NORTH FALLS

Offshore Wind Farm

PRELIMINARY ENVIRONMENTAL INFORMATION REPORT

Schedule of Mitigation

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Glossary of Acronyms

ADD	Acoustic Deterrent Device
AEZ	Archaeological Exclusion Zones
AIC	Aeronautical Information Circulars
AIP	Aeronautical Information Publication
AuIS	Automatic Identification System
AeIS	Aeronautical Information Service
ALO	Agricultural Liaison Officer
ANO	Air Navigation Order
BCT	Bat Conservation Trust
BPM	Best Practical Means
BWM	The International Convention for the Control and Management of Ships' Ballast Water and Sediments
CAA	Civil Aviation Authority
CDM	Construction Design Management
CEMP	Construction Environmental Management Plan
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CMS	Construction Method Statements
CNVMP	Construction Noise and Vibration Management Plan
CoCP	Code of Construction Practice
COLREG	Convention on International Regulations for Preventing Collisions at Sea
COSHH	Control of Substances Hazardous to Health
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DLL	District Level Licensing
dML	Deemed Marine Licence
DMP	Dust Management Plan
DPF	Diesel Particulate Filters
ECoW	Ecological Clerk of Works
EMF	Electromagnetic Fields
EMP	Ecological Management Plan
EPP	Evidence Plan Process
EPS	European Protected Species
ERCoP	Emergency Response Cooperation Plan
ES	Environmental Statement
FLCP	Fisheries Liaison and Coexistence Plan
FLO	Fisheries Liaison Officer
GASCo	General Aviation Safety Council
GHG	Greenhouse Gas
GI	Ground Investigation

HAT	Highest Astronomical Tide
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ICAO	International Civil Aviation Organisation
ICNIRP	International Commission on Non-ionizing Radiation Protection
ILP	Institute of Lighting Professionals
IMO	International Maritime Organization
INNS	Invasive Non-Native Species
IOF	Important Ornithological Features
IPMP	In-Principle Monitoring Plan
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LLFA	Lead Local Flood Authority
LV	Light Vehicle
MAFF	Ministry of Agriculture, Fisheries and Food
MARPOL	International Convention for the Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MMMP	Marine Mammal Mitigation Plan/Protocol
MMP	Materials Management Plan
MoD	Ministry of Defence
NATS	National Air Traffic Services
NFOW	North Falls Offshore Wind Farm
NOTAM	Notices to Airmen
NRA	Navigational Risk Assessment
NRMM	Non-Road Mobile Machinery
NtM	Notice(s) to Mariners
NVSR	Noise and Vibration Sensitive Receptors
OCTMP	Outline Construction Traffic Management Plan
OCoCP	Outline Code of Construction Practice
O&G	Oil and Gas
OLEMS	Outline Landscape and Ecological Management Strategy
OLEMP	Outline Landscape and Ecological Management Plan
O&M	Operation and Maintenance
OPRoWMP	Outline Public Rights of Way Management Plan
OREI	Offshore Renewable Energy Installations
OSPAR	Oslo and Paris Conventions

PEIR	Preliminary Environmental Information Report
PEMP	Project Environmental Management Plan
PLONOR	Pose Little or No Risk to the Environment
PMoW	Precautionary Method of Working
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidance
PRoW	Public Rights of Way
PTS	Permanent Threshold Shift
SAC	Special Area of Conservation
SAR	Search and Rescue
SMP	Soil Management Plan
SNCB	Statutory Nature Conservation Bodies
SOLAS	Safety of Life at Sea
SPA	Special Protection Area
SSC	Suspended Sediment Concentration
SSSI	Site of Special Scientific Interest
TTS	Temporary Threshold Shift
UKHPI	UK Habitat of Principal Importance
UXO	Unexploded Ordnance
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generators

Glossary of Terminology

Array cables	Cables which link the wind turbine generators with each other and the offshore substation platform(s).
Cable circuit	A bundle which could comprise three power cables; three telecommunications cables; and one earth cable.
Cable construction compound	Area set aside to facilitate construction of the onshore cable route. Will be located adjacent to the onshore cable route, with access to the highway.
Haul road	The track along the onshore cable route used by construction traffic to access different sections of the onshore cable route.
Horizontal directional drill (HDD)	Trenchless technique to bring the offshore cables ashore at the landfall. The technique will also be used for installation of the onshore export cables at sensitive areas of the onshore cable route.
Interconnector cable	Cable between the northern and southern array areas.
Interconnector cable corridor	The corridor of the seabed between the northern and southern array areas
Jointing bay	Underground structures constructed at regular intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The location where the offshore cables come ashore.
Landfall construction compound	Compound at landfall within which HDD or other trenchless technique would take place.

Landfall search area	Locations being considered for the landfall, comprising the Essex coast between Clacton-on-Sea and Frinton-on-Sea.
Link boxes	Underground chambers or above ground cabinets next to the onshore export cables housing low voltage electrical earthing links.
National Grid connection point	The grid connection location for the Project. National Grid are proposing to construct new electrical infrastructure (a new substation) to allow the Project to connect to the grid, and this new infrastructure will be located at the National Grid connection point.
National Grid substation connection works	Infrastructure required to connect the Project to National Grid's connection point.
Offshore cable corridor	The corridor of seabed from array areas to the landfall within which the offshore export cables will be located.
Offshore export cables	The cables which bring electricity from the array areas to the landfall.
Offshore project area	The overall area of the array areas and the offshore cable corridor.
Offshore substation platform(s)	Fixed structure(s) located within the array areas, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable voltage for export to shore via offshore export cables.
Onshore cable corridor(s)	Onshore corridor(s) within which the onshore export cables and associated infrastructure will be located. A final onshore cable route for which consent will be sought will be selected from within these corridor(s).
Onshore cable route	Onshore route within which the onshore export cables and associated infrastructure would be located.
Onshore export cables	The cables which take the electricity from landfall to the onshore substation and on to the National Grid. These comprise High Voltage Alternative Current (HVAC) cables, buried underground.
Onshore project area	The boundary in which all onshore infrastructure required for the Project will be located (i.e. landfall; onshore cable route, accesses, construction compounds; onshore substation and National Grid substation extension), as considered within the PEIR.
Onshore scoping area	The boundary in which all onshore infrastructure required for the Project will be located, as considered within the North Falls EIA Scoping Report.
Onshore substation	A compound containing electrical equipment required to transform and stabilise electricity generated by the Project so that it can be connected to the National Grid.
Onshore substation construction compound	Area set aside to facilitate construction of the onshore substation. Will be located adjacent to the onshore substation (location not yet defined).
Onshore substation zone	Area within which the onshore substation will be located.
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Wind turbine generator (WTG)	Power generating device that is driven by the kinetic energy of the wind

1 Schedule of mitigation

1.1 Introduction

1. This document sets out a summary of the proposed mitigation and monitoring commitments detailed within the Preliminary Environmental Information Report (PEIR) for North Falls offshore wind farm (hereafter “North Falls” or “the Project”).
2. This document is organised following the structure of the PEIR: each PEIR chapter is presented in turn, and under each chapter heading details of each mitigation commitment is provided, followed by a separate list of each monitoring commitment. Offshore chapters (Chapter 8 – 18, Volume I) are presented first, followed by onshore (Chapter 19 – 27, Volume I) and finally project-wide chapters (Chapter 28 – 33, Volume I).
3. Both ‘embedded’ mitigation (which forms mitigation through design or through best practice, which will be undertaken regardless of the outcome of the assessment, to minimise impacts as far as possible) and ‘additional’ mitigation (which has been identified following the completion of the environmental assessment described in the PEIR, as required to minimise the effects identified) are detailed in this document.
4. An updated version of this Schedule of Mitigation will be submitted alongside the Environmental Statement (ES) as part of the application for a Development Consent Order (DCO). The updated version will include details of how all mitigation will be secured (e.g. via DCO Requirement).

2 Mitigation and monitoring

2.1 Marine geology, oceanography and physical processes (Chapter 8)

Table 2.1 Mitigation and monitoring in relation to marine geology, oceanography and physical processes

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.1.1	Volume 1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Increases in Suspended Sediment Concentration (SSC) and deposition of disturbed sediments to the seabed due to foundations	Embedded mitigation	For piled foundation types, such as monopiles and jackets with pin piles, pile-driving will be used in preference to drilling where it is practicable to do so (i.e. where ground conditions allow). This would minimise the quantity of sub-surface sediment released into the water column from the installation process.
2.1.2	Volume 1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Increases in SSC and deposition of disturbed sediments to the seabed due to foundations and cable installation	Embedded mitigation	Micro-siting will be used where possible to minimise the requirements for seabed preparation prior to foundations and cable installation.
2.1.3	Volume 1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Increases in SSC and deposition of disturbed sediments to the seabed due to cable installation	Embedded mitigation	Cables will be buried where possible, minimising the requirement for cable protection measures and thus effects on sediment transport.
Operation and maintenance				
2.1.4	Volume 1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Increases in SSC and deposition of disturbed sediments to the seabed due to wind turbine generators (WTGs)	Embedded mitigation	Wind turbine spacing can be described in general terms at this stage. A minimum separation distance of 5 x the rotor diameter (i.e. 820m for the smallest turbines) minimising the potential for interaction between adjacent wind turbines with respect to marine physical process.
Decommissioning				
None proposed				
Monitoring commitments				

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
None proposed				

2.2 Marine water and sediment quality (Chapter 9)

Table 2.2 Mitigation and monitoring in relation to marine water and sediment quality

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.2.1	Volume 1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during construction may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Committed to the use of best practice techniques and due diligence regarding the potential for pollution throughout all construction, operation and maintenance, and decommissioning activities. As a result, an outline PEMP will be developed to accompany the DCO application. The final PEMP would be agreed with the Marine Management Organisation (MMO) prior to construction and would include, for example, measures to control accidental release of drilling fluids whilst ensuring that any chemicals used are listed on the Oslo and Paris Conventions (OSPAR) List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR) (OSPAR, 2021).
2.2.2	Volume 1, Chapter 9 Marine Water and Sediment Quality	Increases in SSC and deposition of disturbed sediments	Embedded mitigation	For piled foundation types, such as monopiles and jackets with pin piles, pile-driving will be used in preference to drilling where it is practicable to do so (i.e. where ground conditions allow). This would minimise the quantity of sub-surface sediment released into the water column from the installation process.
2.2.3	Volume 1, Chapter 9 Marine Water and Sediment Quality	Increases in SSC and deposition of disturbed sediments	Embedded mitigation	Micro-siting will be used where possible to minimise the requirements for seabed preparation prior to foundation and cable installation.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.2.4	Volume 1, Chapter 9 Marine Water and Sediment Quality	Increases in SSC and deposition of disturbed sediments	Embedded mitigation	Cables will be buried, where possible, minimising the requirement for cable protection measures and thus effects on sediment transport.
Operation and maintenance				
2.2.5	Volume 1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during Operation and Maintenance (O&M) may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Measures described in 2.2.1
Decommissioning				
2.2.6	Volume 1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during decommissioning may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Measures described in 2.2.1
Monitoring commitments				
None proposed				

2.3 Benthic and intertidal ecology (Chapter 10)

Table 2.3 Mitigation and monitoring in relation to benthic and intertidal ecology

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.3.1	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Temporary physical disturbance and habitat loss in the offshore cable corridor due to seabed preparation (e.g. sandwave levelling), cable installation, anchor placement and boulder clearance	Embedded mitigation	The offshore cable corridor was selected in consultation with key stakeholders to select a route which minimised impacts on designated sites, such as avoiding overlap with the Margate and Long Sands Special Area of Conservation (SAC). See Chapter 4 Site Selection and Assessment of Alternatives (Volume I).

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.3.2	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Temporary physical disturbance and habitat loss of intertidal habitats and species	Embedded mitigation	The Applicant is committed to using horizontal directional drilling (HDD) from an onshore location to the subtidal zone. Therefore, there will be no impacts on the intertidal zone.
2.3.3	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Damage to benthic habitats such as *Sabellaria* reef	Embedded mitigation	Should seabed obstacles (e.g. *Sabellaria* reef) be identified in the proposed wind turbine locations and/or cable routes during the pre-construction surveys, micrositing would be undertaken where practicable, to minimise potential effects.
2.3.4	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of Invasive Non-Native Species (INNS)	Embedded mitigation	The risk of spreading INNS will be reduced by employing biosecurity measures in accordance with the following requirements: • International Convention for the Prevention of Pollution from Ships (MARPOL). The MARPOL sets out appropriate vessel maintenance; • The International Convention for the Control and Management of Ships' Ballast Water and Sediments (The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) Convention), which provide global regulations to control the transfer of potentially invasive species; and • The Environmental Damage (Prevention and Remediation (England) Regulations 2015, which set out a polluter pays principle where the operators who cause a risk of significant damage or cause significant damage to land, water or biodiversity will have the responsibility to prevent damage occurring, or if the damage does occur will have the duty to reinstate the environment to the original condition.
Operation and maintenance				
2.3.5	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Potential for offshore export cables and the interconnector cable to produce electromagnetic fields	Embedded mitigation	The Applicant is committed to burying offshore export cables where practicable which reduces the effects of EMFs (see also 2.4.4).

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		(EMFs) that interfere with the behaviour of benthic species		
2.3.6	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of INNS	Embedded mitigation	Measures in 2.3.4
Decommissioning				
2.3.7	Volume 1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of INNS	Embedded mitigation	Measures in 2.3.4
Monitoring commitments				
Monitoring requirements will be discussed with stakeholders in the preparation of the final ES which will be submitted alongside the DCO application.				

2.4 Fish and shellfish ecology (Chapter 11)

Table 2.4 Mitigation and monitoring in relation to fish and shellfish ecology

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.4.1	Volume 1, Chapter 11 Fish and Shellfish Ecology	Injury or disturbance to fish and shellfish species from underwater noise from activities associated with foundation for turbines and OSPs	Embedded mitigation	A soft start and ramp-up protocol will be used for pile driving. This would allow mobile species to move away from the area of highest noise impact during installation of foundations.
2.4.2	Volume 1, Chapter 11 Fish and Shellfish Ecology	Disturbance to fish and shellfish species from underwater noise from activities associated with foundation for turbines and OSPs	Embedded mitigation	During construction, overnight working practices would be employed offshore where appropriate so that construction activities could be 24 hours, thus reducing the overall period for potential impacts to fish communities near the offshore project area.
2.4.3	Volume 1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during operation may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As outlined in Chapter 9 Marine Sediment and Water Quality (Volume I), the Applicant is committed to the use of best practice techniques and due diligence regarding the potential for pollution throughout all construction, O&M, and decommissioning activities.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				An outline PEMP will be developed and submitted alongside the DCO application to set out the details of the measures that will be taken in relation to accidental pollution events. The final PEMP would be agreed with the MMO prior to construction.
Operation and maintenance				
2.4.4	Volume 1, Chapter 11 Fish and Shellfish Ecology	Effect EMF on fish and shellfish species	Embedded mitigation	The Applicant is committed to burying offshore cables where practicable to a minimum burial depth of 0.5m. Cable burial reduces the strength of EMFs to which fish and shellfish species may be exposed as it constitutes a physical barrier, with fish and shellfish species not able to transit the immediate proximity of cables where EMFs are strongest.
2.4.5	Volume 1, Chapter 11 Fish and Shellfish Ecology	Effect of EMF on fish and shellfish species	Embedded mitigation	Where cables cannot be buried to the minimum depth, appropriate surface laid cable protection will be use
2.4.6	Volume 1, Chapter 11 Fish and Shellfish Ecology	Habitat loss	Embedded mitigation	As described in 2.4.4. In addition, cable burial minimises the amount of hard substrate which may be required and associated potential changes to seabed habitat.
2.4.7	Volume 1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during O&M may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As described in 2.4.3
Decommissioning				
2.4.6	Volume 1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during decommissioning may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As described in 2.4.3
Monitoring commitments				
None proposed				

2.5 Marine mammals (Chapter 12)

Table 2.5 Mitigation and monitoring in relation to marine mammals

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.5.1	Volume 1, Chapter 12 Marine Mammals	Mortality, injury (including permanent threshold shift (PTS) or temporary threshold shift (TTS)) or disturbance to marine mammal species from construction noise	Embedded mitigation	Each piling event would commence with a soft-start at a lower hammer energy followed, by a gradual ramp-up for at least 20 minutes to the maximum hammer energy required (the maximum hammer energy is only likely to be required at a few of the piling installation locations).
2.5.2	Volume 1, Chapter 12 Marine Mammals	Risk of vessel collision	Embedded mitigation	Vessel movements, where practicable, will follow set vessel routes and hence areas where marine mammals are accustomed to vessels, in order to reduce any increased collision risk. All vessel movements will be kept to the minimum number that is required to reduce any potential collision risk. Additionally, vessel operators will use best practice to reduce any risk of collisions with marine mammals.
2.5.3	Volume 1, Chapter 12 Marine Mammals	Accidental pollution events during construction may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	As outlined in Chapter 9 Marine Sediment and Water Quality (Volume I), the Applicant is committed to the use of best practice techniques and due diligence regarding the potential for pollution throughout construction activities. An outline PEMP will be developed and submitted alongside the DCO application to set out the details of the measures that will be taken in relation to accidental pollution events. The final PEMP would be agreed with the MMO prior to construction.
2.5.4	Volume 1, Chapter 12 Marine Mammals	Mortality, injury (including PTS or TTS) or disturbance to marine mammal species from piling noise	Additional mitigation	The Marine Mammal Mitigation Plan/Protocol (MMMP) for piling will be developed in the pre-construction period and based upon best available information, methodologies, industry best practice, latest scientific understanding, current guidance and detailed project design. The MMMP for piling will be developed in consultation with the relevant Statutory Nature

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				Conservation Bodies (SNCBs) and the MMO, detailing the proposed mitigation to reduce the risk of any physical or permanent auditory injury to marine mammals during all piling operations.
2.5.5	Volume 1, Chapter 12 Marine Mammals	Mortality, injury (including PTS or TTS) or disturbance to marine mammal species from accidental unexploded ordnance (UXO) detonation	Additional mitigation	A detailed MMMP will be prepared for UXO clearance during the pre-construction phase. The MMMP for UXO clearance will ensure there are adequate mitigation to minimise the risk of any physical or permanent auditory injury to marine mammals as a result of UXO clearance. The MMMP for UXO clearance will be developed in the pre-construction period, when there is more detailed information on the UXO clearance which could be required and the most suitable mitigation, based upon best available information and methodologies at that time, in consultation with the MMO and relevant SNCBs. The MMMP for UXO clearance will include details of all the required mitigation to minimise the potential risk of physical and auditory injury as a result of underwater noise during UXO clearance, for example, this would consider the options, suitability and effectiveness of mitigation such as, but not limited to: • Low-order disposal technique, such as deflagration; • The use of bubble curtains (taking into consideration the environmental limitations); • All detonations to take place in daylight and, when possible, in favourable conditions with good visibility (sea state 3 or less); • Establishment of a monitoring area with minimum of 1km radius. • The observation of the monitoring area will be by dedicated and trained marine mammal observers during daylight hours and suitable visibility; • The activation of Acoustic Deterrent Devices (ADDs); • The controlled explosions of the UXO will be undertaken by specialist contractors, using the

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				minimum amount of explosive required in order to achieve safe disposal of the UXO; and • Other UXO clearance techniques, such as the use of scare charge; multiple detonations, if UXO are located in close proximity; avoidance of UXO; or relocation of UXO.
2.5.6	Volume 1, Chapter 12 Marine Mammals	Cumulative disturbance of harbour porpoise in relation to the Southern North Sea SAC conservation objectives	Additional mitigation	In addition to the MMMPs for piling and UXO clearance, a Southern North Sea SAC Site Integrity Plan will be developed. The Site Integrity Plan will set out the approach to deliver any project mitigation or management measures to reduce the potential for any significant disturbance of harbour porpoise in relation to the Southern North Sea SAC conservation objectives. The Site Integrity Plan will be an adaptive management tool, which can be used to ensure that the most adequate, effective and appropriate measures, if required, are put in place to reduce the significant disturbance of harbour porpoise in the Southern North Sea SAC. The Site Integrity Plan will be developed in the pre-construction period and will be based upon best available information and methodologies at that time, in consultation with the relevant SNCBs and MMO.
Operation and maintenance				
2.5.7	Volume 1, Chapter 12 Marine Mammals	Vessel activity during operation may result in an increased risk of collision with marine mammals	Embedded mitigation	Measures described in 2.5.2
2.5.8	Volume 1, Chapter 12 Marine Mammals	Accidental pollution events during O&M may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	Measures described in 2.5.3

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Decommissioning				
2.5.9	Volume 1, Chapter 12 Marine Mammals	Vessel activity during decommissioning may result in an increased risk of collision with marine mammals	Embedded mitigation	Measures described in 2.5.2
2.5.10	Volume 1, Chapter 12 Marine Mammals	Accidental pollution events during decommissioning may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	Measures described in 2.5.3
Monitoring commitments				
Monitoring will be secured through the MMMP, as described in 2.5.4 and 2.5.5.				

2.6 Offshore ornithology (Chapter 13)

Table 2.6 Mitigation and monitoring in relation to offshore ornithology

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.6.1	Volume 1, Chapter 13 Offshore Ornithology	Impact from displacement or disturbance of species from protected sites	Embedded mitigation	Offshore cable corridor site selection minimises overlap with the Outer Thames Estuary Special Protection Area (SPA). Site selection was undertaken in consultation with Natural England (see Chapter 4 Site selection and assessment of alternatives (Volume I))
2.6.2	Volume 1, Chapter 13 Offshore Ornithology	Disturbance or displacement of red-throated divers from vessels	Embedded mitigation	Best-practice shipping protocol to minimise disturbance to red-throated divers. This would

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				comprise the following measures for ships associated with North Falls[1]: • designing vessel transit routes during construction, operation and decommissioning as far as possible to minimise transit within the SPA boundary and a 2km buffer; • (in combination with the above) restricting vessel movements to existing navigation routes (where the densities of divers are typically relatively low); • where it is necessary to go outside of established navigational routes, selecting routes that avoid known aggregations of birds; • maintaining direct transit routes (to minimise transit distances through areas used by divers); • avoidance of over-revving of engines (to minimise noise disturbance); and • briefing of vessel crew on the purpose and implications of these vessel management practices (through, for example, tool-box talks).
Operation and maintenance				
2.6.3	Volume 1, Chapter 13 Offshore Ornithology	Mortality from collision with rotating wind turbine generator (WTG) blades	Embedded mitigation	A minimum air gap (the distance between the lower rotor tip of a WTG and the sea surface of 27m above Mean High Water Springs (MHWS) (26.6m above Highest Astronomical Tide (HAT)). This is an increase of 5m above the minimum of 22m MHWS required for navigation purposes to reduce collision risk for birds (as most seabirds tend to fly low to the sea surface).
Decommissioning				
None proposed				

[1] NB: this mitigation applies for the operation and maintenance phase, as well as construction.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Monitoring commitments				
None proposed				

2.7 Commercial fisheries (Chapter 14)

Table 2.7 Mitigation and monitoring in relation to commercial fisheries

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.7.1	Volume 1, Chapter 14 Commercial Fisheries	Accidental pollution events during operation may result in the release of contaminants with potential effects on commercially valuable fish and shellfish species	Embedded mitigation	Committed to the use of best practice techniques and due diligence regarding the potential for pollution throughout all construction, operation and maintenance, and decommissioning activities. As a result, an outline PEMP will be developed to accompany the DCO application. The final PEMP would be agreed with the MMO prior to construction and would include, for example, measures to control accidental release of drilling fluids whilst ensuring that any chemicals used are listed on the OSPAR List of Substances Used and Discharged Offshore which Are Considered to PLONOR (OSPAR, 2021).
2.7.2	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	A Fisheries Liaison Officer (FLO) will be appointed for the Construction Phase and as required during the Operation Phase (including maintenance and repair – see below) to provide a project specific point of contact to liaise and engage with the fishing industry.
2.7.3	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The Fisheries Liaison and Coexistence Plan (FLCP) detailing the scheduling, approach and stakeholders with whom liaison will be conducted and the content and formats of information to be provided and the process of recording and acting upon feedback from stakeholders. The FLCP will detail any additional

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				appropriate evidence-based mitigation measures in line with FLOWW guidance.
2.7.4	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Timely and efficient distribution of Notice(s) to Mariners' (NtMs), Kingfisher notifications and other navigational warnings of the position and nature of works associated with the Project.
2.7.5	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Development of a standard procedure for the claim of loss of/or damage to fishing gear to facilitate co-existence and minimise potential adverse interactions between Project vessels and fishing activities.
2.7.6	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Development of a Code of Good Practice for contracted vessels facilitates co-existence between vessels undertaking works for the Project and fishing vessels and helps minimise potential adverse interactions. This will be in addition to compliance of all project vessels with international marine regulations as adopted by the Flag State, notably the International Regulations for Preventing Collisions at Sea (COLREG) and Safety of Life at Sea (SOLAS).
2.7.7	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The Applicant is committed to burying offshore cables where practicable to a minimum burial depth of 0.5m. Cable burial minimises potential interactions between fishing gear and cables. In addition, cable burial minimises the amount of hard substrate which may be required. Following industry best-practice the Applicant will evaluate appropriate cable protection methods available for cables which cannot be buried to the minimum depth of 0.5.
2.7.8	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The Applicant will determine suitable cable burial depths and protection measures via a cable burial risk assessment process. This will consider the vessel densities, types and sizes across and in the vicinity of the offshore cable corridor and interconnector cable corridor to ensure protection / burial is sufficient.
Operation and maintenance				

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.7.9	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	A FLO will be appointed as required during the Operation Phase (including maintenance and repair) to provide a project specific point of contact to liaise and engage with the fishing industry.
2.7.10	Volume 1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Information on the areas where cable protection is installed will be distributed to relevant representative organisations and stakeholders in appropriate formats for inclusion in charts and information bulletins.
2.7.11	Volume 1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Where rock placement is used for cable protection consideration will be given to designs that minimise potential gear snagging risk (i.e. use of graded rock and 1:3 profile berms). This will facilitate co-existence and minimise potential damage to and from fishing gear and associated safety risks.
2.7.12	Volume 1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	In the event that cable exposures are identified during the operational phase, the location of these will be published via the standard notices with additional liaison to be undertaken with fisheries stakeholders. Where appropriate, additional temporary measures would also be put in place (e.g., surface marker buoys, use of guard vessels, etc).
2.7.13	Volume 1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Undertaking of post-lay and burial inspection surveys and, where appropriate and practicable, undertaking of rectification works. This facilitates co-existence and prevents potential damage to and from fishing gear and minimises potential safety risks.
2.7.14	Volume 1, Chapter 14 Commercial Fisheries	Accidental pollution events during operation may result in the release of contaminants with potential effects on commercially valuable fish and shellfish species	Embedded mitigation	Measures described in 2.7.1
2.7.15	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.3
2.7.16	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.4

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.7.17	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.5
2.7.18	Volume 1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.6
Monitoring commitments				
Monitoring requirements will be discussed with stakeholders in the preparation of the final ES which will be submitted alongside the DCO application.				

2.8 Shipping and navigation (Chapter 15)

Table 2.8 Mitigation and monitoring in relation to shipping and navigation

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.8.1	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Application for safety zones during the construction phase and periods of major maintenance. Application for safety zones will be made post consent under 'The Electricity (Offshore Generating Stations) (Safety Zones) (Applications Procedures and Control of Access) Regulations 2007' (S.I. No 2007/1948).
2.8.2	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Compliance by all Project vessels with COLREGS (International Maritime Organization (IMO), 1972) and SOLAS (IMO, 1974).
2.8.3	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing	Embedded mitigation	Layout will be discussed and agreed with the Maritime and Coastguard Agency (MCA) and Trinity House.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		vessels or vessels navigating internally		
2.8.4	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally.	Embedded mitigation	Compliance with all aspects of Marine Guidance Note (MGN) 654 *Safety of Navigation: Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response* including its annexes.
2.8.5	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Marine Coordination implemented to ensure management of project vessel movements.
2.8.6	Volume 1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders.	Embedded mitigation	Emergency Response Cooperation Plan (ERCoP) in the required MCA format and structure and as required under MGN 654.
2.8.7	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Advance warning and accurate location details of all construction, maintenance and decommissioning operations. This will include any associated Safety Zones and will be given via usual means including Notices to Mariners and Kingfisher Bulletins.
2.8.8	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Use of guard vessels where identified as necessary via risk assessment, as required under MGN 654.
2.8.9	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Reduction of emergency response capability due to increased incident	Additional mitigation	Further consultation required following post PEIR design refinements.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		rates and/or reduced access for search and rescue responders.		
Operation and maintenance				
2.8.10	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Lighting and marking in consultation and agreement with Trinity House, MCA, and the Civil Aviation Authority, and considering International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) G1162/O-139 (IALA, 2021).
2.8.11	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.1
2.8.12	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.2
2.8.13	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.3
2.8.14	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.4
2.8.15	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.5

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.8.16	Volume 1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders	Embedded mitigation	As described in 2.8.6
2.8.17	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.7
2.8.18	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.8
2.8.19	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Display of North Falls infrastructure (including cables) on appropriately scaled nautical charts.
2.8.20	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Assessment of required cable protection measures.
2.8.21	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders.	Additional mitigation	Further consultation required following post PEIR design refinements.
Decommissioning				

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.8.22	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.1
2.8.23	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.2
2.8.24	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.4
2.8.25	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.5
2.8.26	Volume 1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders.	Embedded mitigation	As described in 2.8.6
2.8.27	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.7

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.8.28	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.8
Monitoring commitments				
2.8.29	Volume 1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the construction, operation and maintenance and decommissioning of North Falls could lead to increased collision rates in the area.	Additional mitigation/ Monitoring	Construction traffic monitoring by Automatic Identification System (AuIS), including continual collection of data from a suitable location. An assessment of a minimum of 28 days and comparison against the results of the Navigational Risk Assessment (NRA) vessel traffic analysis and anticipated future case routing will be submitted to the MCA annually throughout the construction phase and is likely to continue through the first year of the operation and maintenance phase to ensure measures implemented are effective.
2.8.30	Volume 1, Chapter 15 Shipping and Navigation	Any changes in water depth associated with the installed cable protection could lead to an increase in underkeel interaction risk for third party vessels navigating in the area.	Additional mitigation/ Monitoring	The sub-sea cables will be subject to periodic inspection post construction to monitor cable burial depths and protection. If exposed cables or ineffective cable protection measures are identified, these would be promulgated to relevant sea users including via notifications to mariners and Kingfisher Bulletins and if there was deemed to be an immediate risk additional temporary measures may be deployed until such time as the risk is permanently mitigated.
2.8.31	Volume 1, Chapter 15 Shipping and Navigation	Structures within the array areas will increase allision risk to passing vessels or vessels navigating internally	Additional mitigation/ Monitoring	As required by MGN 654, detailed and accurate hydrographic surveys will be undertaken periodically at intervals agreed with the MCA.

2.9 Offshore and intertidal archaeology and cultural heritage (Chapter 16)

Table 2.9 Mitigation and monitoring in relation to offshore and intertidal archaeology and cultural heritage

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.9.1	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Embedded mitigation	Archaeological Exclusion Zones (AEZs) around the extents of known wreck sites, marine geophysical anomalies of archaeological interest (A1s) and previously recorded sites that have not been seen in the geophysical data (A3s) and at which the presence of surviving material is considered possible. No development related activities will take place within an AEZ.
2.9.2	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Avoidance where practicable of identified anomalies (A2s) by micro-siting of design
2.9.3	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Avoidance by micro-siting where practicable of previously recorded sites that have not been seen in the geophysical data (A3s) and at which the presence of surviving material is considered unlikely
2.9.4	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Further investigation of any identified anomalies (A2s) and previously recorded sites (A3s) that cannot be avoided by micro-siting of design and the application of either embedded mitigation (avoidance) or additional mitigation
2.9.5	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	AEZs may be reduced, enlarged or removed in agreement with Historic England if further relevant information becomes available. However, unless modified by agreement, it is important that AEZs are retained throughout the lifetime of North Falls and monitoring of AEZs may be required by the regulator and Historic England to ensure adherence both during construction and in the future operation of the wind farm.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.9.6	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	Further archaeological assessment of high-resolution geophysical data and geoarchaeological assessment of geotechnical data will be undertaken post-application/ post-consent in order to reduce, as far as possible, the potential for unintended impacts during construction.
2.9.7	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Additional mitigation	The archaeological assessment of post-construction monitoring data will further reduce, as far as possible, the potential for unintended impacts during operation. If further features of archaeological interest are identified these will be subject to the same mitigation as described for known heritage assets described in mitigation point 2.9.5 above with the primary approach being avoidance.
Operation and maintenance				
2.9.7	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Additional mitigation	The archaeological assessment of post-construction monitoring data will further reduce, as far as possible, the potential for unintended impacts during operation. If further features of archaeological interest are identified these will be subject to the same mitigation as described for known heritage assets described in mitigation point 2.9.5 above with the primary approach being avoidance.
Decommissioning				
2.9.8	Volume 1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	The archaeological assessment of any further geophysical data will further reduce, as far as possible, the potential for unintended impacts during decommissioning. If further features of archaeological interest are identified these will be subject to the same mitigation as described for known heritage assets described in mitigation point 2.9.5 above with the primary approach being avoidance. In the event of an unexpected discovery, the ongoing implementation of a formal protocol for archaeological

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				discoveries, throughout the decommissioning phase, will allow for such discoveries to be efficiently reported, for advice to be provided and for any further mitigation to be considered on a case by case basis, proportionate to the significance of the discovery.
Monitoring commitments				
Monitoring requirements will be described in the in-principle monitoring plan (IPMP) submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction based on the IPMP and taking account of the final detailed design of North Falls. The requirements for monitoring for offshore archaeology and cultural heritage will be set out in the Outline (offshore) Written Scheme of Investigation (WSI). This is anticipated to comprise the archaeological assessment of post- construction marine geophysical data to include an assessment of AEZs to confirm that impacts have not occurred during or post-construction and that the size and extent of the AEZs remain fit for purpose.				

2.10 Aviation and radar (Chapter 17)

Table 2.10 Mitigation and monitoring in relation to aviation and radar

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.10.1	Volume 1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	Measures will include issuing Notices to Airmen (NOTAMs) and Aeronautical Information Circulars (AICs), warning of the establishment of obstacles within the North Falls array area and publicity in such aviation publications as Safety Sense and the General Aviation Safety Council (GASCo) Flight Safety magazine.
2.10.2	Volume 1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	At various points during the development details of the position, height above mean sea level (amsl) and lighting of each of the completed permanent structures will be forwarded to the National Air Traffic Services (NATS) Aeronautical Information Service (AeIS) for inclusion in the UK Aeronautical Information Publication (AIP) and on relevant aeronautical charts, as notifiable permanent obstructions. This permanent

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				information will replace the short-term NOTAMs that will continue to be issued to cover the Project until construction has been completed.
2.10.3	Volume 1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	En route navigation charts will be updated as the site construction proceeds. All obstacles over 300ft (91.4m) amsl must be notified to the Civil Aviation Authority (CAA) for inclusion in the UK AIP (section ENR5.4) and on aeronautical maps, and to the Defence Geographic Centre for inclusion in Ministry of Defence (MoD) databases.
Operation and maintenance				
2.10.4	Volume 1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	The international marking and lighting requirement, set out in the International Civil Aviation Organisation (ICAO) Annex 14: Aerodrome Design and Operations, specifies that: • "a wind turbine shall be marked and / or lighted if it is determined to be an obstacle."; and • "the rotor blades, nacelle and upper 2/3 of the supporting mast of wind turbines should be painted white, unless otherwise indicated by an aeronautical study." UK regulations adopt ICAO Annex 14's requirements as to lighting of WTGs but do not require that WTGs follow the ICAO recommendation as to paint colour, although CAP 764 does set out the ICAO recommendation by way of guidance. In terms of marking the WTGs, in keeping with recent practice for offshore wind farms, it is anticipated that Trinity House will require all structures to be painted yellow from the level of HAT to a height directed by Trinity House, and above the yellow section all WTGs will be painted submarine grey.
2.10.5	Volume 1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the	Embedded mitigation	North Falls will be lit in accordance with the Air Navigation Order (ANO). ANO Article 222 defines an 'en route obstacle' as any building, structure or erection, the height of which is 150m or more above ground level and requires these to be lit. Article 223

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		vicinity of the North Falls array areas.		modifies the Article 222 requirement with respect to offshore WTGs, requiring these to be lit where they exceed 60m above HAT with a medium intensity (2000 candela (cd)) steady red light mounted on the top of each nacelle and requires for limited downward spillage of light. Article 223 allows for the CAA to permit that not all WTGs are so lit. The CAA will require that all WTGs on the periphery of any wind farm need to be equipped with aviation warning lighting and such lighting, where achievable, shall be spaced at longitudinal intervals not exceeding 900m. There is no current routine requirement for offshore obstacles to be fitted with intermediate vertically spaced aviation lighting. CAA guidance has been subject to coordination with maritime agencies to avoid confusion with maritime lighting. To that end, the CAA has indicated that the use of a flashing red Morse Code letter 'W' is likely to be approved to resolve potential issues for the maritime community.
2.10.6	Volume 1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	The Maritime and Coastguard Agency (MCA) is seeking that WTG blade tips are marked in red, together with markings down the blade, to provide a Search and Rescue (SAR) helicopter pilot with a hover reference point as set out in the Offshore Renewable Energy Installations (OREI) SAR Requirements document. The MCA also seeks a lighting scheme comprising 200cd red / infra-red lights on the nacelles of non-Article 223 WTGs, to be operated on demand during SAR operations and a WTG shutdown protocol to be applied during rescue situations. An Emergency Response and Cooperation Plan (ERCoP) will be developed and implemented for all phases of the Project, based upon the MCA's standard template. Appropriate lighting will be utilised to facilitate heli-hoisting if undertaken within the North Falls array area, as outlined in CAP 437.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.10.7	Volume 1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array areas.	Embedded mitigation	To satisfy MoD requirements, the WTGs will also be required to be fitted with infra-red lighting in combination with the ANO Article 223 lights. MoD lighting guidance indicates that provided combination infra red / 2000cd visible red lights are used to light the WTGs required to be lit under ANO Article 223, this satisfies the MoD operational requirement.
2.10.8	Volume 1, Chapter 17 Aviation and Radar	Wind turbine generators could cause interference on civil and military radars.	Additional mitigation	Technical mitigation solution applied to impacted radars to be agreed with the radar operators.
Decommissioning				
2.10.9	Volume 1, Chapter 17 Aviation and Radar	WTGs causing permanent interference on civil and military radars	Additional mitigation	Mitigations applicable from operation phase to remain in place until all WTG blades are removed
Monitoring commitments				
None proposed				

2.11 Infrastructure and other users (Chapter 18)

Table 2.11 Mitigation and monitoring in relation to infrastructure and other users

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.11.1	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning;	Embedded mitigation	Owners and operators of infrastructure (other wind farm developers, dredging companies and cable operators) have been and will continue to be, consulted by the Applicant, and commercial and technical agreements will be put in place where required ahead of construction.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		and increased pressure on port facilities.		
2.11.2	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	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 and other appropriate media. This will be secured through the DCO / Deemed Marine Licence (dML) conditions. Relevant shipping and navigation mitigations are described in Table 2.8.
2.11.3	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	Crossing and proximity agreements will be agreed post-consent with the relevant asset owners, where required.
2.11.4	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	Consultation with Trinity House to determine appropriate lighting and marking.
2.11.5	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning;	Embedded mitigation	Alignment of turbines as required under MGN 654 to provide obstruction free SAR access.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
		and increased pressure on port facilities.		
Operation and maintenance				
2.11.6	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	As described in 2.11.1
2.11.7	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	As described in 2.11.2
Decommissioning				
2.11.8	Volume 1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	As described in 2.11.2
Monitoring commitments				
None proposed				

2.12 Ground conditions and contamination (Chapter 19)

Table 2.12 Mitigation and monitoring in relation to ground conditions and contamination

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.12.1	Volume 1, Chapter 19 Ground Conditions and Contamination	Potentially contaminated areas	Additional mitigation	A pre-construction targeted ground investigation would be undertaken in areas identified as potential sources of contamination in order to assess site characteristics of the onshore project area. This would then allow for the assessment of contaminated areas and appropriate remediation strategies to be produced should the identified contamination be deemed to represent an unacceptable risk to human health. The strategy would be implemented following approval by the local authorities.
2.12.2	Volume 1, Chapter 19 Ground Conditions and Contamination	Preferential pathways for ground gas/vapours	Additional mitigation	The use of materials with a similar porosity, e.g. re-instatement of excavated materials, as the surrounding environment would mitigate the ground gas / vapour risks associated with creating a preferential pathway along the length of the onshore cable corridors.
2.12.3	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential impacts to human health, groundwater and surface water bodies	Embedded mitigation	The development of, and adherence to, a Code of Construction Practice (CoCP). The CoCP would be regularly reviewed and updated post consent, prior to and during the construction period. The CoCP would be informed by the findings of any pre-construction ground investigation and include an assessment of the potential risks to human health and controlled waters receptors posed by the construction of North Falls. Based on that risk assessment, appropriate working methods would be developed to avoid, minimise, or mitigate impacts relating to construction.
2.12.4	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential contamination of surface water features	Embedded mitigation	Trenchless crossing techniques have been committed to where the cable corridors cross Main Rivers. This would minimise the potential for contamination (if present) from excavation works by limiting the

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				potential for contaminated materials to enter surface waters via surface run off.
2.12.5	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential for contamination of groundwater and surface water bodies	Embedded mitigation	A CoCP would include specific measures that are protective of controlled waters in relation to the storage of fuels, oils, lubricants, wastewater, and other chemicals during the works. This would include: • Storing all fuels, oils, lubricants, wastewater, and other chemicals in impermeable bunds with at least 110% of the stored capacity, with any damaged containers being removed from onshore project area. • Refuelling would take place in a dedicated impermeable area, using a bunded bowser. Biodegradable oils to be used where possible. • Ensuring that spill kits are available on site at all times as well as sandbags and stop logs for deployment in case of emergency spillages.
2.12.6	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential contamination of groundwater	Embedded mitigation	Ground investigations and a hydrogeological risk assessment meeting the requirements of the Environment Agency's approach to groundwater protection (Environment Agency, 2018), would be undertaken at each trenchless crossing location.
2.12.7	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential impacts on human health	Embedded mitigation	Risk mitigation strategies protective of human health that are to be incorporated into the CoCP include: • Use of appropriate Personal Protective Equipment (PPE); • Provision of welfare facilities; • Monitoring of works including air quality and odour; and • Implementation of relevant good working practices including stockpile management and dust suppression activities to reduce the risk relating to the creation and inhalation of wind-blown dusts. The CoCP would incorporate legislation requirements including the Construction Design Management (CDM)

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				Regulations (2015), Health and Safety at Work Act (1974) and Control of Substances Hazardous to Health (COSHH) Regulations.
2.12.8	Volume 1, Chapter 19 Ground Conditions and Contamination	Encountering unexpected contamination	Embedded mitigation	A plan for dealing with unexpected contamination would be developed as part of the CoCP. This plan would also incorporate the Environment Agency best practice guidelines for pollution prevention which have been withdrawn from use but still provide a useful best practice guide and include: • Environment Agency Pollution Prevention Guidance (PPG) 01 – Understanding your environmental responsibilities; • Environment Agency PPG 05 – Works and maintenance near water; • Environment Agency PPG 06 – Working at construction and demolition: preventing pollution guidance; • Environment Agency PPG 08 – Safe storage and disposal of used oils; • Environment Agency PPG 21 – Pollution incident response planning; and • Environment Agency PPG 22 –Dealing with spills.
2.12.9	Volume 1, Chapter 19 Ground Conditions and Contamination	Contaminated perched water and groundwater	Embedded mitigation	In areas that have been identified as potential areas of contamination within the PRA or encountered during construction works, perched waters within Made Ground or groundwater from dewatering activities would be collected within a tank or lagoon prior to any treatment or discharge. This wastewater shall either be: • Discharged to foul sewer under a trade effluent consent agreed with the local water company / supplier; and / or, • Discharged to surface water under an environmental permit issued by the Environment Agency.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.12.10	Volume 1, Chapter 19 Ground Conditions and Contamination	Management of excavated soils	Embedded mitigation	Adoption of a Contaminated Land: Applications in Real Environments (CL:AIRE) Industry Code of Practice to manage the re-use and disposal of excavated soils within the onshore project area would also be incorporated as an additional mitigation measure in the CoCP, this would aid in maximising sustainability and provide an audit trail to demonstrate the appropriate use of materials. A Materials Management Plan (MMP) would be drafted in advance of any construction works, this would include chemical screening criteria in order to ensure that imported and / or reused materials are chemically suitable for use. If materials identified as containing asbestos are identified, then a specialist contractor would be employed to aid in its removal from onshore project area, in line with current legislation.
2.12.11	Volume 1, Chapter 19 Ground Conditions and Contamination	Site waste management	Embedded mitigation	A Site Waste Management Plan will be developed post-consent to ensure the proper handling and protocols are in place to deal with any generated wastes.
2.12.12	Volume 1, Chapter 19 Ground Conditions and Contamination	Mineral sterilisation	Additional mitigation	Consultation with the Essex Minerals and Waste Planning Authority with regards to the feasibility of mineral extraction prior to development. This would be supported by ground investigations prior to construction to help better determine the depth, accessibility and quality of the mineral resource and enable a quantification of the amount of the mineral that may be sterilised. A Mineral Resource Assessment would be undertaken in advance of construction if required, to provide an indication of the likely quality and extent of the mineral resource, the commercial viability of extraction and environmental impact.
Operation and maintenance				
2.12.13	Volume 1, Chapter 19 Ground Conditions and Contamination	Potential impacts on human health, groundwater and surface water bodies	Additional mitigation	Maintenance workers that are required to undertake ground excavation or maintenance works during the operation of North Falls would be provided with

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				information regarding the nature of ground conditions within each area so that they can develop and implement site and task specific risk assessments and method statements.
Decommissioning				
None proposed				
Monitoring commitments				
Groundwater and ground gas monitoring may be required as part of any pre-construction targeted ground investigations that may be required in order to determine the site characteristics of the onshore project area and if they pose a potential risk to human health, groundwater and surface water receptors.				

2.13 Onshore air quality (Chapter 20)

Table 2.13 Mitigation and monitoring in relation to onshore air quality

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.13.1	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Embedded mitigation	The Project will commit to the implementation of best practice dust mitigation measures.
2.13.2	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Embedded mitigation	Dust management mitigation measures will be outlined in the Project's Outline Code of Construction Practice (OcoCP) submitted as part of the Project's DCO application and will be secured within the final CoCP submitted post-consent.
2.13.3	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site. • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Display the head or regional office contact information.
2.13.4	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	• Develop and implement a Dust Management Plan (DMP) (this will form part of the CoCP), which may include measures to control other emissions, approved by the local authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook. • Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes. • Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary. • Carry out regular site inspections to monitor compliance with the DMP, record inspection

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				results, and make an inspection log available to the local authority when asked. • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site. • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Manage stockpiles to prevent wind whipping. • Ensure all vehicles switch off engines when stationary – no idling vehicles. • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials. • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). Further details provided in Chapter 27 Traffic and Transport. • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. • Avoid bonfires and burning of waste materials.
2.13.5	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	• Ensure sand and other aggregates are stored in appropriate manner to minimise dust generation for example the use of bunded areas. • Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.13.6	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	• Manage earthworks and exposed areas/soil stockpiles to stabilise surfaces. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
2.13.7	Volume 1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	• Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Record all inspections of haul routes and any subsequent action in a site logbook. • Install hard surfaced haul routes where practicable, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. • Locate access gates at least 10m from receptors where possible.
2.13.8	Volume 1, Chapter 20 Onshore Air Quality	Construction air quality effects arising from Non-Road Mobile Machinery (NNRM)	Embedded mitigation	Mitigation measures specific to Non-Road Mobile Machinery (NRMM) will be outlined within the Project's OcoCP submitted as part of the Project's DCO application and will be secured within the final CoCP submitted post-consent. NRMM and plant should be well maintained. If any emissions of dark smoke occur, then the relevant machinery should stop immediately, and any problem rectified. In addition, the following controls should apply to NRMM:

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• All NRMM should use fuel equivalent to ultralow sulphur diesel (fuel meeting the specification within EN590:2004) where practicable; • All NRMM should comply with the appropriate NRMM regulations; • All NRMM would be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting); • The ongoing conformity of plant retrofitted with DPF, to a defined performance standard, should be ensured through a programme of onsite checks; and • Fuel conservation measures should be implemented, including instructions to (i) throttle down or switch off idle construction equipment; (ii) switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded and (iii) ensure equipment is properly maintained to ensure efficient fuel consumption. Consideration will also be given to the siting of NRMM within the working area. Where practicable, locating generators and plant at the greatest distance from receptors will reduce the potential for air quality effects.
Operation and maintenance				
None proposed				
Decommissioning				
None proposed				
Monitoring commitments				
None proposed				

2.14 Water resources and flood risk (Chapter 21)

Table 2.14 Mitigation and monitoring in relation to water resources and flood risk

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.14.1	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	All Main Rivers will be crossed using trenchless techniques such as HDD to avoid direct interaction with these watercourses. Most Ordinary Watercourses will also be crossed using trenchless techniques.
2.14.2	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	Bailey bridges or similar may be used as options to traverse Main Rivers where direct access is not readily available from both sides. Culverts will not be used to cross Main Rivers. Selection of a crossing technique for Ordinary Watercourses not crossed using trenchless techniques will be dependent on local site conditions and may include the use of temporary culverts. Temporary culverts will be adequately sized to avoid impounding flows (including allowing for increased winter flows as a result of climate change).
2.14.3	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	Best practice measures at trenched crossings include: • The amount of time that temporary dams are in place will be kept to a minimum; • Prior to dewatering the area between the temporary dams, a fish rescue would be undertaken; • Flumes or pumps would be adequately sized to ensure that flows downstream are maintained whilst minimising upstream impoundment; • Scour protection would also be used to protect the river bed downstream of the dam from high energy flow at the outlets of flumes and pumps; and • Sympathetic reinstatement of channel and banks.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.14.4	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects on agricultural drainage	Embedded mitigation	The Applicant will appoint a land drainage consultant to develop pre-and post-construction drainage plans. Additionally, land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An outline CoCP will be submitted with the DCO application and this will include outline soil management measures and outline the mitigation measures and best practice techniques, which contractors would be obliged to comply with. The DCO will contain a requirement to submit a final CoCP and Soil Management Plan (SMP) (which must be in accordance with the Outline CoCP) prior to commencement of construction.
2.14.5	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects arising from sediment supply to watercourses	Embedded mitigation	Construction activities will adhere to industry good practice measures as detailed in the Environment Agency's PPG notes (PPG1, PPG5, PPG8 and PPG21). Although the Environment Agency's PPG notes have been revoked in England, they have been updated as Guidance for Pollution Prevention (GPP notes) for use in Scotland and Northern Ireland (NetRegs, 2022). Updates are included in the measures listed below. Construction Industry Research and Information Association (Construction Industry Research and Information Association (CIRIA)) best practice (Control of water pollution from construction sites: Guidance for consultants and contractors (C532) (2001)) will also be adhered to. Specific measures will potentially include: • Minimising the amount of time stripped ground and soil stockpiles are exposed; • Only removing vegetation from the area that needs to be exposed in the near future; • Seeding or covering stockpiles; • Using geotextile silt fencing at the toe of the slope, to reduce the movement of silt – this should be installed before soil stripping has begun and vehicles start tracking over the site;

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• On-site retention of sediment to be maximised by routing all drainage through the site drainage system; • Include measures to intercept sediment runoff at source in the drainage system using suitable filters to remove sediment from water discharged to the surface drainage network; • Plant and wheel washing is carried out in a designated area of hard standing at least 10mfrom any watercourse or surface water drain, rock outcrop (hard rock at surface) or karstic sinkhole; • Traffic movements would be restricted to minimise surface disturbance; • Collect run-off in lagoons and allow suspended solids to settle before disposal; • Divert clean water away from the area of construction work in order to minimise the volume of contaminated water; and • Routing the cable to avoid water resources and flood risk receptors where possible. In locations where large areas of exposed ground lie adjacent to watercourses, buffer strips of vegetation will be retained where possible to prevent runoff. • Other embedded best practice measures include: ○ Limiting the extent of open excavations along the onshore cable corridor to short sections at any one time (work fronts). Topsoil would be stripped from the entire width of the onshore cable corridor for the length of the work front, then stored and capped to minimise erosion from wind and rain; and ○ Temporary works areas (e.g., construction compounds and trenchless crossing areas) within the onshore project area may comprise hardstanding of permeable material, such as gravel aggregate or alternatively matting/timber or similar, underlain by geotextile or another suitable material to a

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				minimum of 50% of the exposed area. This would minimise the area of open ground.
2.14.6	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects arising from supply of contaminants	Embedded mitigation	Specific measures relevant to the prevention of contaminant supply to water bodies will prevent the immediate discharge of contaminated water and sediment from the onshore cable corridor(s) into the surface drainage network, and will include: • Situating concrete and cement mixing and washing areas at least 10m away from the nearest water body. These areas will incorporate settlement and recirculation systems to allow water to be re-used. All washing out of equipment would take place in a contained area and the water collected for disposal off-site; • Storing all fuels, oils, lubricants and other chemicals in impermeable bunds with at least 110% of the stored capacity, with any damaged containers being removed from site. Refuelling would take place in a dedicated impermeable area, using a bunded bowser, located at least 10m away from the nearest water body; • Ensuring that spill kits are available on site at all times as well as sand bags and stop logs for deployment on the outlets from the site drainage system in case of emergency spillages; • Foul drainage (e.g., from construction welfare facilities) will be collected through mains connection to an existing mains sewer (if such a connection is available) or collected in a septic tank located within the DCO order limits and transported off site for disposal at a licensed facility with appropriate treatment capacity within its existing permit; • During construction, the onshore cable installation will be designed such that it will be bounded by parallel drainage channels (one on each side) to intercept drainage within the working width. Additional drainage channels will be installed to intercept water from the cable trench. This will be

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				discharged at a controlled rate into local ditches or drains via temporary interceptor drains. Depending upon the precise location, water from the channels will be infiltrated or discharged into the existing drainage network; • Construction drainage will be developed and implemented to minimise water within the cable trench and ensure ongoing drainage of surrounding land. If water enters the trenches during installation from surface runoff of groundwater seepage, this will be pumped via settling tanks, sediment basins or mobile treatment facilities to remove sediment, before being discharged into local ditches or drains via temporary interceptor drains. Existing land drains will be reinstated following construction; • Potential contaminants will be stored under cover to prevent rainwater carrying pollutants away; and • Potential contaminants will be stored in a safe place away from vehicles, to prevent collisions. In addition, buffer strips of vegetation will be retained adjacent to water bodies where possible, to intercept any contaminated runoff. To protect groundwater bodies, excavation will be shallow, except where below road or rail infrastructure and water bodies, where it may be deeper.
2.14.7	Volume 1, Chapter 21 Water Resources and Flood Risk	Changes to surface and groundwater flows and flood risk	Embedded mitigation	• Changes in surface water runoff resulting from the increase in impermeable area following construction of the onshore cable corridor(s), and particularly the onshore substation, would be attenuated and discharged at a controlled rate, in consultation with the Lead Local Flood Authority (LLFA) (Essex County Council) and the Environment Agency, and potentially Anglian Water (if a connection to their drainage infrastructure is required during construction of the onshore substation). An Operational Surface Water and Drainage Plan will be developed in

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				consultation with the relevant regulators and approved by the relevant planning authority. • As described above for watercourse crossings, the Applicant will appoint a land drainage consultant to develop pre-and post-construction drainage plans. Land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An outline CoCP including outline soil management measures will be submitted with the DCO and the DCO will contain a requirement to submit a final CoCP and SMP prior to commencement of construction. • During construction, the onshore cable installation would be designed such that it will be bounded by parallel drainage channels (one on each side) to intercept drainage within the working width. Additional drainage channels would be installed to intercept water from the cable trench. This would be discharged at a controlled rate into local ditches or drains via temporary interceptor drains. Depending upon the precise location, water from the channels would be infiltrated or discharged into the existing drainage network. • Construction drainage would be developed and implemented to minimise water within the cable trench and ensure ongoing drainage of surrounding land. If water enters the trenches during installation from surface runoff of groundwater seepage, this would be pumped via settling tanks, sediment basins or mobile treatment facilities to remove sediment, before being discharged into local ditches or drains via temporary interceptor drains. Existing land drains would be reinstated following construction. • As described for watercourse crossings, temporary culverts will be adequately sized to avoid impounding flows.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.14.8	Volume 1, Chapter 21 Water Resources and Flood Risk	Groundwater quality and abstractions for public water supply	Embedded mitigation	• The cable corridor has been developed to avoid interaction with Groundwater Source Protection Zone 1, and therefore minimise the potential for impact on abstractions for public water supply. • Ground investigations and a hydrogeological risk assessment meeting the requirements of The Environment Agency's Approach to Groundwater Protection (Environment Agency, 2018), will be undertaken at each HDD crossing location. • A written scheme dealing with contamination of any land and groundwater will be submitted and approved by the relevant planning authority before construction activities commence.
Operation and maintenance				
2.14.9	Volume 1, Chapter 21 Water Resources and Flood Risk	Effects arising from supply of contaminants	Embedded mitigation	Measures described in 2.14.6
2.14.10	Volume 1, Chapter 21 Water Resources and Flood Risk	Changes to surface and groundwater flows and flood risk	Embedded mitigation	Measures described in 2.14.7
2.14.11	Volume 1, Chapter 21 Water Resources and Flood Risk	Groundwater quality and abstractions for public water supply	Embedded mitigation	Measures described in 2.14.8
Decommissioning				
None proposed				
Monitoring commitments				
As there are designated sites within the onshore project area (e.g., Holland Haven Marshes Site of Special Scientific Interest (SSSI)) water quality monitoring may be required. Parameters would be agreed with the Environment Agency but may include a range of metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), petroleum hydrocarbons and general inorganics (pH, biochemical oxygen demand (BOD), dissolved oxygen, suspended and dissolved solids).				

2.15 Land use and agriculture (Chapter 22)

Table 2.15 Mitigation and monitoring in relation to land use and agriculture

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.15.1	Volume 1, Chapter 22 Land Use and Agriculture	Effects on agricultural drainage	Embedded mitigation	The Applicant will appoint a land drainage consultant to develop pre-and post-construction drainage plans. Additionally, land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An OcoCP will be submitted with the DCO application and this will include outline soil management measures and outline the mitigation measures and best practice techniques, which contractors would be obliged to comply with. The DCO will contain a requirement to submit a final CoCP and SMP (which must be in accordance with the OcoCP) prior to commencement of construction.
2.15.2	Volume 1, Chapter 22 Land Use and Agriculture	Temporary loss of agricultural land	Embedded mitigation	Wherever practicable, access to severed land for farm vehicles will be maintained. Where necessary and feasible, crossing points would be agreed with landowners and occupiers by the Agricultural Liaison Officer (ALO) pre-construction. Where practicable and in order to reduce impacts on agricultural productivity, the planning and timings of works will be discussed with landowners and occupiers. The land will be reinstated to pre-construction condition and where this is not possible the Project will seek to reach private agreements (or pay compensation in line with the relevant statutory legislation) with relevant landowners/occupiers. Habitat reinstatement method statements will be implemented for all habitats reinstated following the completion of construction (including semi-improved grassland, hedgerows and arable field margins).

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.15.3	Volume 1, Chapter 22 Land Use and Agriculture	Loss of soil to erosion	Embedded mitigation	Measures set out in the Ministry of Agriculture, Fisheries and Food (MAFF) (2000) Good Practice Guide for Handling Soils and Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites will be adopted and included in the CoCP and SMP, including: • Consider the weather conditions where it is appropriate to work for each soil type; • Store soil appropriately; • Ensure effective drainage systems are used during construction; • Reinstate drainage systems following construction; • Reinstate and plant vegetation following completion of the construction works; and • Produce a SMP outlining the mitigation measures and best practise techniques, which contractors would be obliged to comply with.
2.15.4	Volume 1, Chapter 22 Land Use and Agriculture	Soil degradation	Embedded mitigation	Mitigation measures to further reduce the effect of the construction activities include developing a SMP which will set out procedures for the appropriate handling of soils during the construction works, including: • Using a competent contractor for soil handling, storage and reinstatement under Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites; • Storing topsoil adjacent to where it is stripped, where practicable; • Seeding of topsoil bund with clover mix to fix nutrients and keep the soil live, therefore limiting soil loss and requirement for significant inputs when reinstated; • Storage of the excavated subsoil separately from the topsoil, with sufficient separation to ensure segregation; • Handling of soils according to their characteristics;

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Limiting mechanised soil handling in areas where soils are highly vulnerable to compaction during wet weather; • Restricting movements of heavy plant and vehicles to specified routes; and • Minimise excavation footprint as much as reasonably possible.
2.15.5	Volume 1, Chapter 22 Land Use and Agriculture	Effects on agri-environmental schemes	Embedded mitigation	The embedded mitigation relating to Agri-environment schemes will be the avoidance of land parcels that are subject to Environmental Stewardship Schemes or Countryside Stewardship Schemes, wherever possible. However, where impacts to land subject to an agri-environment agreement cannot be avoided, these will be dealt with through the Rural Payments Agency, including compensation provisions to reimburse a landowner's financial losses where appropriate.
2.15.6	Volume 1, Chapter 22 Land Use and Agriculture	Interference with utilities	Additional mitigation	Protective provisions and/or side agreements will be agreed with affected utilities as part of the DCO application process. North Falls will undertake utility crossings or diversions in accordance with the appropriate industry standards for such crossings.
Decommissioning				
None proposed				
Monitoring commitments				
None proposed				

2.16 Onshore ecology (Chapter 23)

Table 2.16 Mitigation and monitoring in relation to onshore ecology

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.16.1	Volume 1, Chapter 23 Onshore Ecology	Effects on ecological receptors	Embedded mitigation	Prior to works commencing, North Falls will prepare an Ecological Management Plan (EMP) setting out full details of the ecological mitigation measures which will be adhered to during the Project's construction. This will include: • A programme of works; • A list of roles and responsibilities for ecological mitigation, including the role of an ecological clerk of works (EcoW); • A plan showing ecological constraints; • Full details of best practice mitigation required in relation to all species and habitats affected by the Project; • Full details of any project-specific mitigation identified within this chapter, including habitat creation or protected species mitigation programmes. Any such programmes will be accompanied by mitigation layout plans; • A list of protected species licences and site consents required to facilitate construction; • Habitat reinstatement method statements for all habitats proposed to be reinstated following the completion of construction (including grassland, hedgerows, watercourses and arable field margins – see below); • Any associated standalone mitigation plans, e.g. reptile precautionary method of works, invasive species management plan, etc. as required As part of the Project's DCO application, an Outline Landscape and Ecological Management Strategy (OLEMS) will be submitted which will set out the

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				ecological mitigation requirements identified within the ES that must be incorporated into the EMP for delivery during the Project's construction. The OLEMS will act as the single source for all ecological mitigation measures proposed within the ES. It will also include identification of the amount of biodiversity units the project proposes to create as part of NFOW's commitment to a minimum of 10% biodiversity net gain.
2.16.2	Volume 1, Chapter 23 Onshore Ecology	Effect on ecological receptors	Embedded mitigation	The EMP will include details of best practice for minimising impact to notable habitats and legally protected and notable species, including (but not limited to): • Avoid sensitive times of the year for construction activities, including: • Avoid undertaking vegetation removal during the bird nesting season (March – August inclusive, although weather dependent). Where this cannot be achieved, a pre-construction check of all nesting habitat is required no more than 48 hours prior to removal. Should a nest be found, a buffer zone (minimum 5m) around the nest must be created, and no works must be undertaken within the buffer zone until the young have fledged. This mitigation also applies to suitable habitat for ground nesting birds. • Avoid undertaking above ground vegetation removal during the reptile active period (March – October inclusive) wherever possible and avoiding undertaking below ground vegetation removal e.g. roots and coppice stools during the reptile hibernation period (November – February inclusive) wherever possible. If not possible, above ground vegetation identified as suitable to support reptiles removed during the reptile active period must be done so whilst adhering to a precautionary method of working (PMoW) for reptiles, supervised by a suitably qualified ecologist. A precautionary methodology for

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments

				vegetation removal will involve cutting vegetation to a minimum height of 150mm, allowing reptiles to vacate the area, allowing an ecologist to search for any reptiles, then once cleared further cutting can take place. For any reptiles found during construction, a suitable translocation area will be decided upon to re-release the reptiles away from construction activities.
				• Undertaking pre-construction checks of all habitats identified of being of conservation importance prior to works, to ensure that the ecological constraints identified prior to consent have not changed.
				• Ensuring security lighting used during construction adheres as far as possible to accepted lighting guidance (Bat Conservation Trust (BCT) and Institute of Lighting Professionals (ILP), 2018), This will include the following measures:
				  ○ Ensure lighting is cowled and angled downwards and does not shine directly on sensitive habitats;
				  ○ Ensure lighting is motion activated to minimise unnecessary lighting;
				• Ensuring best practice pollution prevention measures are adhered to at all times to minimise the risk of pollutant release to sensitive habitats.
				• Best Practical Means (BPM) to be employed during construction to limit dust, odour, and exhaust emissions during construction works, to reduce potential effects upon air quality-sensitive habitat.
				• All habitats temporarily disturbed during constricted are reinstated in full upon completion of construction.

2.16.3	Volume 1, Chapter 23 Onshore Ecology	Effects on ecological receptors	Embedded mitigation	North Falls has committed to seeking to use trenchless techniques (e.g. HDD) where possible at all key sensitive linear features, including the following:

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• All 'important' hedgerows, and those hedgerows potentially suitable for supporting dormice and/or commuting / foraging bats; • Main rovers and watercourses potentially suitable for supporting water voles / otters; • Veteran trees; • Woodland UK Habitat of Principal Importance (UKHPI); • Ponds UKHPI.
2.16.4	Volume 1, Chapter 23 Onshore Ecology	Effects on ecological receptors	Embedded mitigation	At all trenched watercourse crossings, best practice measures will be in place to minimise disturbance of the beds, banks and downstream habitats: • The amount of time that any temporary dams are in place will be kept to a minimum; • Prior to dewatering the area between any temporary dams, a fish rescue would be undertaken; • Flumes or pumps would be adequately sized to ensure that flows downstream are maintained whilst minimising upstream impoundment; • Scour protection would also be used to protect the river bed downstream of the dam from high energy flow at the outlets of flumes and pumps; and • Sympathetic reinstatement of channel and banks.
2.16.5	Volume 1, Chapter 23 Onshore Ecology	Effects on hedgerows	Embedded mitigation	NFOW have committed to reduce the onshore cable route working width to 30m at hedgerow crossings where open cut trenching is proposed, to minimise the amount of hedgerow removal required. This will be achieved by not including the topsoil/subsoil storage bunds in the cable corridor working width at hedgerow crossings. Hedgerows will be replanted following construction but note that canopy tree species cannot be replanted within 6m of the buried cables, which will restrict tree planting for a 37m swathe during hedgerow reinstatement (as the maximum width of

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				hedgerow removal is 30m, in practice this restriction will only apply for a maximum 30m swathe). Hedgerow planting would be undertaken in the first winter season following construction.
2.16.6	Volume 1, Chapter 23 Onshore Ecology	Effects on habitats	Embedded mitigation	All habitats subject to temporary disturbance during construction, will be reinstated in full following the completion of construction. The specific details of the reinstatement will be set out within the EMP for each habitat. The following core principles for habitat reinstatement would be included within the EMP: **Grassland habitats** All topsoil stripped in grassland areas would be stored separately and reinstated following the completion of construction. Topsoil storage would be subject to a Soil Management Plan (secured through a DCO Requirement), which would also detail measures for soil storage and handling. Grassland reseeding would be undertaken using a local seed mix, to be agreed in advance with Natural England and Essex Wildlife Trust. **Trees and hedgerows** As advised by Essex County Council during the Evidence Plan Process (EPP), all tree and shrub planting undertaken by NFOW will be subject to an up to 10 year after care period. As advised by Natural England during the EPP, all hedgerows within the onshore project area not removed for construction to be allowed (where possible) to thicken up during construction and operation to facilitate use as feeding and commuting corridors for wildlife. All reinstated hedgerows will be replanted using locally important and native species, as advised by Essex Wildlife Trust and following the Essex Hedgerow Local Biodiversity Action Plan (LBAP). **Arable field margins**

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				If landowner permission can be reached, this habitat will be reinstated in consultation with Essex Wildlife Trust and the local landowner to ensure the optimum benefits can be gained from each margin affected. Prior to construction, the arable field margins will be re-surveyed to assess their conservation value. Attempts will then be made to ensure habitat reinstatement takes the form of one of the following (Joint Nature Conservation Committee (JNCC), 2008): • Cultivated, low-input margins (land managed specifically to create habitat for annual arable plants); • Margins sown to provide seed for wild birds (margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter); • Margins sown with wild flowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates; • Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses.
2.16.7	Volume 1, Chapter 23 Onshore Ecology	Effects on hedgerows		Mitigation measures employed in relation to hedgerows include: • Haul roads will be microsited to use existing hedgerow gaps where possible during the Project's detailed design; • Hedgerow replanting will be undertaken in the first season following the completion of construction. Hedgerows will be replanted using locally important and native species as advised by Essex Wildlife Trust and following the Essex Hedgerow LBAP; and • All hedgerow sections permanently removed at the onshore substation would be replaced as part of the Project's landscaping scheme. The details of the outline scheme will be prepared and presented as part of the ES.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.16.8	Volume 1, Chapter 23 Onshore Ecology	Effects on bats	Additional mitigation	Hedgerow removal will be programmed for winter to give bats time to adjust to the change prior to the maternity period. Hedgerows will be removed in the preceding winter as close to the onset of works as possible, and works will not commence after nights of poor weather (in case of bad weather roosts being used). Hedgerow replanting will follow in the first winter after construction, with the exception of the 6m gap required for the haul road, which will be replanted following the completion of onshore construction (i.e. after at most 18 months). Replanting will follow guidance to encourage insect biomass (BCT, 2016a). Future hedgerow management to include allowing standard trees to develop during the period of aftercare (up to 10 years) to improve quality of the hedgerow as a foraging resource. The Project will seek to retain as many mature trees as possible given the benefits they provide within linear commuting / foraging features. Additionally, if any new features identified as supporting bats require removal this will be completed under a Natural England European Protected Species (EPS) mitigation licence. Confirmed roosting sites that cannot be retained will be removed pre-construction, in line with the EPS mitigation licence method statement and BCT best practice guidelines: gently taking down the structure in sections and leaving them on the ground for 24 hours to allow any bats to vacate the feature(s). Where roosts of low conservation significance are lost to the Project, bat boxes will be installed as mitigation (Bat Conservation Trust, 2016). The type of bat box needed will depend on the species found in the onshore project area, and these will be determined once bat field surveys have been concluded.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.16.9	Volume 1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	It is considered that the least impactful option for water voles would be to manage the risk of HDD breakout through the Contingency Plan, rather than to displace water voles unnecessarily.
2.16.10	Volume 1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	A pre-construction survey will be undertaken prior to construction to confirm presence of water voles and otters within the onshore project area. If no field signs of water voles or otters are found within 50m of the onshore project area, no specific water vole or otter mitigation will be required. If the presence of water voles or otter holts is confirmed, then mitigation under the appropriate licence regime will be agreed with Natural England.
2.16.11	Volume 1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	Wherever practicable, night-time working near watercourses will be avoided or else minimised to reduce indirect impacts of light and noise on water voles and otters.
2.16.12	Volume 1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	Exit ramps from excavations will be provided at night near watercourses with confirmed presence of otters, to provide them with a means of escape.
2.16.13	Volume 1, Chapter 23 Onshore Ecology	Effects on great crested newts	Additional mitigation	North Falls propose to ensure appropriate mitigation for impacts upon great crested newts through Natural England's District Level Licensing (DLL) scheme for Essex. It is proposed that NFOW will enter into the scheme in advance of DCO submission, with a formal submission for a DLL being made post-consent.
2.16.14	Volume 1, Chapter 23 Onshore Ecology	Effects on reptiles	Additional mitigation	For those habitat mosaics which support 'good' populations of reptiles, which are potentially directly affected during construction, a reptile translocation programme will be undertaken where necessary. This will be included in the EMP and supervised by an ECoW. The translocation programme will follow Natural England's Standing Advice on reptiles (Natural England, 2022) and Herpetofauna Worker's Manual (Gent and Gibson, 2003). It will involve undertaking pre-construction surveys to understand the current

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				population size / distribution, identifying a suitable translocation site which provides the correct habitat features for the population to be translocated and undertaking an appropriate duration of trapping days (to be specified following the pre-construction surveys). Once trapping is complete the site will be cleared using a PMoW to minimise potential impacts upon any remaining individuals.
2.16.15	Volume 1, Chapter 23 Onshore Ecology	Effects on hazel dormice	Additional mitigation	For the six hedgerows where small-scale hedgerow removal is required, localised translocation programmes will be the hedgerow is recommended to be cleared as part of a 'persuasion' methodology (i.e, to persuade any dormice present to leave the area of their own accord): clearance in summer is acceptable, with small amounts taken out each day to allow individuals time to escape, and a search should be made for nests during clearance works. The best times for this work are May and late September, when there is less likelihood of young being present in nests (Bright, Morris and Mitchell-Jones, 2006). These will be undertaken under a EPS licence and under an agreed method statement advance of works, and then subject to hedgerow reinstatement and enhancement following works Where possible, additional feeding sites and nesting boxes could be installed in hedgerows and woodland edges outside of the onshore project area, to accommodate for any hazel dormice disturbed by noise (Bright, Morris and Mitchell-Jones, 2006).
Operation and maintenance				
None proposed				
Decommissioning				
None proposed				

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Monitoring commitments				
Monitoring of populations of local protected and notable species may need to be carried out to ensure there is no significant effects on local populations or conservation status. Such species may include, but not be limited to, water vole, badger, hazel dormice and great crested newts. Furthermore, habitat creation proposals, particularly around the substation, will be managed and monitored under an OLEMS which would be submitted as part of the DCO application and finalised before construction.				

2.17 Onshore ornithology (Chapter 24)

Table 2.17 Mitigation and monitoring in relation to onshore ornithology

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.17.1	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Prior to works commencing, North Falls will prepare an EMP setting out full details of the ecological and ornithological mitigation measures which will be adhered to during the Project's construction. This will include: • A programme of works; • A list of roles and responsibilities for ecological mitigation, including the role of an ECoW; • A plan showing ecological and ornithological constraints; • Full details of best practice mitigation required in relation to all species and habitats affected by the Project; • Full details of any project-specific mitigation identified within this chapter, including habitat creation or species-specific mitigation programmes. Any such programmes will be accompanied by mitigation layout plans; • A list of protected species licences and site consents required to facilitate construction;

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Habitat reinstatement method statements for all habitats proposed to be reinstated following the completion of construction (including grassland, hedgerows, watercourses and arable field margins – see below); • Any associated standalone mitigation plans as required. The EMP will include details of best practice for minimising impact to notable habitats and legally protected and notable species.
2.17.2	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	As part of the Project's DCO application, an OLEMS will be submitted which will set out the ecological and ornithological mitigation requirements identified within the ES that must be incorporated into the EMP and into the Written Landscaping Scheme for delivery during the Project's construction, and operation where relevant.
2.17.3	Volume 1, Chapter 24 Onshore Ornithology	Effects on habitats which support ornithological receptors	Embedded mitigation	The EMP will include details of best practice for minimising impact to notable habitats and legally protected and notable species, including (but not limited to): • Avoiding undertaking vegetation removal during the bird nesting season (March – August inclusive, although weather dependent). Where this cannot be achieved, a pre-construction check of all nesting habitat is required no more than 48 hours prior to removal. Should a nest be found, a buffer zone (minimum 5m) around the nest must be created, and no works must be undertaken within the buffer zone until the young have fledged. This mitigation also applies to suitable habitat for ground nesting birds. • Undertaking pre-construction checks of all habitats prior to works, to ensure that the ecological constraints identified prior to consent have not changed.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Ensuring security lighting used during construction adheres as far as practicable to accepted lighting guidance (Bat Conservation Trust (BCT) and Institute of Lighting Professionals (ILP), 2018), This will include the following measures: • Ensure lighting is cowed and angled downwards and does not shine directly on sensitive habitats; • Ensure lighting is motion activated to minimise unnecessary lighting; • Ensuring best practice pollution prevention measures are adhered to at all times to minimise the risk of pollutant release to sensitive habitats. • Best Practical Means (BPM) to be employed during construction to limit dust, odour, and exhaust emissions during construction works, to reduce potential effects upon air quality-sensitive habitat. • All habitats temporarily disturbed during constricted are reinstated in full upon completion of construction.
2.17.4	Volume 1, Chapter 24 Onshore Ornithology	Effects on habitats which support ornithological receptors	Embedded mitigation	The following core principles for habitat reinstatement would be included within the EMP: **Grassland habitats** All topsoil stripped in grassland areas would be stored separately and reinstated following the completion of construction. Topsoil storage would be subject to a Soil Management Plan (secured through a DCO Requirement), which would also detail measures for soil storage and handling. Grassland reseeding would be undertaken using a local seed mix, to be agreed in advance with Natural England and Essex Wildlife Trust. **Trees and hedgerows** As advised by Essex County Council during the EPP, all tree and shrub planting undertaken by NFOW will be subject to an up to 10 year after care period.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				As advised by Natural England during the EPP, all hedgerows within the onshore project area not removed for construction to be allowed (where possible) to thicken up during construction and operation to facilitate use as feeding and commuting corridors for wildlife. All reinstated hedgerows will be replanted using locally important and native species, as advised by Essex Wildlife Trust and following the Essex Hedgerow LBAP. **Arable field margins** If landowner permission can be reached, this habitat will be reinstated in consultation with Essex Wildlife Trust and the local landowner to ensure the optimum benefits can be gained from each margin affected. Prior to construction, the arable field margins will be re-surveyed to assess their conservation value. Attempts will then be made to ensure habitat reinstatement takes the form of one of the following (Joint Nature Conservation Committee (JNCC), 2008): • Cultivated, low-input margins (land managed specifically to create habitat for annual arable plants); • Margins sown to provide seed for wild birds (margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter); • Margins sown with wild flowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates; • Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses.
2.17.5	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	North Falls has committed to seeking to use trenchless techniques where practicable at all key sensitive linear features, including the following:

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• All 'important' hedgerows and those hedgerows potentially suitable for supporting dormice or commuting / foraging bats; • Main rivers and watercourses potentially suitable for supporting water voles / otters; • Veteran trees; • Woodland UKHPI; • Ponds UKHPI.
2.17.6	Volume 1, Chapter 24 Onshore Ornithology	Effects on hedgerows	Embedded mitigation	NFOW have committed to reduce the onshore cable route working width to 37m at hedgerow crossings where open cut trenching is proposed, to minimise the amount of hedgerow removal required. This will be achieved by not including the topsoil / subsoil storage bunds in the cable route working width at hedgerow crossings. Hedgerows will be replanted following construction but note that canopy tree species cannot be replanted within 6m of the buried cables, which will restrict canopy tree planting for a 37m swathe during hedgerow reinstatement. Hedgerow planting would be undertaken in the first winter season following construction, to speed establishment.
2.17.7	Volume 1, Chapter 24 Onshore Ornithology	Effects on habitats which support ornithological receptors	Embedded mitigation	At all trenched watercourse crossings, best practice measures will be in place to minimise disturbance of the beds, banks and downstream habitats: • The amount of time that any temporary dams are in place will be kept to a minimum; • Prior to dewatering the area between any temporary dams, a fish rescue would be undertaken; • Flumes or pumps would be adequately sized to ensure that flows downstream are maintained whilst minimising upstream impoundment; • Scour protection would also be used to protect the river bed downstream of any dam from high energy flow at the outlets of flumes and pumps; and

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Sympathetic reinstatement of channel and banks.
2.17.8	Volume 1, Chapter 24 Onshore Ornithology	Effects on Holland Haven Marshes SSSI	Embedded mitigation	An Outline HDD Method and Draft 'Break-out' Contingency Plan will be submitted with the Project's DCO application to provide assurance that reasonable steps will be taken to minimise the risk of effects arising upon interest features of the Holland Haven Marshes SSSI as a result of 'break-out' during the landfall HDD beneath the SSSI.
2.17.9	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Additional mitigation	Soft landscaping works within the onshore substation zone will be sympathetic for the habitat requirements of grey partridge, by considering the provision of hedgerows and tree planting with thick, grassy cover on low banks for nesting and semi-improved grassland for chick-rearing. Additional mitigation for corn bunting within the onshore substation zone will be identified, such as deliberately creating patches of denser sward away from crop edges, providing sown arable field margins to provide foraging habitat, and erecting song posts in suitable locations. For barn owl, a number of nest boxes are located within and surrounding the Holland Haven Marshes SSSI. Occupancy and breeding success of these is likely to have reduced over time due to the deterioration of the wood constructions and occupation by jackdaws in some of them. Effort would be made in consultation with the Essex Wildlife Trust, Tendring District Council and Natural England, to repair or replace existing nest boxes, or add new ones in suitable locations across the onshore project area to help mitigate the possible reduction in productivity during the construction period.
2.17.10	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Additional mitigation	Attempts will be made to avoid work in any land identified as potentially important for SSSI wader populations during key periods of the non-breeding season, and reducing the amount of time that any such land is subject to habitat loss. Reinstatement will

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				be prioritised following completion of construction in that area.
Operation and maintenance				
2.17.11	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Measures described in 2.17.9
2.17.12	Volume 1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Measures described in 2.17.8 and 2.17.10
2.17.13	Volume 1, Chapter 24 Onshore Ornithology	Effects on Holland Haven Marshes SSSI	Embedded mitigation	Measures described in 2.17.8
Decommissioning				
None proposed				
Monitoring commitments				
Monitoring Important Ornithological Features (IOF) breeding populations will be undertaken by the ECoW or a qualified ornithologist during construction phase as part of the EMP, to ensure legal compliance with the Wildlife and Countryside Act 1981 (as amended). It is also anticipated that, depending on the final location of project infrastructure and in the unlikely event HDD works at landfall are undertaken during winter months, monitoring of the Holland Haven Marshes SSSI non-breeding bird assemblages may be undertaken to ensure that there are no significant construction disturbance effects. Similarly, if onshore cable works take place during the non-breeding season within an area of potential disturbance from Hamford Water SSSI, then monitoring would take place to ensure no significant disturbance to the non-breeding bird assemblage. Any habitat creation (e.g. associated with the onshore substation) and reinstatement will require monitoring and maintenance otherwise habitat quality may degrade and negate the original intended mitigation role of the habitats. Such management strategies would be highlighted in the EMP.				

2.18 Onshore archaeology and cultural heritage (Chapter 25)

Table 2.18 Mitigation and monitoring in relation to onshore archaeology and cultural heritage

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.18.1	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Embedded mitigation	The Project will submit an Outline WSI as part of the ES to accompany the DCO application. This document will outline the strategy to undertake additional programmes of survey and evaluation post-consent,

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				and will include a range of likely mitigation options and responses to be utilised under various scenarios. Archaeological mitigation is envisaged to comprise a combination of the following recognised standard approaches: • Further advance and enacting of preservation in situ options and requirements (e.g., avoidance / micro-siting / HDD etc., where possible); • Archaeological excavation: including subsequent post-excavation assessment, and analysis, publication and archiving; • Archaeological monitoring / watching brief, including subsequent post-excavation assessment, and analysis, publication and archiving (where appropriate); and • Earthwork condition surveys: including subsequent reporting and archiving (followed by backfilling and reinstatement, where required on a case-by-case basis).
2.18.2	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on geoarchaeological / palaeoenvironmental remains	Additional mitigation	Further evaluation of potential geoarchaeological / palaeoenvironmental remains is likely to include a programme of geoarchaeological monitoring of engineering-led ground investigation (GI) works to inform mitigation approaches such as geoarchaeological assessment and palaeoenvironmental survey.
2.18.3	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on Historic Landscape Character	Additional mitigation	Impact to the Historic Landscape Character (including hedgerows and parish boundaries) will be minimised by returning field boundaries / areas / hedgerows to their pre-construction condition and character post-construction, as part of a sensitive programme of backfilling and reinstatement / landscaping. Certain hedgerows and field boundaries (e.g., parish boundaries) may require recording prior to the construction process and enhanced provisions made during backfilling and reinstatement.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.18.3	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Additional mitigation	The optimum mitigation measure is preservation in situ, wherever possible. By avoiding sub-surface archaeological remains (sites / features), either largely or in their entirety (as indicated by existing and available data), the magnitude of impact may be reduced depending on the extent of the site / feature in question (with reference to change or impact upon heritage significance) and the degree to which preservation in situ has been applied. Where avoidance is not possible, significant impacts upon sub-surface archaeological remains may potentially, to a degree, be offset by the application of appropriate alternative mitigation measures which serve to preserve archaeological remains, where present, by record (e.g., following intrusive evaluation and subsequent excavation, where required). Although preservation by record cannot be considered to reduce the magnitude of impact (and associated significance of effect) per se, given the physical loss of a given site / feature, the acquisition of a robust archaeological record of a site / feature may be considered to adequately compensate identified, recognised and acceptable harm to a heritage asset in line with industry standard good practice mitigation measures.
Operation and maintenance				
2.18.4	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on setting of designated heritage assets	Additional mitigation	The onshore substation will be designed to reduce the overall height and massing of associated structures and other elements as far as possible. Landscape proposals will include measures for the enhancement of local biodiversity during the operational phase of the onshore substation. This will include landscape screening of the onshore substation through hedgerow and woodland planting. Once matured, this will help to integrate the onshore substation into the existing landscape of arable fields and boundary trees/hedgerows. Further detail on the principles of mitigation are set out above.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
2.18.5	Volume 1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on setting of designated heritage assets	Additional mitigation	The layout of the offshore wind turbines will be designed appropriately to minimise visual effects, taking into account other constraints such as ecological effects, safety reasons or engineering and design parameters. The final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent based on the findings of pre-construction surveys.
Decommissioning				
None proposed				
Monitoring commitments				
Monitoring requirements for onshore archaeology would be described in the Outline WSI (Onshore) submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction taking account of the final detailed design of North Falls. Direct (physical) impacts would be offset or reduced through either preservation in situ or archaeological fieldwork and reporting, undertaken by professional archaeologists and monitored by Essex County Council Historic Environment Service (Place Services) on behalf of Tendring District Council.				

2.19 Noise and vibration (Chapter 26)

Table 2.19 Mitigation and monitoring in relation to noise and vibration

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.19.1	Volume 1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Embedded mitigation	Commitment to Best Practicable Means (BPM) implemented during the construction phase, detailed in the Construction Noise and Vibration Management Plan (CNVMP) which will be included in the CoCP secured through a DCO Requirement. An Outline CoCP will be submitted with the DCO application.
2.19.2	Volume 1, Chapter 26 Noise and Vibration	Effects on vibration sensitive receptors	Embedded mitigation	Construction plant with the potential to generate high levels of vibration (piling and vibratory ground

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				compaction) will not be used at locations within 8m of any vibration sensitive structure.
2.19.3	Volume 1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Embedded mitigation	The following mitigation measures will be considered and included in the CNVMP, where applicable and practicable: • Limiting working hours to avoid the most noise-sensitive times such as weekends; • Selection of quieter plant, equipment or working methods; • Use of additional silencers and/or enclosures around noisy equipment; • Reduced numbers of plant during sensitive periods; • Reduced on-time of plant during sensitive periods; • Increased separation distance between works and Noise and Vibration Sensitive Receptors (NVSRs); • Interspersing of noisy works between quieter works to provide periods of respite; • Phasing of the works to ensure that the noisiest operations are performed during the least sensitive times and vice-versa; and • Review of the construction programme to minimise the duration of the works at the closest approach to properties where possible to give periods of respite.
2.19.4	Volume 1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Additional mitigation	BS 5228-1 indicates that screening provides 5 to 10dB of attenuation, but the effectiveness is dependent on the position of the barrier between the source and receiver and its height. The standard states: “assume an approximate attenuation of 5 dB when the top of the plant is just visible to the receiver over the noise barrier, and of 10 dB when the noise screen completely hides the sources from the receiver”. Based on worst-case predicted noise impacts, it might be necessary for a barrier to completely screen the noise sources from the receptor, thereby providing 10

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				dB of attenuation. This would only be required if the durations of high predicted night-time noise levels at receptors is at least one month. The outline CNVMP (submitted as part of the DCO application) will include appropriate mitigation for any significant effects identified. The final design of any screening required to avoid significant effects will be determined by the contractor appointed to construct the works and will be included in the final CNVMP.

2.19.5	Volume 1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors arising from off-site construction traffic	Additional mitigation	Proposed measures to mitigate potentially significant road traffic noise effects on CTR2 and CTR5 could include:
				• Temporary screening between the road and the NVSR. This is potentially feasible for CTR2 and, if line of sight from the road is blocked, this should reduce road traffic noise levels by around 10dB. However, the façade of CTR5 is directly next to the road and there is not space available to introduce screening to this NVSR;
				• A reduction in peak Light Vehicle (LV) trips through the promotion of car-sharing or contractor provided minibuses, etc;
				• A reduction in peak daily heavy goods vehicle (HGV) trips through measures such as:
				  ○ Stockpiling of materials to reduce peak daily HGV demand;
				  ○ Backhauling, i.e. using laden vehicles to import stone and export excavated material;
				  ○ Optimising the size of HGVs to reduce the total number;
				  ○ Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and
				  ○ The reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• A temporary reduction in the speed limit along Bentley Road.
2.19.6	Volume 1, Chapter 26 Noise and Vibration	Effects on vibration sensitive receptors	Additional mitigation	The outline Construction Environmental Management Plan (CEMP) to be submitted with the DCO application will identify whether any vibration mitigation measures are required to avoid significant effects. These could comprise the following: • Choosing alternative, lower impact equipment or methods wherever possible; • Scheduling the use of vibration-causing equipment, at the least sensitive time of day; • Routing, operating or locating high vibration sources as far away from sensitive areas as possible; • Sequencing operations so that vibration-causing activities do not occur simultaneously; • Isolating the equipment causing the vibration on resilient mounts; and • Keeping equipment well maintained.
Operation and maintenance				
2.19.7	Volume 1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors arising from operational onshore substation	Embedded mitigation	Each main source of sound at the proposed onshore substation, which has the potential to emit tonal sound, can be fully enclosed if required; although this has the potential to introduce other environmental impacts (e.g. landscape and visual effects) which must be considered. Certain equipment, such as the transformers and the shunt reactors, can be fully enclosed for operational and engineering reasons and, as such, a high degree of noise control can be applied to this equipment. Using these embedded measures, the substation will be designed to achieve the operational noise limits identified through the PEIR assessment.
2.19.8	Volume 1, Chapter 26 Noise and Vibration	Effects on vibration sensitive receptors arising from operational onshore substation	Embedded mitigation	The substation plant will be designed and installed as to minimise vibration transmission from any plant items which might generate vibration. This control of vibration at source is necessary to maximise life of the

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				plant and minimise maintenance. Typically, placing vibration isolation mounts into concrete pads would ensure that groundborne vibration is not perceptible beyond the immediate area of the substation.
Decommissioning				
None proposed				
Monitoring commitments				
Where NVSRs may be exposed to construction noise for extended periods, or could be exposed to significant construction noise effects, noise monitoring may be required to quantify construction noise levels. Results of monitoring should be used to identify any potential impacts, inform investigations into the cause of any impacts and to aid in the determination of additional mitigation measures, as appropriate, to reduce and avoid the impacts identified. Monitoring may consist of long-term monitoring at fixed locations or of short-term sample measurements, as appropriate. Details of monitoring which may be required will be specified in the CEMP.				
If, for any reason, vibratory ground-compaction works may be in operation in close proximity to buildings and there is the potential for cosmetic building damage, building conditions should be assessed prior to and after the construction phase, and any damage made good. No reason for ground compaction works to be in close proximity to buildings has been identified to date. Requirements for building condition surveys and any vibration monitoring which may be required will be specified in the CEMP.				
Once the Project is constructed, commissioned, and operating normally, operational noise levels will be monitored to confirm that they do not give rise to any significant effects. The methodology for operational noise monitoring, including the locations and duration of monitoring, and the criteria to be met, will be agreed in advance with Tendring District Council, as secured by a DCO Requirement.				

2.20 Traffic and transport (Chapter 27)

Table 2.20 Mitigation and monitoring in relation to traffic and transport

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.20.1	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	An outline Construction Traffic Management Plan (OCTMP) will be submitted with the DCO application. The OCTMP would contain details of measures to control, monitor and enforce HGV movements and would provide details of the mechanisms for managing design of accesses and offsite highway works.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				The OCTMP would also include 'Travel Plan' measures to manage the number of single occupancy car trips.
2.20.2	Volume 1, Chapter 27 Traffic and Transport	Potential construction-related traffic disturbance within Thorpe-le-Soken	Embedded mitigation	As requested by Essex County Council, HGV movements through Thorpe-le-Soken will be scheduled to occur outside of school start and finish times. These restrictions would be managed through the Construction Traffic Management Plan (CTMP).
2.20.3	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	An access strategy has been developed that seeks to reduce the impact of HGV traffic upon the most sensitive communities and to avoid travelling via narrow roads. The access strategy would be facilitated by: • The construction of a temporary haul road along the onshore cable route; • The creation of vehicle crossovers; and • Controls on vehicle routing.
2.20.4	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	A temporary haul road would be provided to provide safe access for construction vehicles along the onshore cable route, thus reducing the requirement for vehicles to travel via the public highway.
2.20.5	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To avoid vehicle access via unsuitable locations, where the onshore cable corridor and haul road cross certain sensitive roads, no direct access would be provided and vehicles would only be permitted to cross the highway. The proposed access strategy includes: • Little Clacton Road. To avoid construction traffic access via Little Clacton Road and Great Holland, vehicles would access from access 2a or 2b and travel north on the temporary haul road crossing over at Little Clacton Road (crossing point 1 and 2) before travelling north towards the existing railway line. • B1034, Damant's Farm Lane, B1414 and Golden Lane. To reduce the volume of construction traffic routed via Thorpe-le-Soken, access would be

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				taken from the B1035 to the north of the village and all construction traffic would travel south on the temporary haul road from access 4, crossing over either at crossing points 12a, 11a, 10a, 9a, 6, 5, 4 and 3, or 12b, 11b, 10b, 9b, 8, 7, 6, 5, 4 and 3. • Lodge Lane, Wolves Hall Lane, and Stones Green Road. To avoid HGV access via Tendring Green along the B1035, all HGV traffic would access from the north via access 12a or b and travel south on the temporary haul road, crossing over at access point 11, 10, 8 and 9 and crossing point 13 and 14. • Payne's Lane, Spratts Lane, Barlon Road. To avoid HGV access via these narrow roads, all HGV traffic would access from the east via access 16 and travel west on the temporary haul road, crossing over at crossing points 15, 16, 17, 18, 19, 20, 21 and 22. These measures would be captured in the OCTMP.
2.20.6	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	Landfall access 1a or 1b, vehicle routeing strategy - to avoid the necessity for HGVs to travel via the B1033 and Thorpe-le-Soken towards the landfall access.
2.20.7	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	Onshore cable route, access 4, 5, 6 and 7, vehicle routing strategy – to avoid the necessity for HGVs to travel via the B1035 and Tendring Green and Tendring towards access 4, 5, 6 and 7, all HGVs would be routed south on the B1035 and then west on the B1033 towards the A133.
2.20.8	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	Onshore substation access 16, vehicle routeing strategy – to avoid the necessity for HGVs to travel via Little Bromley towards the onshore substation access (access 16), all HGVs would be routed south on Bentley Road, towards the A120.
2.20.9	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To avoid disruption to transport users whilst the projects cables are installed under road and rail

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments

				infrastructure, trenchless crossing techniques will be used at the following locations:
				• The railway line towards Walton-on-the-Naze and Frinton-on-Sea.
				• All A and B roads and the following local roads:
				  ○ Walton Road;
				  ○ Stones Green Road; and
				  ○ Bentley Road.

2.20.10	Volume 1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To avoid disruption to transport users whilst the projects' cables are installed under Lodge Lane and Spratts Lane, temporary road diversions would be established. This would be via agreed diversion routes, via existing private tracks or a temporary access track within the DCO order limits.
2.20.11	Volume 1, Chapter 27 Traffic and Transport	Highway safety effects	Additional mitigation	It is assessed that the change in HGV traffic associated with the construction of North Falls could result in a potentially significant highway safety effect at certain locations. Additional mitigation measures will be outlined within a future OCTMP (as part of the DCO application) and secured by a DCO Requirement. The additional mitigation measures would make HGV drivers aware of the existing road safety risks and consequently minimise potential impacts. These measures would include: • Driver inductions and training • Driver information packs • Near miss reporting
2.20.12	Volume 1, Chapter 27 Traffic and Transport	Driver delay	Additional mitigation	North Falls construction traffic could result in potentially significant driver delay. To ensure that Light Vehicle (LV) numbers can be reduced, it is proposed that all employees would initially be required to drive to access 12a or b to the south of the A120. Employees would then be grouped into vehicles to reduce the number of single occupancy vehicle trips.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				These additional mitigation measures will be outlined within a future OCTMP (as part of the DCO application) and secured by a DCO Requirement.
2.20.13	Volume 1, Chapter 27 Traffic and Transport	Driver delay	Additional mitigation	Temporary road closures during construction could result in moderate adverse driver delay for users of Little Clacton Road. Prior to the submission of the DCO application, the Applicant plans to undertake further site investigation works to establish the potential to use trenchless technologies at this location. If trenchless techniques cannot be used at this location, the following additional mitigation measures are proposed: • Temporarily widening of the road to allow the works to be undertaken in two stages, thereby maintaining one lane for traffic, with traffic controlled via signal control; • Working with Essex County Council and local stakeholders to agree an appropriate time to undertake the works (e.g. outside of summer holidays); • Implementation of advanced signing to assist drivers in finding alternative routes; and • Ensuring all road closure works are staggered to minimise any cumulative effects within close geographical areas. If required, these additional mitigation measures will be outlined within a future OCTMP (as part of the DCO application) and secured by a DCO Requirement.
Operation and maintenance				
2.20.14	Volume 1, Chapter 27 Traffic and Transport	Operational traffic effects	Embedded mitigation	To provide for operational staff and maintenance vehicles to periodically visit the onshore substation to carry out routine checks and maintenance, passing places will be installed along Ardleigh Road. These passing places will allow vehicles to pass along this single lane road, reducing the potential for delays.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Decommissioning				
None proposed				
Monitoring commitments				
An OCTMP will be submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction. The OCTMP will provide details of the proposed approach to monitoring of traffic movements associated with North Falls. In summary, these are expected to include commitments to monitoring and reporting of: • Vehicle numbers against agreed targets; • Transgressions of HGVs from routes; • Accidents and near misses; • Highway condition; and • Complaints				

2.21 Human health (Chapter 28)

Table 2.21 Mitigation and monitoring in relation to human health

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.21.1	Volume 1, Chapter 28 Human Health	Physical activity effects	Embedded mitigation	At landfall, horizontal directional drilling (HDD) will be used in order to avoid disturbances to the public and access to the beach. To avoid disruption to transport users, trenchless crossing techniques will be used in certain locations.
2.21.2	Volume 1, Chapter 28 Human Health	Journey times and/or reduced access effects	Embedded mitigation	Potential effects on journeys times and access will be minimised through the following: • An OCTMP that will be submitted with the DCO application. ○ This will contain measures to control, monitor and enforce HGV movements and would provide details of the mechanisms for managing design of accesses and offsite highway works.

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				○ It will also include a 'Travel Plan' to manage the number of single occupancy car trips. ○ Any restrictions requested or agreed with Essex County Council (or other relevant stakeholders) will be managed through the CTMP.
2.21.3	Volume 1, Chapter 28 Human Health	Journey times and/or reduced access effects	Additional mitigation	Good practice mitigation measures have been recommended as part of diversions to help minimise the risk of any behavioural change as a result of unexpected or unknown duration changes. These include: • Providing diversions signs and advertising notices locally in advance of time that will explain the new route and duration of the diversion; • Providing diversions that are suitable in terms of providing equivalent levels of access; and • Providing reopening signs and notices that advertise the reopening of the route and promote active travel connectivity to destinations. These measures will be included within the Outline Public Rights of Way Management Plan (OPRoWMP) submitted along with the DCO application.
Operation and maintenance				
2.21.4	Volume 1, Chapter 28 Human Health	Impacts on human health	Embedded mitigation	Embedded design for EMF comprises the shielding of part of the cable which is designed to the International Commission on Non-ionizing Radiation Protection (ICNIRP) guidelines (1998) 'Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz)' and guidelines (2010) 'Guidelines for limiting exposure to time-varying electric and magnetic fields (1Hz – 100 kHz)'. Embedded mitigation through the burial of cables instead of using overhead cables for North Falls. As EMF decreases rapidly with distance and by burying the cables, this eliminates the magnetic field and creates distance between any receptor at the surface (even directly above the cables) and the cable,

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				resulting in a lower field than the cable itself generates.
Decommissioning				
None proposed				
Monitoring commitments				
None proposed				

2.22 Seascape, landscape and visual impact assessment (Chapter 29)

Table 2.22 Mitigation and monitoring in relation to seascape, landscape and visual impact assessment

Reference	Cross reference to PEIR	Environmental effect	Mitigation and monitoring commitments
Mitigation			
Construction			
None proposed			
Operation and maintenance			
None proposed			
Decommissioning			
None proposed			
Monitoring commitments			
None proposed			

2.23 Landscape and visual impact assessment (Chapter 30)

Table 2.23 Mitigation and monitoring in relation to landscape and visual impact assessment

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.23.1	Volume 1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	North Falls has committed to seeking to use trenchless techniques where practicable at all key sensitive linear features, including: • All 'important' hedgerows and those hedgerows potentially suitable for supporting dormice or commuting / foraging bats; • Watercourses potentially suitable for supporting water voles / otters; • Veteran trees; • Woodland UKHPI; • Ponds UKHPI.
2.23.2	Volume 1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	NFOW have committed to reduce the onshore cable corridor working width to 37m at hedgerow crossings where open cut trenching is proposed, to minimise the amount of hedgerow removal required. This will be achieved by not including the topsoil/subsoil storage bunds in the cable corridor working width at hedgerow crossings. Hedgerows will be replanted following construction but note that canopy tree species cannot be replanted within 5m of the buried cables, which will restrict canopy tree planting for a 37m swathe during hedgerow reinstatement. Hedgerow planting would be undertaken in the first winter season following construction.
2.23.3	Volume 1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	All habitats subject to temporary disturbance during construction, will be reinstated in full following the completion of construction. The specific details of the reinstatement will be set out within the EMP for each habitat. The following core principles for habitat reinstatement would be included within the EMP:

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				Semi-improved grassland habitats All topsoil stripped in semi-improved grassland areas would be stored separately and reinstated following the completion of construction. Topsoil storage would be subject to a Soil Management Plan, which would also detail measures for soil storage and handling. Grassland reseeding of areas of nature conservation value would either be left to regenerate naturally or undertaken using a local seed mix, to be agreed in advance with Natural England and Essex Wildlife Trust. **Trees and hedgerows** As advised by Essex County Council during the EPP, all tree and shrub planting undertaken by NFOW will be subject to an up to 10 year after care period. As advised by Natural England during the EPP, all hedgerows within the onshore project area not removed for construction to be allowed where possible to thicken up during construction to facilitate use as feeding and commuting corridors for wildlife. **Arable field margins** If landowner permission can be reached, this habitat will be reinstated in consultation with Essex Wildlife Trust and the local landowner to ensure the optimum benefits can be gained from each margin affected. Prior to construction, the arable field margins will be re-surveyed to assess their conservation value. Attempts will then be made to ensure habitat reinstatement takes the form of one of the following (JNCC, 2008) Cultivated, low-input margins (land managed specifically to create habitat for annual arable plants); Margins sown to provide seed for wild birds (margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter);

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				Margins sown with wild flowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates; Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses.
Operation and maintenance				
2.23.4	Volume 1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during operation	Embedded mitigation	Mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process. This includes consideration of the location of the various components within the onshore substation zone, and consideration of the materials used, colour palette and boundary treatments
Decommissioning				
None proposed				
Monitoring commitments				
To be confirmed at ES stage.				

2.24 Socio-economics (Chapter 31)

Table 2.24 Mitigation and monitoring in relation to socio-economics

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.24.1	Volume 1, Chapter 31 Socio-Economics	Effects upon socio-economic receptors	Embedded mitigation	Community engagement is ongoing and will continue after submission of the DCO and throughout the development of the project. Stakeholders in relation to socio-economics that will be engaged include: • Local authorities; • Landowners; and

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				• Local communities and businesses, including local accommodation suppliers. Consultation will also help ensure that management plans are prepared and implemented sufficiently to mitigate any potential impacts.
2.24.2	Volume 1, Chapter 31 Socio-Economics	Effects associated with air quality	Embedded mitigation	Measures described in 2.13
2.24.3	Volume 1, Chapter 31 Socio-Economics	Effects associated with noise and vibration	Embedded mitigation	Measures described in 2.19
2.24.4	Volume 1, Chapter 31 Socio-Economics	Effects associated with traffic and transport	Embedded mitigation	Measures described in 2.20
2.24.5	Volume 1, Chapter 31 Socio-Economics	Effects on landscape and visual amenity	Embedded mitigation	Measures described in 2.23
Operation and maintenance				
2.24.6	Volume 1, Chapter 31 Socio-Economics	Effects associated with air quality	Embedded mitigation	Measures described in 2.13
2.24.7	Volume 1, Chapter 31 Socio-Economics	Effects associated with noise and vibration	Embedded mitigation	Measures described in 2.19
2.24.8	Volume 1, Chapter 31 Socio-Economics	Effects associated with traffic and transport	Embedded mitigation	Measures described in 2.20
2.24.9	Volume 1, Chapter 31 Socio-Economics	Effects on landscape and visual amenities	Embedded mitigation	Measures described in 2.23
Decommissioning				
None proposed				
Monitoring commitments				
None proposed				

2.25 Tourism and recreation (Chapter 32)

Table 2.25 Mitigation and monitoring in relation to tourism and recreation

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.25.1	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Construction works along the final onshore cable route will employ a sectionalised approach to minimise impacts. The trenches will be excavated and backfilled once the cable ducts are laid, and the reinstatement process will commence in as short a timeframe as possible.
2.25.2	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	The Applicant has committed to install the cables at the landfall using HDD, thereby avoiding physical disturbance or prolonged access restrictions to Frinton Beach and Holland Haven.
2.25.3	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	The Applicant has committed to using trenchless crossing techniques such as HDD at major crossings such as major roads, river, and rail crossings.
2.25.4	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Where possible, Public Rights of Way (PRoW) will be kept open to minimise impacts to recreational users. Where a PRoW is crossed, a suitable diversion will be created where possible and traffic control and other safety measures will be put in place. PRoW condition surveys will be undertaken before, during, and after the construction phase to identify any damages. Following the completion of construction works, all damages will be repaired and PRoW will be reinstated to their original condition. PRoW routing through locations of permanent infrastructure will be provided with a diversion, and the existing route will be closed. An OPRoWMP will be drafted and submitted as part of the DCO application, which will include a full list of crossings and a description of onshore construction techniques at each location and other proposed mitigation measures. PRoW closures and diversions will be communicated to the relevant local authority in

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				advance of works commencing, and information on the duration and proposed alternative routes will also be publicly circulated through site notices and the press.
2.25.5	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Working areas during construction and operational maintenance will be enclosed within fencing, enabling continued use of nearby routes whilst work is underway where possible. The type of fencing will be selected to suit the location and purpose and will be agreed with the relevant local authority. Similar approaches will be implemented for coastal construction works around the landfall area and marine works along the offshore cable corridor and around the array areas. Offshore safety zones will also be sought, and the buffer area will be drawn as appropriate.
2.25.6	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Additional mitigation	Advanced warning and accurate location details will be circulated to members of the public, along with any advisory passing distances and alternative routes.
2.25.7	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Outline management plans which oversee construction activities and O&M activities will be prepared and submitted alongside the DCO application. These plans include an OCoCP covering construction dust, noise, vibration, and other forms of pollution, an Outline Construction Traffic Management Plan (OCTMP), an Outline Landscape and OLEMS, and an Outline Landscape and Ecological Management Plan (OLEMP).
2.25.8	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	The commitment to use underground cable systems for the onshore cable route between the landfall and electrical connection point avoids the requirement to construct new overhead lines. The mitigation embedded in this approach will lead to notably reduced impacts on landscape and visual receptors during the construction phase and practically no impacts during the operation phase. It also notably reduces the potential for the onshore cable route to contribute to significant cumulative effects. The

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
				construction works will also be notably smaller scale than those required to install new overhead lines.
2.25.9	Volume 1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Community engagement is ongoing and will continue after submission of the DCO and throughout the development of the project. Stakeholders in relation to tourism and recreation that will be engaged include: • Local authorities; • Landowners; and • Local communities and businesses, including local accommodation suppliers. Consultation will also help ensure that management plans are prepared and implemented sufficiently to mitigate any potential impacts.
Operation and maintenance				
2.25.10	Volume 1, Chapter 32 Tourism and Recreation	Effects on to tourism and recreational assets	Embedded mitigation	Measures described in 2.25.5, 2.25.7 and 2.25.8
Decommissioning				
None proposed				
Monitoring commitments				
Where monitoring is proposed for tourism and recreation, this would be agreed with the appropriate stakeholders prior to construction works commencing and included within the OCoCP and the Construction Method Statements (CMS), which would be submitted along with the DCO application. It should be noted that as part of the OPRoWMP, NFOW would conduct PRoW condition surveys before, during, and after the construction phase to identify any damages that need to be repaired and to compare pre- and post-construction conditions.				

2.26 Climate change (Chapter 33)

Table 2.26 Mitigation and monitoring in relation to climate change

Reference	Cross reference to PEIR	Environmental effect	Mitigation type	Mitigation and monitoring commitments
Mitigation				
Construction				
2.26.1	Volume 1, Chapter 33 Climate Change	Release of greenhouse gasses due to the project	Embedded mitigation	The IEMA Greenhouse Gas (GHG) Management Hierarchy, which sets out a structure to eliminate, reduce, substitute and compensate (IEMA, 2022), has been followed as part of the project's development.
Operation and maintenance				
2.26.2	Volume 1, Chapter 33 Climate Change	Release of greenhouse gasses due to the project	Embedded mitigation	Measures described in 2.26.1.
Decommissioning				
None proposed				
Monitoring commitments				
None proposed				