impacts on other users of the sea.
C-19	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.	Tertiary	The NSP will reduce potential economic impacts on other users of the sea.
C-20	Participation in any fisheries working group to assist with liaison between the Proposed Development and the fishing community.	Tertiary	The FMMS will reduce potential economic effects on fisheries.
C-30	Adherence to the SCDS in relation to local manufacturers and contractors.	Tertiary	The SCDS sets out the Developer's commitments.

SECONDARY MITIGATION

21.12.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on socio-economics and tourism and recreation receptors as no adverse LSE (in EIA terms) in the absence of further mitigation (beyond the embedded commitments set out in Table 21-11) were identified.

PROPOSED MONITORING

21.12.4. Table 21-12 describes proposed monitoring in support of secondary mitigation discussed above.

Table 21-12 Recommended Monitoring and Implementation for Socio-economics, Tourism and Recreation Effects

Effect	Proposed Monitoring	Implementation Method
Economic Impacts	Monitor expenditure throughout the supply chain to evaluate its impacts and determine whether the commitments outlined in the SCDS are being met. This will also help identify necessary actions to ensure the maximisation of spending commitments as per the SCDS.	Secured through the Option for Lease Agreement.
Social Impacts	Engage with the communities around construction and O&M ports to understand nature of social impacts.	Detailed monitoring commitments will be agreed post consent and are likely to include community engagement events.

21.13. CLIMATE

EMBEDDED COMMITMENTS

21.13.1. The embedded commitments identified for Volume 2, Chapter 18 (Climate) are provided in Table 21-13.

21.13.2. The embedded commitments collectively aim to mitigate the impact of the Proposed Development on the climate and the impact of the climate on the project receptors. Commitments such as the use of scour protection (C-01) and commitments relating to the installation, protection and maintenance of cables (C-02, C-23, C-29, C-32 and C-41) safeguard seabed integrity, preventing scour and erosion of the seabed and avoiding where possible impacts to the structural integrity of cables and other project components such as fixed foundations and mooring and anchoring. Adherence to plans like the CaP (C-02) will ensure that installation, routing, and construction are optimised to minimise erosion of the seabed. Additional commitments such as those secured in the EMP (C-07), the VMP (C-10), the FMMS (C-12), the NSP (C-16, C-18, C-19 and C-22), the creation of safety zones (C-17) safeguard the safety of project personnel and vessels in a changing climate. DP (C-09) ensures long-term mitigation of Greenhouse Gas (GHG) emissions and minimisation of future impacts to the Proposed Development and surrounding environment.

Table 21-13 Embedded commitments identified for Volume 2, Chapter 18 (Climate)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-01	Scour protection or other appropriate mitigation to be employed around seabed infrastructure where there is the potential risk for significant scour to develop.	Tertiary	CaP
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and requirement for any post installation monitoring.	Tertiary	CaP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-06	Development of and adherence to a CoP. This will detail the timeline and duration of the primary construction and commissioning activities.	Tertiary	CoP
C-07	All dropped objects will be reported. Where recovery is possible and the dropped object may cause a hazard, object will be retrieved.	Tertiary	EMP
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-10	Development of and adherence to a VMP (forming part of the VMNSP). The VMP will confirm the types and numbers of vessels that will be engaged on the	Tertiary	VMP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	Proposed Development and consider vessel coordination including indicative transit route planning.		
C-12	Ongoing liaison with fishing fleets will be maintained during construction, maintenance and decommissioning operations via an appointed FLO and FIR.	Tertiary	FMMS
C-16	Development of and adherence to an NSP (forming part of the VMNSP). The NSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of the Project activity to other sea users (e.g., via Notifications to Mariners).	Tertiary	NSP
C-17	Applications to be made, where appropriate, for Safety Zones (500 m) for construction and major maintenance works, and for pre commissioning works (50 m).	Secondary	Energy Act 2004 and Electricity (Offshore Generating Stations) (Safety Zones) (Application Procedures and Control of Access) Regulations 2007
C-18	Use of guard vessels where deemed appropriate to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Secondary	NSP
C-19	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notifications to Mariners and Kingfisher Bulletins.	Tertiary	NSP
C-21	Compliance with MCA MGN 654 (MCA, 2024) and its annexes where applicable (including consideration of a SAR checklist, an ERCoP and Under Keel Clearance. Consideration will also be given to MGN 543 SAR Annex 5 (MCA, 2018).	Tertiary	CaP CMS DSLP
C-22	Compliance of all project vessels with international marine regulations as adopted by the Flag State, notably the COLREGs (IMO, 1974) and the International Convention for the SOLAS (IMO, 1974).	Tertiary	NSP
C-23	Notification of damage or decay to cables to the MCA, NLB Kingfisher and UKHO within 24 hours of discovery.	Tertiary	CaP NSP
C-26	Compliance with regulatory expectations on moorings for floating wind and marine devices published by MCA and the HSE.	Tertiary	CMS
C-27	Crossing and proximity agreements with known existing pipeline and cables operators will be sought.	Tertiary	Commercial agreements with pipeline and cable

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
			operators
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the CBRA and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-32	Cable protection surveys of offshore export cables will be undertaken post construction where mechanical protection of cables laid on the seabed has been deployed. This may include over-trawl surveys and/or side-scan sonar. Cable monitoring of offshore export cables will be undertaken post construction to monitor EMF.	Tertiary	CaP
C-33	Minimum blade clearance of 30 m above MSL.	Primary	DSLP CMS
C-38	Development of and adherence to a PEMP, which will set out commitments to environmental monitoring in pre-, during and post-construction phases.	Tertiary	PEMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP
C-41	Where offshore export cables must cross third party infrastructure, such as existing cables and pipelines, both the third-party asset and the installed cables will be protected.	Tertiary	CaP

SECONDARY MITIGATION

21.13.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on climate receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-13) are not significant in EIA terms.

PROPOSED MONITORING

21.13.4. No climate monitoring is proposed to test the predictions made within the assessment of LSE or CEA on climate receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.14. INFRASTRUCTURE AND OTHER USERS

EMBEDDED COMMITMENTS

21.14.1. The embedded commitments identified for Volume 2, Chapter 19 (Infrastructure and Other Users) are provided in Table 21-14

21.14.2. The embedded commitments (C-02, C-09, C-16, C-17, C-18, C-19, C-21, C-22, C-24, C-25, C-26, C-27, C-29, C-36, C-41 and C-42) collectively aim to mitigate the impact of the Proposed Development on Infrastructure and Other Users (IOU) receptors. Marking of the Proposed Development on charts (C-16, C-25), appropriate lighting and marking of the Proposed Development (C-24 C-36, C-42), and the promulgation of about construction, O&M and decommissioning activities (C-16, C-19) will ensure that IOU receptors can plan activities accordingly. Commitments such as cable burial (C-29) safeguard seabed integrity, preventing scour and erosion of the seabed avoiding, where possible, affecting any infrastructure in the vicinity of the Proposed Development. Adherence to plans like the CaP (C-02) will ensure that cable installation, routing, and construction are optimised to minimise disruption to IOU receptors. The use of guard vessels (C-18) and Safety Zones (C-17) will work to mitigate risks to surface navigation during construction, maintenance and decommissioning phases. Protection of crossings (C-41) and the development of crossing and proximity agreements with known existing cable and pipeline operators (C-27) will minimise impacts on these assets and will include the ability of a cable/pipeline operator to access their infrastructure as far as practical and will ensure close communication and planning between the affected parties to ensure disruption of activities is minimised. A DP will ensure that any measures required for IOU receptors during the decommissioning phase are considered.

Table 21-14 Embedded commitments identified for Volume 2, Chapter 19 (Infrastructure and Other Users)

Code	Commitment	Type (Primary, Secondary or Tertiary)	How Commitment Secured
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and requirement for any post installation monitoring.	Tertiary	CaP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-09	Development of and adherence to a DP. The DP will outline measures for the decommissioning of the Proposed Development.	Tertiary	DP
C-16	Development of and adherence to an NSP (forming part of the VMNSP). The NSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of Proposed Development activity to other sea users (e.g. via Notice to Mariners).	Tertiary	NSP
C-17	Applications to be made, where appropriate, for Safety Zones (500 m) for construction and major maintenance works, and for pre commissioning works (50 m).	Secondary	NSP

Code	Commitment	Type (Primary, Secondary or Tertiary)	How Commitment Secured
C-18	Use of guard vessels where deemed appropriate to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Secondary	NSP
C-19	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.	Tertiary	NSP
C-21	Compliance with MCA MGN 654 (MCA, 2021) and its annexes where applicable (including consideration of a SAR checklist, an ERCoP) and Under Keel Clearance. Consideration will also be given to MGN 543 SAR Annex 5 (MCA, 2018).	Tertiary	CaP CMS DSLP
C-22	Compliance of all project vessels with international marine regulations as adopted by the Flag State, notably the COLREGs (IMO, 1974) and the International Convention for the SOLAS (IMO, 1974).	Tertiary	NSP
C-24	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised by the NLB, MCA and CAA and MOD as appropriate. This will include a buoyed construction area around the Array Area in consultation with NLB.	Tertiary	NSP LMP
C-25	Appropriate marking of the Proposed Development on Admiralty and aeronautical charts. This will include provision of the positions and heights of structures to the UKHO, CAA, MOD and DGC.	Tertiary	NSP LMP
C-26	Compliance with regulatory expectations on moorings for floating wind and marine devices published by MCA and the HSE.	Tertiary	CMS
C-27	Crossing and proximity agreements with known existing pipeline and cables operators will be sought.	Tertiary	Secured by commercial agreements with pipeline and cable operators.
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the CBRA and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-36	Development of and adherence to an LMP. The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP

Code	Commitment	Type (Primary, Secondary or Tertiary)	How Commitment Secured
C-41	Where offshore export cables must cross third party infrastructure, such as existing cables and pipelines, both the third-party asset and the installed cables will be protected.	Tertiary	CAP
C-42	Lighting and marking failures appropriately reported/rectified as soon as possible and interim hazard warnings put in place as required.	Tertiary	LMP

SECONDARY MITIGATION

21.14.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on IOU receptors as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-14) are not significant in EIA terms.

PROPOSED MONITORING

21.14.4. No IOU monitoring is proposed to test the predictions made within the assessment of LSE or CEA on IOU receptors as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

21.15. MAJOR ACCIDENTS AND DISASTERS

EMBEDDED COMMITMENTS

21.15.1. The embedded commitments identified for Volume 2, Chapter 20 (Major Accidents and Disasters) are provided in Table 21-15.

21.15.2. The embedded commitments (C-02, C-03, C-05, C-07, C-08, C-10, C-11, C-12, C-13, C-16, C-17, C-18, C-19, C-21, C-22, C-23, C-24, C-25, C-26, C-27, C-29, C-31, C-32, C-33, C-36, C-40, C-41, and C-42) collectively aim to reduce the vulnerability of and the potential for the Proposed Development to be impacted by or cause major accidents and disasters. Marking of the Proposed Development on charts (C-16, C-25), appropriate lighting and marking of the Proposed Development (C-24 C-36, C-42), the promulgation of information about construction, O&M and decommissioning activities (C-16, C-19), and the use of guard vessels (C-18) and Safety Zones (C-17) will work to mitigate risks to and from surface navigation during all project phases. Snagging risks will be minimized by cable burial (C-29), adherence to a dropped objects procedure (C-07), protection of crossed cables and pipelines (C-41) and over-trawl surveys (C-32).

Table 21-15 Embedded commitments identified for Volume 2, Chapter 20 (Major Accidents and Disasters)

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-02	Development of and adherence to a CaP. The CaP will confirm planned cable routing, installation methods, cable specifications and any additional protection and requirement for any post installation monitoring.	Tertiary	CaP
C-03	Development of and adherence to a DSLP. The DSLP will confirm layout and relevant design parameters.	Tertiary	DSLP
C-04	The infrastructure will be designed in such a way to minimise the impacts and will be within the key parameters set out in the EIA Project Description and EIAR.	Primary	Design Statement
C-05	Development of a CMS. This will detail the construction procedures (including piling), good working practices for constructing the works, and how the construction-related mitigation steps are to be delivered.	Tertiary	CMS
C-07	All dropped objects will be reported. Where recovery is possible and the dropped object may cause a hazard, object will be retrieved.	Tertiary	EMP
C-08	Development of and adherence to an EMP. This will set out mitigation measures and procedures relevant to environmental management, including but not limited to chemical usage, invasive and non-native species, pollution prevention and waste management	Tertiary	EMP
C-10	Development of and adherence to a VMP (forming part of the VMNSP). The VMP will confirm the types and numbers of vessels that will be engaged on the Proposed Development and consider vessel coordination including indicative transit route planning.	Tertiary	VMP
C-11	Development of and adherence to a FMMS. The FMMS will set out the means of ongoing fisheries	Tertiary	FMMS

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	liaison through construction and O&M phases of the Proposed Development and detail any mitigation measures of relevance to commercial fisheries to be put in place.		
C-12	Ongoing liaison with fishing fleets will be maintained during construction, maintenance and decommissioning operations via an appointed FLO and FIR.	Tertiary	FMMS
C-13	Adherence to best practice guidance with regards to fisheries liaison and procedures in the event of interactions between the Proposed Development and fishing activities (e.g., FLOWW, 2014; 2015).	Tertiary	FMMS
C-16	Development of and adherence to an NSP (forming part of the VMNSP). The NSP will describe measures put in place by the Proposed Development related to navigational safety, including information on Safety Zones, charting, construction buoyage, temporary lighting and marking, and means of notification of Proposed Development activity to other sea users (e.g., via Notice to Mariners).	Tertiary	NSP
C-17	Applications to be made, where appropriate, for Safety Zones (500 m) for construction and major maintenance works, and for pre commissioning works (50 m).	Secondary	NSP
C-18	Use of guard vessels, where deemed appropriate, to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, and to mitigate any impact which poses a risk to surface navigation during construction, maintenance, and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Secondary	NSP
C-19	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins.	Tertiary	NSP
C-21	Compliance with MCA, MGN 654 (MCA, 2021a) and its annexes where applicable (including consideration of a SAR checklist (MCA, 2021b), ERCoP and Under Keel Clearance. Consideration will also be given to MGN 543 SAR Annex 5 (MCA, 2018).	Tertiary	CaP CMS DSLP
C-22	Compliance of all project vessels with international marine regulations as adopted by the Flag State, notably the COLREGs (IMO, 1974) and the International Convention for the SOLAS (IMO, 1974).	Tertiary	NSP
C-23	Notification of damage or decay to cables to the MCA, NLB Kingfisher and UKHO within 24 hours of discovery.	Tertiary	CaP NSP
C-24	Aids to navigation (marking and lighting) will be deployed in accordance with the latest relevant available standard industry guidance and as advised	Tertiary	NSP LMP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
	by NLB, MCA and CAA and MOD as appropriate. This will include a buoyed construction area around the Array Area in consultation with NLB.		
C-25	Appropriate marking of the Proposed Development on Admiralty and aeronautical charts. This will include provision of the positions and heights of structures to the UKHO, CAA, MOD and DGC.	Tertiary	NSP LMP
C-26	Compliance with regulatory expectations on moorings for floating wind and marine devices published by MCA and the HSE.	Tertiary	CMS
C-27	Crossing and proximity agreements with known existing pipeline and cables operators will be sought.	Tertiary	Secured by commercial agreements with pipeline and cabl operators.
C-29	Where practicable, cable burial will be the preferred means of cable protection. Cable burial will be informed by the CBRA and detailed within the CaP. In areas where CBRA deems burial not feasible, suitable implementation and monitoring of cable protection will be employed.	Primary	CaP
C-31	UXO hazards will be avoided where practicable and appropriate. If avoidance is not possible, decision making will relate to removal, with detonation considered if avoidance or removal is not possible. If detonation is required, and where practicable and appropriate, low-order deflagration will be the preferred method. Licensing of UXO clearance works will be subject to a standalone Marine Licence (and EPS licence) application. These applications will provide details of measures to minimising impacts on marine mammals where appropriate.	Tertiary	Marine Licence EPS licence
C-32	Cable protection surveys of offshore export cables will be undertaken post construction where mechanical protection of cables laid on the seabed has been deployed. This may include over-trawl surveys and/or side-scan sonar. Cable monitoring of offshore export cables will be undertaken post construction to monitor EMF.	Tertiary	CaP
C-33	Minimum blade clearance of 30 m above MSL.	Primary	CMS DSLP
C-36	Development of and adherence to an LMP. The LMP will confirm compliance with legal requirements with regards to shipping, navigation and aviation marking and lighting.	Tertiary	LMP
C-40	Development of and adherence to a WSP to provide details on requirements (if applicable) for assembled WTGs and cabling.	Tertiary	WSP
C-41	Where offshore export cables must cross third party infrastructure, such as existing cables and pipelines, both the third-party asset and the installed cables will be protected.	Tertiary	CaP

Code	Commitment	Type (Primary, Secondary, Tertiary)	How Commitment Secured
C-42	Lighting and marking failures appropriately reported/rectified as soon as possible and interim hazard warnings put in place as required.	Tertiary	LMP

SECONDARY MITIGATION

21.15.3. No secondary mitigation is either required or proposed in relation to the potential effects of the Proposed Development on major accidents and disasters as the LSE in the absence of further mitigation (beyond the embedded commitments set out in Table 21-15) are not significant in EIA terms.

PROPOSED MONITORING

21.15.4. No major accidents and disasters monitoring is proposed to test the predictions made within the assessment of LSE or CEA on major accidents and disasters as no LSE were predicted during construction, O&M and decommissioning phases of the Proposed Development.

22. REFERENCES

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MCA (2021b) Marine Guidance Note 654 (Merchant and Fishing) Safety of Navigation: Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response. Annex 5 Search & Rescue, Maritime Assistance Service, Counter Pollution and Salvage Incident Response

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