



Marine Management Organisation Marine Licence

1 Introduction

This is a licence granted by the Marine Management Organisation on behalf of the Secretary of State to authorise the licence holder to carry on activities for which a licence is required under Part 4 of the Marine and Coastal Access Act 2009.

1.1 Licence number

The licence number for this licence is L/2022/00047/1

1.2 Licence holder

The licence holder is the person or organisation set out below:

Name / company name	Gridlink Interconnector Limited
Company registration number (if applicable)	10181689
Address	25 East Street, Bromley BR1 1QE
Contact within company	Sarah Johnson
Position within company (if applicable). State if company officer or director	Director

1.3 Licence date

Version	1
Licence start date	05 May 2022
Licence end date	31 December 2071
Date of original issue	05 May 2022

1.4 Licence validity

This version of this licence is valid from the licence start date to the licence end date.

This version of this licence supersedes any earlier version of this licence. Any activity commenced under a previous version of this licence and which is also a licensed activity authorised by section 4 of this version of this licence may continue in accordance with the licence conditions in section 5 of this version of this licence.

Daniel Walker
+44 (0)208 225 8573
daniel.walker@marinemanagement.org.uk

2 General

2.1 Interpretation

In this licence, terms are as defined in section 115 of the Marine and Coastal Access Act 2009 and the Interpretation Act 1978 unless otherwise stated.

- "licensed activity" means any activity set out in section 4 of this licence.
- "licence holder" means the person(s) or organisation(s) named in section 1 above to whom this licence is granted.
- "MMO" means the Marine Management Organisation.
- "mean high water springs" means the average of high water heights occurring at the time of spring tides.
- "sea bed" or "seabed" means the ground under the sea.
- "the 2009 Act" means the Marine and Coastal Access Act 2009.
- All times shall be taken to be the time on any given day.
- All geographical co-ordinates contained within this licence are in WGS84 format (latitude and longitude degrees and minutes to three decimal places) unless stated otherwise.

2.2 Contacts

Except where otherwise indicated, the main point of contact with the MMO and the address for email and postal returns and correspondence shall be:

Marine Management Organisation

Lancaster House

Hampshire Court

Newcastle upon Tyne

NE4 7YH

Tel:0300 123 1032

Fax:0191 376 2681

Email:marine.consents@marinemanagement.org.uk

Any references to any local MMO officer shall be the relevant officer in the area(s) located at:

Marine Management Organisation

Hastings office

Fish Market

Rock-A-Nore Road

Hastings

TN34 3DW

Tel: 01424 424 109
Fax: 01424 444 642
Email: hastings@marinemanagement.org.uk

3 Project overview

3.1 Project title

GridLink Interconnector

3.2 Project description

The GridLink Interconnector is a 1,400 megawatt (MW) electricity interconnector, linking the existing electricity grids in the UK and France. The GridLink project will consist of two converter stations, one close to the existing National Grid 400kv Kingsnorth Substation in Kent and one close to the existing RTE Warande Substation, Dunkerque in the Nord region of France. The converter stations will be connected together by subsea and underground high voltage direct current cables.

The overall length of the interconnector is approximately 140km of submarine cable and approximately 1.5km and 13km of onshore underground cable in UK and France respectively.

This marine licence relates to the UK Marine Area components of GridLink, the Project forms 106km within inshore territorial waters between Mean High Water Springs (MHWS) the 12 nautical mile (nm) limit. The project also forms 2km in the offshore waters of the UK Exclusive Economic Zone (EEZ) and the remaining 31.5km of submarine cable lies in French waters.

4 Licensed activities

This section sets out the licensed activities. The licensed activities are authorised to be carried on only in accordance with the activity details below and with the licence conditions as set out in section 5 of this licence.

Please note that where licensed quantities are displayed with reference to their constituent materials, the relative quantities given for the constituent materials are indicative only.

Site 1 - GridLink Cable Corridor			
Site location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.		
Activity 1.1 - Pre-sweeping of Sandwaves - Installation Phase			
Activity type	Other dredging		
Activity location	North Sea, please see Licence Schedule 10 for indicative pre-sweeping locations.		
Description	<p>In areas of high mobility sediments and sand waves, pre-sweeping may be carried out prior to cable installation to create a path to enable trenching to the required depth.</p> <p>Sandwaves can present a major challenge for both towed and self-propelled installation equipment. Installation equipment can generally work on long inclines of up to 10-15°. However, for commonly available machines, the practical limit for burial depth is 3m. By removing a proportion of the sandwave prior to installation, a burial machine can reach further down and place the cables below the level at which they may be affected by the mobility of the bedform feature.</p>		
Quantities			
Start date	End date	Material	Quantity (m3)
05/5/2022	31/12/2026	Sand (62.5um-2mm)	1431656.1
Methodology	<p>Pre-sweeping may be carried out in one of two ways depending on the size of sandwaves:</p> <ul style="list-style-type: none"> - Trailing suction hopper dredger (TSHD) with disposal of the material in a licensed disposal area - Mass flow excavation (MFE) <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed description of pre-sweeping works.</p>		
Programme of works	If required, pre-sweeping will be undertaken several days to a few weeks in advance of cable laying operations		

	to ensure the path remains open for cable installation to take place. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027.
Activity 1.2 - Unexploded Ordnance (UXO) Detonation - Installation Phase	
Activity type	Incineration of any substance or object at sea
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.
Description	<p>Given the nature of the marine development, there is a risk that UXO may be encountered during intrusive activities e.g. cable installation, cable repair activities.</p> <p>A detailed UXO specific pre-construction survey using a magnetometer array will be undertaken pre-installation, to detect anomalies that may be UXO.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed description of UXO detonation works.</p>
Methodology	<p>Following the UXO survey the Cable will be micro-routed within the UXO survey corridor, to ensure a suitable safety distance between the cable installation and any UXO finds, so that no UXO clearance is necessary. If any significant UXO is identified, the decision-making hierarchy shall be:</p> <ol style="list-style-type: none"> 1. Avoid by micro-routeing. 2. If the UXO cannot be avoided, undertake clearance to surface or move UXO away from cable installation. 3. If the UXO cannot be safely moved, carry out clearance by on-site detonation. <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed methodology of UXO deflagration.</p>
Programme of works	<p>The construction programme is expected to take approximately 36 months from start to finish. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027. UXO deflagration would take place in this same time period.</p> <p>A indicative programme of works is provided in Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3.</p>

Activity 1.3 - Laying of the Cable - Installation Phase	
Activity type	Construction of new works
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.
Description	<p>The total length of the GridLink Cable Route is 139.5km; of which the Project forms 106km within the UK Marine Area (inshore territorial waters between Mean High Water Springs (MHWS) and 12 nautical miles (NM) and 2km in the offshore waters of the UK EEZ. The remaining 31.5km of submarine cable lies in French waters.</p> <p>The subsea cable system will consist of two mass impregnated submarine HVDC cables and a fibre optic cable for control and monitoring purposes. The Fibre Optic cable will also serve as a commercial fibre cable.</p> <p>The diameter of each cable will be approximately 130 mm, with a copper conductor. The cable will have a lead sheath, to ensure no moisture can penetrate the insulation, and steel wire armour to protect the cable from external damage during installation and burial/protection. The armouring is made from round or flat steel wire wound in a helical form. A polyethylene sheath is applied over the armour wires to make the cable easier to handle and ensure the armour wires remain in place during bending.</p> <p>Please see appended Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a full description of cable installation works</p>
Methodology	<p>A pre-lay grapnel will be towed along the cable route to clear any seabed debris.</p> <p>Out-of-service cables will be cut and removed from the cable route.</p> <p>The cable system will be installed using pre-lay trenching, simultaneous lay and burial and/or post-lay burial, as appropriate to the seabed conditions.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed methodology for cable installation</p>
Programme of works	The construction programme is expected to take approximately 36 months from start to finish. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027.

	Time delay between sequential cable installation operations, e.g. cable-lay and post-lay burial, shall be minimised, with a target delay less than 6 weeks.	
Activity 1.4 - Deposit of External Cable Protection - Installation Phase		
Activity type	Other deposits	
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.	
Description	<p>Where cable burial is not feasible due to difficult ground conditions or crossing existing subsea assets, external protections such as rock or matting will be used to protect the installed cables.</p> <p>The total requirement for external cable protection as follows:</p> <p>In service Cable Crossings:</p> <ul style="list-style-type: none"> - Seven locations require external protection - Total length of external protection = 745m - Seabed footprint of external protection = 9,980m² - External cable protection volume = 10,710m³ <p>Maximum requirements due to ground conditions are estimated to be:</p> <ul style="list-style-type: none"> - Total length of external protection in UK waters = 3,944m - Seabed footprint of external protection = 28,263m² - External cable protection volume = 18,595m³ <p>The estimated licence quantities are:</p> <ul style="list-style-type: none"> - 29,452,500 kg for external cable protection required for crossing existing in service subsea cables. - 51,136,250 kg for cable protection that may be required where ground conditions are not suitable for burial in sediment. - 285,000 kg for deposit of Frond Mats at London Array third party asset crossing (for 4 array cables). <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a full description of works.</p>	
Quantities		
Start date	End date	Quantity (kg)
05/5/2022	31/12/2026	80873750

Methodology	<p>Specialised rock-placement vessels will be used to install external cable protection, these feature a large hopper to transport the rock, and a mechanism for deployment of the rock on site.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed methodology on how external cable protection will be installed.</p>
Programme of works	The construction programme is expected to take approximately 36 months from start to finish. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027. Deposits of external cable protection will occur in the same time period.
Activity 1.5 - Deposit of External Cable Protection - Cable Repair Activities	
Activity type	Maintenance of existing works
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.
Description	<p>The requirement for repair operations requiring external cable protection during the lifetime of the project will depend on the number of faults, location of the faults, and the burial / protection method used for the original installation.</p> <p>Should cable re-burial not be feasible, alternative protection method, e.g. rock placement or concrete mattresses, up to 7m wide may be used in up to three locations, totalling 7m wide by 500m long.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a description of cable repair operations.</p>
Methodology	The objective is that after a cable repair the additional joints and the extra cable length will be buried. However, if this is not feasible e.g. due to ground conditions, external cable protection will be provided (either concrete mattresses or rock placement) deployed from either the repair vessel itself or a separate specialised vessel.
Programme of works	A cable repair operation is expected to take between two and six weeks depending on the type and extent of damage, burial requirements and operational constraints such as weather.

Activity 1.6 - Unexploded Ordinance (UXO) Clearance - Cable Repair Activities	
Activity type	Other removals
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.
Description	<p>Removal of UXO from the seabed during repair works. The repair location will be re-surveyed to identify any UXO within the Cable Corridor.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed description of UXO clearance during cable repair works.</p>
Methodology	<p>Following the UXO survey the repair section will be micro-routed within the UXO survey corridor, to ensure a suitable safety distance between the repair and any UXO finds, so that no UXO clearance is necessary. If any significant UXO is identified, the decision-making hierarchy shall be:</p> <ol style="list-style-type: none"> 1. Avoid by micro-routeing 2. If the UXO cannot be avoided, undertake clearance to surface or move UXO outside the Cable Corridor <p>If a potential UXO cannot be avoided for whatsoever reason, this potential UXO will be investigated by visual inspection using an ROV. If visual inspection confirms a UXO, then if it is safe to do so the UXO will be removed. Clearance works will be using an electromagnetic grab where safe.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed methodology of UXO clearance during cable repair works.</p>
Programme of works	A cable repair operation is expected to take between two and six weeks depending on the type and extent of damage, burial requirements and operational constraints such as weather.
Activity 1.7 - Geophysical survey within Southern North Sea SAC - Sub-bottom profiler	
Activity type	Other deposits
Activity location	North Sea, please see Licence Schedule 1 for coordinates of the cable corridor.
Description	Although detailed marine surveys have been completed, there is the potential that further geophysical surveys will be carried out prior to the commencement of cable installation or over the lifetime of the cable, post

	<p>installation. This may include the use of a sub-bottom profiler.</p> <p>A sub-bottom profiler emits pulses of acoustic energy into the seabed and detects the reflections from the sub-surface geological units. From the reflections the thickness of the sediment can be assessed. The technique can also be used to determine the depth to buried objects such as the installed cable.</p> <p>The activity will not involve the deposit of any material on the seabed. It is a temporary activity, which will be limited in duration, but may be repeated over the lifetime of the project.</p>	
Quantities		
Start date	End date	Quantity (kg)
05/5/2022	01/1/2035	0
Methodology	<p>Sub-bottom profiler (SBP) systems are typically divided into two categories. The first type is the transducer array which combine the source and receiver. The second type has a separate source and receiver, and the source can be electrical or mechanical.</p> <p>The receiver is called a hydrophone which in most cases is physically separated from the source. SBP are either hull-mounted or towed from the survey vessel using a tow-fish or attached to a ROV. The instrument sends out a pulse of acoustic energy which when recorded is known as a seismic profile. The acoustic penetration and resolution of a SBP system mainly depends on the shape and frequency of the acoustic pulse. As the cable lies within the top 10m of seabed it is unlikely that a lower frequency system will be used. The type assessed in the GridLink Environmental Report is a chirp system.</p>	
Programme of works	<p>Sub-bottom profiling could be undertaken during the construction and operation or in support of remedial cable protection work. A survey will take between 1 and 3 days to complete.</p>	

Site 2 - Gridlink East Site	
Site location	North Sea, please see Licence Schedule 2 for coordinates of disposal site.

Activity 2.1 - Disposal of Pre-sweeping Material - Installation Phase					
Activity type		Disposal of dredged material			
Activity location		North Sea, please see Licence Schedule 2 for coordinates of disposal site.			
Description		<p>In areas of high mobility sediments and sand waves, pre-sweeping may be carried out prior to cable installation to create a path to enable trenching to the required depth.</p> <p>Where pre-sweeping is carried out using Trailing suction hopper dredger (TSHD), the material will be disposed of at a licensed disposal site.</p>			
Quantities					
Start date	End date	Material	Amount to be deposited (dry tonnes)	Amount to be deposited (wet tonnes)	Source
05/5/2022	31/12/2026	Sand (62.5um-2mm)	2458684	2934058	GridLink Application Corridor
Methodology		<p>The TSHD would operate as a discrete vessel (i.e. detached from the cable laying spread) and is generally agile and not restricted in its ability to manoeuvre. The spoil would be deposited within a licensed disposal site and as close as possible to the pre-sweeping site. The dredged soil will be dispersed equally by sailing slowly whilst opening the bottom doors at a slow pace.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed description of pre-sweeping works.</p>			
Programme of works		<p>If required, pre-sweeping will be undertaken several days to a few weeks in advance of cable laying operations to ensure the path remains open for cable installation to take place. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027.</p>			

Site 3 - Gridlink West Site	
Site location	North Sea, please see Licence Schedule 3 for coordinates of disposal site.
Activity 3.1 - Disposal of Pre-sweeping Material - Installation Phase	
Activity type	Disposal of dredged material

Activity location	North Sea, please see Licence Schedule 3 for coordinates of disposal site.				
Description	<p>In areas of high mobility sediments and sand waves, pre-sweeping may be carried out prior to cable installation to create a path to enable trenching to the required depth.</p> <p>Where pre-sweeping is carried out using Trailing suction hopper dredger (TSHD), the material will be disposed of at a licensed disposal site.</p>				
Quantities					
Start date	End date	Material	Amount to be deposited (dry tonnes)	Amount to be deposited (wet tonnes)	Source
05/5/2022	31/12/2026	Sand (62.5um-2mm)	36692	43787	GridLink Application Corridor
Methodology	<p>The TSHD would operate as a discrete vessel (i.e. detached from the cable laying spread) and is generally agile and not restricted in its ability to manoeuvre. The spoil would be deposited within a licensed disposal site and as close as possible to the pre-sweeping site. The dredged soil will be dispersed equally by sailing slowly whilst opening the bottom doors at a slow pace.</p> <p>Please see Licence Schedule 4 - GridLink Marine Environmental Report Chapter 3 for a detailed description of pre-sweeping works.</p>				
Programme of works	<p>If required, pre-sweeping will be undertaken several days to a few weeks in advance of cable laying operations to ensure the path remains open for cable installation to take place. The project is envisaged to commence on-site construction in 2024 and be fully operational by end 2025 to early 2027.</p>				

5 Licence conditions

5.1 General conditions

5.1.1 Notification of commencement

The MMO must be notified prior to the commencement of the first instance of any licensed activity. This notice must be received by the MMO no less than five working days before the commencement of that licensed activity.

5.1.2 Licence conditions binding other parties

Where provisions under section 71(5) of the 2009 Act apply, all conditions attached to this licence apply to any person who for the time being owns, occupies or enjoys any use of the licensed activities for which this licence has been granted.

5.1.3 Agents / contractors / sub-contractors

The MMO must be notified in writing of any agents, contractors or sub-contractors that will carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder. Such notification must be received by the MMO no less than 24 hours before the commencement of the licensed activity.

A copy of this licence and any subsequent revisions or amendments must be provided to, read and understood by any agents, contractors or sub-contractors that will carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder.

5.1.4 Vessels

The MMO must be notified in writing of any vessel being used to carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder. Such notification must be received by the MMO no less than 24 hours before the commencement of the licensed activity. Notification must include the master's name, vessel type, vessel IMO number and vessel owner or operating company.

A copy of this licence and any subsequent revisions or amendments must be read and understood by the masters of any vessel being used to carry on any licensed activity listed in section 4 of this licence, and that a copy of this licence must be held on board any such vessel.

5.1.5 Changes to this licence

Should any of the information on which the granting of this licence was based changed or is likely to change, the MMO must be notified at the earliest opportunity. Failure to do so may render this licence invalid and may lead to enforcement action.

5.1.6 Licence quantities

Where a licensed activity comprises dredging or the disposal of dredged material, the total quantity of material authorised to be dredged or disposed of in any given time period shall be as set out for that licensed activity in section 4 of this licence.

For each time period, the actual quantity dredged or disposed of shall be calculated by adding the quantity of material dredged or disposed of during that time period under this version of this licence to that dredged or disposed of under any previous version of this licence that was valid during that time period.

5.2 Project specific conditions

This section sets out project specific conditions relating to the licensed activities as set out in section 4 of this licence.

Prior to works	
5.2.1	<p>Local mariners and fishermen's organisations must be made fully aware of the activity through a local Notice to Mariners. This must be issued at least 5 days before the commencement of licensed cable installation activities .</p> <p>The MMO must be sent a copy of the notification within 24 hours of issue.</p> <p>Reason: <i>To ensure other vessels in the vicinity can safely plan and conduct their passage.</i></p>
5.2.2	<p>All recreational sailing clubs adjacent to the Gridlink route must be notified no less than 6 weeks prior to the commencement of licensed cable installation activities. This notification must include a map of pinch points (areas with potentially high traffic) with approximate dates of construction. A copy of the notification must be submitted to the MMO within 7 days.</p> <p>Reason: <i>To enable recreational boat clubs to undertake risk assessment and passage planning.</i></p>
5.2.3	<p>HM Coastguard (mailto:nmoccontroller@hmcg.gov.uk, zone12@hmcg.gov.uk, zone13@hmcg.gov.uk and zone14@hmcg.gov.uk) must be notified prior to the commencement of licensed cable installation activities. The MMO must be sent a copy within 7 days of the issue of this notification.</p> <p>Reason: <i>To ensure HM Coastguard is aware of the activities.</i></p>
5.2.4	<p>A notification of works must be sent to the UK Hydrographic Office at least two weeks prior to the commencement of licensed cable installation activities</p> <p>The MMO must be sent a copy of the notification within 24 hours of issue.</p>

	<p>Reason: <i>So that the UKHO can decide whether Maritime Safety Information and/or the update of nautical charts/publications is required, to ensure other vessels in the vicinity can safely plan and conduct their passage.</i></p>
5.2.5	<p>The licence holder must ensure that a Fisheries Liaison Officer (FLO) is appointed and subsequently approved by the MMO at least 10 working days prior to the commencement of the licensed activities. A FLO must remain in post for the duration of licensed cable installation and cable repair activities.</p> <p>Reason: <i>To ensure liaison with the fishing industry in order to minimise conflict.</i></p>
5.2.6	<p>An Archaeological Monitoring Programme must be submitted to the MMO at least 12 weeks prior to the commencement of licensed cable installation activities.</p> <p>Cable installation activities must not commence until written approval has been provided by the MMO, following consultation with Historic England.</p> <p>Reason: <i>To address any outstanding issues in the Written Scheme of Investigation (WSI).</i></p>
5.2.7	<p>The Cable Burial Plan must be updated with the final pre-construction data and submitted to the MMO at least 12 weeks prior to the commencement of licensed activities.</p> <p>The Cable Burial Plan must identify any cable protection that may result in any reduction of navigable depth referenced to chart datum and specifically that which exceeds 5% of navigable depth.</p> <p>Licensed cable installation activities must not commence until written approval has been provided by the MMO, following consultation with MCA, Trinity House, RYA and Natural England.</p> <p>Reason: <i>To ensure safety of navigation for other sea users and assess the impacts of the project on Marine Protected Areas.</i></p>

<p>5.2.8</p>	<p>The exact locations for pre-sweeping using a dredger within the Margate and Long Sands SAC must be submitted to the MMO at least 12 weeks prior to the commencement of pre-sweeping works. The spoil disposal site must meet the following conditions:</p> <ul style="list-style-type: none"> - Be located within the Margate and Long Sands SAC - Be located on a similar sediment composition as the excavated sediment and be upstream of the pre-sweeping activity - Be within the Cable Corridor - Be outside of the Kent & Essex Inshore Fisheries and Conservation Authority (KEIFCA) Pan Sands Hole Byelaw Area <p>Pre-sweeping activities within the Margate and Long Sands SAC must not commence until written approval has been provided by the MMO, in consultation with Natural England.</p> <p>Reason: <i>To ensure material is not moved in/out of the SAC.</i></p>
<p>5.2.9</p>	<p>Prior to the commencement of licensed cable installation works, an Environmental Habitat Survey must be undertaken by acquiring detailed seabed imagery using side scan sonar and multi-beam echo sounder back scatter analysis combined with drop down camera video acquisition along ten 250m transects located between KP82 to KP92 (see Schedule 4 Environmental Report, Figure 0-1 for KP locations). Along the transects photographs must be taken every 5 to 10m and at areas of interest, with accompanying video recorded.</p> <p>Additional detailed seabed imagery using side scan sonar and multi-beam echo sounder back scatter analysis combined with drop down camera video acquisition must also be acquired at KP9.5 and between KP61 and KP64 to support the identification of Annex 1 biogenic reef in these areas.</p> <p>The Environmental Habitat Survey must be undertaken no greater than 24 months prior to scheduled installation date to ensure baseline data collected remains valid in any future assessment of impact of the cable installation on Annex 1 biogenic reef.</p>

	<p>The results of the survey must be used to undertake a core reef assessment which must be submitted to the MMO, in consultation with Natural England at least 12 weeks prior to commencement of licensed cable installation activities. The core reef assessment must be approved in writing by the MMO before works can commence.</p> <p>The core reef assessment must be used to micro-route the cable using the following principles to:</p> <ul style="list-style-type: none"> a) Avoid Sabellaria reef structures wherever practicable b) If avoidance is not possible (e.g. due to extent of reef), minimise the crossing distance across core reef c) If different grades of core reef are present, select a cable route through the lowest grade of core reef <p>Reason: <i>To identify and protect areas of Annex 1 biogenic reef present along the cable.</i></p>
5.2.10	<p>HM Coastguard (HMCG) and the MCA Receiver of Wreck must be notified 7 days in advance of the proposed Unexploded Ordnance works, in this case to zone12@hmcg.gov.uk and row@mcga.gov.uk and to include emergency contact information for the vessel and the expected timescale of operation.</p> <p>The MMO must be sent a copy of this notification within 5 days of issue. Verbal communication should be made directly with HMCG at the start of the works, and again to notify the end of the clearance. This can be established either using the appropriate radio channels/frequencies or via telephone in this case to 020 8312 7380.</p> <p>Reason: <i>To ensure HMCG and the MCA Receiver of Wreck are aware of UXO activities.</i></p>
5.2.11	<p>A desk based assessment must be undertaken to establish the electromagnetic deviation, affecting ship compasses and other navigating systems, of the high voltage cable route and submitted to the MMO, a minimum of 12 weeks prior to the commencement of licensed cable installation activities.</p> <p>Licensed cable installation activities must not commence until written approval has been provided by the MMO, following consultation with MCA.</p> <p>Reason:</p>

	To minimise the risks to ship compasses and other navigating systems.
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During works

5.2.12	<p>In case of damage to, destruction or decay of the cable, the MMO, MCA, Trinity House, the Kingfisher Information Service of Seafish and the UKHO should be notified within 24 hours of detection.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.13	<p>In case of exposure of cables, mariners must be notified within 24 hours following identification by issuing a notice to mariners and by informing Kingfisher Information Service of the location and extent of exposure. Copies of all notices should be provided to the MMO, MCA, Trinity House, and the UKHO within 24 hours of the Notice to Mariners being issued.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.14	<p>Bunding and/or storage facilities must be installed to contain and prevent the release of fuel, oils, and chemicals associated with plant, refuelling and construction equipment, into the marine environment. Secondary containment must be used with a capacity of no less than 110% of the container's storage capacity.</p> <p>Reason: <i>To minimise the risk of marine pollution incidents.</i></p>
5.2.15	<p>Any jack up barges / vessels utilised during the licensed activities, when jacked up, must exhibit signals in accordance with the UK Standard Marking Schedule for Offshore Installations. See Licence Schedule 5.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>

5.2.16	<p>All risk mitigation measures included in the Navigational Risk Assessment (NRA - attached to Licence Schedule 6) must be adhered to.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.17	<p>Any requirement to relocate any Aid to Navigation (AtoN) must be approved by Trinity House giving 4 weeks notice. Evidence of Trinity House approval must be submitted to the MMO within 24 hours of the approval being received.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.18	<p>The cable should be buried in Zone 10 (see Schedule 14 for coordinates), with no decrease in water depth. If the outcome of the Cable Burial Plan shows that this is not achievable then navigational safety should take precedence and an alternative cable route should be developed that ensures burial.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.19	<p>Any oil, fuel or chemical spill within the marine environment must be reported to the MMO Marine Pollution Response Team within 12 hours.</p> <p>Within office hours: 0300 200 2024. Outside office hours: 07770 977 825. At all times if other numbers are unavailable: 0345 051 8486. dispersants@marinemanagement.org.uk</p> <p>Reason: <i>To ensure that any spills are appropriately recorded and managed to minimise the risk to sensitive receptors and the marine environment.</i></p>

5.2.20	<p>The London Array crossing design must incorporate froned mats either as individual gravity secured mats or as attached to tapered concrete mattresses in conjunction with cable protection to facilitate sediment capture and reduce scour.</p> <p>Reason: <i>To minimise the risk of scour within Margate and Long Sands SAC and the Outer Thames Estuary SPA and to encourage natural re-sedimentation of the crossing.</i></p>
5.2.21	<p>Horizontal Directional Drilling (HDD) related works (drilling operations from jack-up barge or similar) must not take place between 01 October and 31 March.</p> <p>Reason: <i>To avoid disturbance to overwintering birds, an interest feature of the Medway Estuary and Marshes SSSI / SPA, which use the area from October to March inclusively.</i></p>
5.2.22	<p>The GridLink Submarine Cable Bundle must not enter areas within the Cable Corridor identified as 'Areas of constraint for Asset Placement'. Please see Schedule 11 for the coordinates of these areas and Schedule 15 for maps.</p> <p>If works are required within these areas, justification must be provided to the MMO, in consultation with Natural England, and written MMO approval obtained prior to licensable activities taking place within these areas.</p> <p>Reason: <i>To avoid impacts to sensitive ecological features.</i></p>
5.2.23	<p>All planned anchor placements must be located within the Cable Corridor and avoid the 'Areas of Constraint for Anchor Placement'. Please see Schedule 12 for the coordinates of these areas and Schedule 15 for maps.</p> <p>If works are required within these areas, justification must be provided to the MMO, in consultation with Natural England, and written MMO approval obtained prior to licensable activities taking place within these areas.</p> <p>Reason: <i>To avoid impacts to sensitive ecological features.</i></p>

5.2.24	<p>Licensable Activities must avoid the winter period (1 November to 31 March) in the Outer Thames Estuary SPA. If works are required within this period, justification must be provided to the MMO, in consultation with Natural England, and written MMO approval obtained prior to licensable activities taking place within this period.</p> <p>Reason: <i>To minimise impacts to red throated diver.</i></p>
5.2.25	<p>The red throated diver Vessel Best Practice Protocol (Licence Schedule 7) must be followed when carrying out Licensable Activities in the Outer Thames Estuary SPA.</p> <p>Reason: <i>To minimise impacts to red throated diver.</i></p>
5.2.26	<p>UXO detonation / deflagration must be undertaken between 01 April and 30 September inclusive.</p> <p>Reason: <i>To minimise impacts to harbour porpoise.</i></p>
5.2.27	<p>Should a sub-bottom profiler survey be required for the winter period (01 October to 31 March inclusive) within the Southern North Sea SAC, the MMO, in consultation with Statutory Nature Conservation Bodies (SNCBs) must be notified of the proposed survey programme to ensure that the survey is coordinated with any other simultaneous projects activities so that disturbance thresholds for harbour porpoise are not exceeded in the Southern North Sea SAC. The proposed survey programme must be submitted to the MMO at least 12 weeks before the survey is proposed to commence. The survey must not commence until written approval has been received from the MMO.</p> <p>Reason: <i>To minimise impacts to harbour porpoise.</i></p>
5.2.28	<p>Where UXO detonation is required, low order detonation (deflagration) must be used on all UXO charge sizes. Where low order detonation is not feasible then the use of a bubble curtain must be employed for any high order UXO detonations.</p>

	<p>Where deflagration and bubble curtains aren't feasible, justification must be provided to the MMO, in consultation with Natural England and JNCC, and written MMO approval obtained prior to UXO detonation activities being undertaken.</p> <p>Reason: <i>To minimise impacts on marine species through underwater noise.</i></p>
5.2.29	<p>Licensable works must be undertaken in accordance with the approved Marine Mammal Mitigation Plan (MMMP). See Licence Schedule 8.</p> <p>Reason: <i>To minimise impacts to harbour porpoise.</i></p>
5.2.30	<p>This licence permits the detonation of 10 UXOs. The licence holder must not detonate any UXO greater than the assessed threshold of 705 kg.</p> <p>Reason: <i>To ensure that no impacts greater than those assessed within the application occur.</i></p>
5.2.31	<p>Licensed activities must not take place within or adjacent to the Medway Estuary MCZ during 1 February and 31 March inclusive.</p> <p>Reason: <i>To protect smelt (<i>Osmerus eperlanus</i>) a designated feature in the Medway Estuary MCZ.</i></p>
5.2.32	<p>If intrusive licensable works are to take place within the Downs Atlantic Spawning Ground in the period November to January inclusive, the Licensable Activity with a justification will be notified to the MMO in consultation with Cefas, at least 12 weeks prior to works commencing. Written MMO approval must be obtained prior to intrusive licensable works taking place in this period.</p> <p>Please note intrusive works are defined as cable installation and cable repair activities .</p> <p>Reason: <i>To minimise impacts to fish spawning grounds.</i></p>

5.2.33	<p>All risk mitigation measures included in the Protocol for Archaeological Discoveries (PAD) must be adhered to. The PAD is attached to Licence Schedule 9.</p> <p>Reason: <i>To minimise impacts to potential Archaeological Discoveries.</i></p>
5.2.34	<p>The MMO must be informed of the location and quantities of material disposed of each month under this licence. This information must be submitted to the MMO by 15 February each year for the months August to January inclusive, and by 15 August each year for the months February to July inclusive.</p> <p>Reason: <i>To allow compliance reporting under the OSPAR Convention agreement as required by Article 4 (3) of Annex II and Article 4(1) of Annex II.</i></p>
5.2.35	<p>The licence holder must submit the exact locations and dates of detonation of explosives to the Marine Noise Registry, in order to satisfy the 'Close-out' requirements of the Registry, at 6 month intervals from the commencement of detonation of explosives. The final data must be submitted within 12 weeks of completion of detonation of explosives. The licence holder must notify the MMO of the successful submission of 'close out' data within 7 days of the submission.</p> <p>https://mnr.jncc.gov.uk/</p> <p>Reason: <i>To comply with Marine Noise Registry Service.</i></p>
5.2.36	<p>All dropped objects must be reported to the MMO using the Dropped Object Procedure Form as soon as reasonably practicable and in any event within 24 hours of the undertaker becoming aware of an incident. On receipt of the Dropped Object Procedure Form (see Schedule 13), the MMO may require relevant surveys to be carried out (such as side scan sonar) and obstructions to be removed from the seabed at the undertaker's expense.</p> <p>Reason: To ensure items are not lost overboard during transit that may cause a risk to navigation or the environment.</p>

Following completion of works	
5.2.37	<p>A notification must be sent to The Source Data Receipt team, UK Hydrographic Office, Taunton, Somerset, TA1 2DN (Email: sdr@ukho.gov.uk) of completion of licensed cable installation activities, no later than 5 days after their completion.</p> <p>A copy of the notification must be sent to the MMO within one week of the notification being sent.</p> <p>Reason: <i>To ensure all necessary amendments to nautical charts and publications are made</i></p>
5.2.38	<p>The local MMO office must be notified as detailed in section 2.2 of the completion of licensed cable installation activities, no later than 10 working days after their completion.</p> <p>Reason: <i>To ensure the local MMO officer is aware of the licensed activities at sea occurring within its jurisdiction in order to notify other sea users and to arrange any enforcement visits where appropriate.</i></p>
5.2.39	<p>The post laid cable hydrographic survey data must be submitted to the MCA and UKHO for the safety of navigation through the update of nautical charts and publication.</p> <p>A copy of the notification must be sent to the MMO within one week of the notification being sent.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.40	<p>Any reduction in navigable depth greater than 5% to be notified to Trinity House and MCA. A copy of the notification must be sent to the MMO within one week of the notification being sent.</p> <p>Reason: <i>To ensure safety of navigation.</i></p>
5.2.41	<p>Any post-lay cable exposure must be published in the Kingfisher Information System, notified to Fishermen through a Notice to Mariners, within 24 hours of identification, and guarded until remedial works are completed.</p>

	Reason: <i>To ensure safety of navigation.</i>
5.2.42	All equipment, temporary structures, waste and/or debris associated with the licensed activities must be removed within 5 days of completion of licensed activities. Reason: <i>To minimise impacts to the marine environment and other users of the sea/seabed.</i>
5.2.43	A written decommissioning plan must be submitted to the MMO for approval no less than 6 months prior to the expiration of this marine licence or no less than 6 months prior to when decommissioning is due to commence, whichever occurs first. Any cable protection located within marine protected areas must be removed upon decommissioning, unless a decision is made at the time that it is best to leave it in situ. Reason: <i>To ensure that any potential impacts of decommissioning activities can be assessed.</i>
5.2.44	Where froned mattresses are installed, monitoring must be carried out by performing a survey at years 2 and 4 following installation of the froned mattresses to establish the depth of sediment cover and sediment composition. The survey must include the baseline sediment composition prior to froned mattresses being installed. The results of the survey must be submitted to the MMO, in consultation with Natural England, within 4 weeks of being completed. If after either of these surveys it is found that the froned mattresses are not trapping sediment as expected and/or are causing scour, on written response from the MMO, the froned mattresses must be removed. Reason: <i>To monitor sediment composition and frond coverage and to ensure removal of froned mattresses from the site in the case that they do not function in the expected way and do not capture sediment.</i>
5.2.45	Upon completion of cable laying activities, details of the location, amount and type of all cable protection must be reported to the MMO and Natural England, with an associated shapefile, for all marine protected areas. Reason:

	<i>To provide an accessible record of external cable protection in marine protected areas to enable cumulative impacts on sites to be fully assessed.</i>
5.2.46	<p>Monitoring of the pre-sweeping locations within the Southern North Sea SAC must be undertaken every two years (to cover four-year period in total) in line with the condition surveys for rock placement and cable burial and the results submitted to the MMO in consultation with JNCC.</p> <p>Reason: <i>To determine if the seabed has returned/is returning to its previous profile.</i></p>
5.2.47	<p>A post lay condition survey to monitor buried depth and integrity of external cable protection using standard geophysical survey equipment and/or ROVs must be undertaken. The first survey must be carried out after completion of cable installation and then repeated every two years, at years 2 and 4 after installation, or if the local environmental conditions change or are suspected as having changed.</p> <p>The results of each survey must be submitted to the MMO, in consultation with NFFO and MCA, within 4 weeks of it being carried out.</p> <p>Reason: <i>To monitor burial depth, integrity of external cable protection and any hydrological effects such as scour.</i></p>
5.2.48	<p>There must be no more than a 3 degree electromagnetic variation for 95% of the cable route and for the remaining 5% of the cable route there must be no more than a 5 degree electromagnetic variation in water depths of 5m and deeper. The amount of deviation must be notified to MMO within 2 weeks of the completion of cable installation activities. The MMO reserves the right to request an electromagnetic deviation survey of the cable route post installation.</p> <p>This data must also be provided to UKHO via a hydrographic note (H102), as they may want a precautionary notation on the appropriate Admiralty Charts. A copy of the notification must be submitted to the MMO within 7 days.</p> <p>Reason: <i>To minimise the risk to navigation.</i></p>

Cable repair operations	
5.2.49	<p>Prior to licensable cable repair operations commencing within the Goodwin Sands MCZ, the <i>Sabellaria spinulosa</i> core reef assessment for the repair section must be updated using the most recent condition survey and submitted to the MMO, in consultation with Natural England. The results of the core reef assessment shall be used to micro-route any new cable using the following principles:</p> <ul style="list-style-type: none"> - Avoid Sabellaria reef structures wherever practicable - If avoidance is not possible (e.g. due to extent of reef), minimise the crossing distance across core reef - If different grades of core reef are present, select a cable route through the lowest grade of core reef <p>The assessment must be submitted to the MMO before licensable cable repair operations can commence and must be approved in writing by the MMO.</p> <p>Reason: <i>To protect Sabellaria spinulosa, a designated feature in the Goodwin Sands MCZ.</i></p>
5.2.50	<p>Local mariners and fishermen's organisations must be made fully aware of the activity through a local Notice to Mariners. This must be issued prior to the commencement of any licensed cable repair works.</p> <p>The MMO must be sent a copy of the notification within 24 hours of issue.</p> <p>Reason: <i>To ensure other vessels in the vicinity can safely plan and conduct their passage.</i></p>
5.2.51	<p>HM Coastguard (mailto:nmoccontroller@hmcg.gov.uk) must be notified prior to the commencement of any licensed cable repair works. The MMO must be sent a copy within 7 days of the issue of this notification.</p> <p>Reason: <i>To ensure HM Coastguard is aware of the activities.</i></p>
5.2.52	<p>A notification of works must be sent to the UK Hydrographic Office prior to the commencement any licensed cable repair works.</p>

The MMO must be sent a copy of the notification **within 24 hours of issue.**

Reason:

So that the UKHO can decide whether Maritime Safety Information and/or the update of nautical charts/publications is required, to ensure other vessels in the vicinity can safely plan and conduct their passage.

6 Compliance and enforcement

This licence and its terms and conditions are issued under the Marine and Coastal Access Act 2009.

Any breach of the licence terms and conditions may lead to enforcement action being taken. This can include variation, revocation or suspension of the licence, the issuing of an enforcement notice, or criminal proceedings, which may carry a maximum penalty of an unlimited fine and / or a term of imprisonment of up to two years.

Your attention is drawn to Part 4 of the Marine and Coastal Access Act 2009, in particular sections 65, 85 and 89 which set out offences, and also to sections 86, 87 and 109 which concern defences. The MMO's Compliance and Enforcement Strategy can be found on our website (<https://www.gov.uk/government/publications/compliance-and-enforcement-strategy>).