Marine Licence Application for Construction Projects

Havfrue Cable System

Attachment F: Fisheries Liaison and Mitigation Action Plan

HAVFRUE SCOTLAND: FISHERIES LIAISON AND MITIGATION ACTION PLAN

1.0 Introduction

This document sets out the Fisheries Liaison and Mitigation Action Plan (FLMAP) for the Havfrue Cable System within the UK Territorial Sea (TS) and Exclusive Economic Zone (EEZ).[i]

Information on commercial and game fishing practices is utilised in the Project planning stages by the marine engineering team to design the optimal cable route and determine appropriate cable protection and burial planning for the route, with the goal of reducing the potential for negative interactions with fisheries – particularly bottom fishing / trawling gear that have the potential to interact with the cable once installed.

The fisheries engagement process also serves to identify key stakeholders in the fishing community, confirm notification protocols in advance of operations, identify processes and requirements in the event of gear entanglement, and determine mitigation measures if these are required. The contents of this plan are as follows:

- Cable Route and Project Activities in UK Waters
- Fishing Activity in the Project Area
- Consultation Overview
- Personnel
- Notifications
- Mitigation Measures

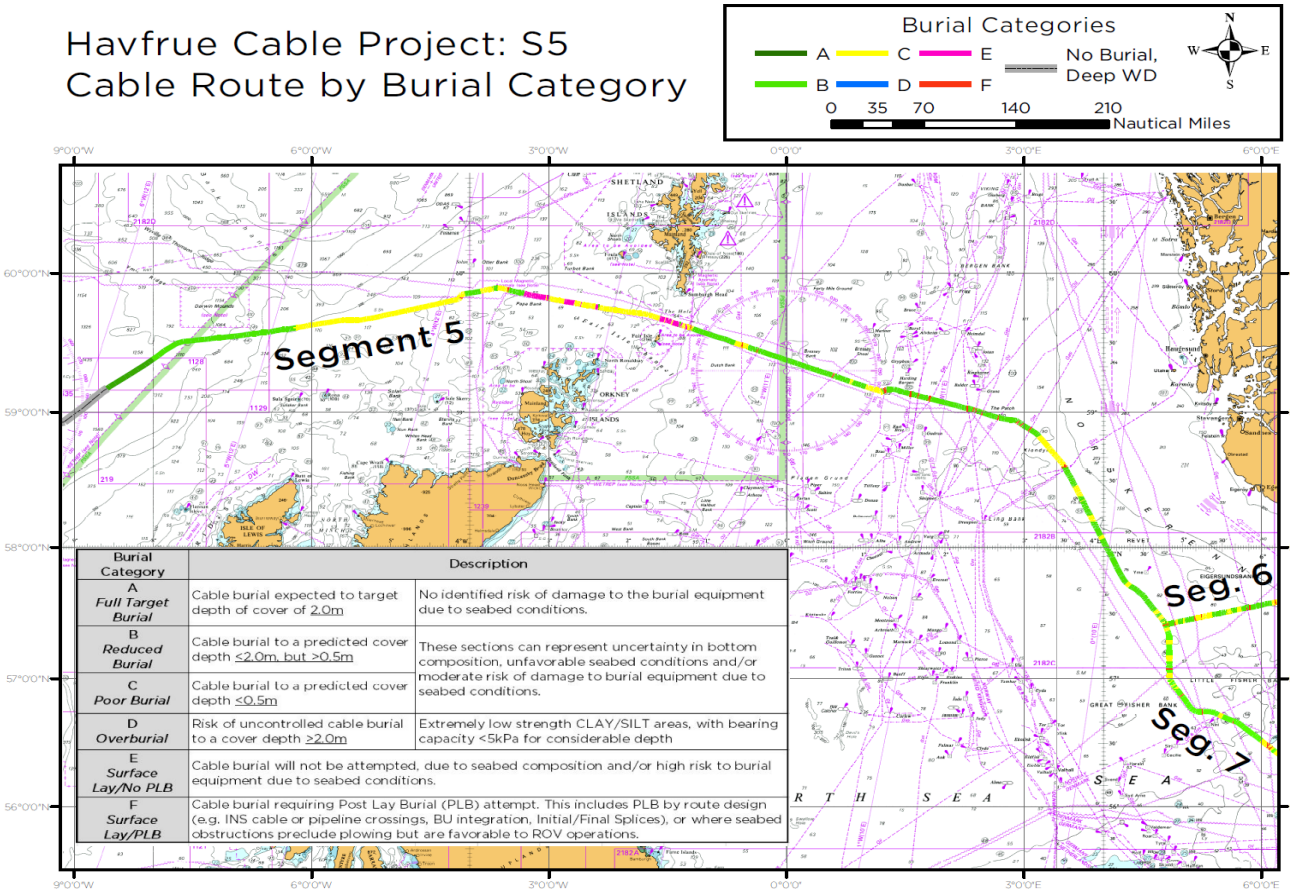
Additional detail on the Project's communication strategy for outreach to marine users, including fishermen, is provided in Attachment G: Communication Strategy. The FLMAP is a 'live' document, allowing it to accommodate Project changes and / or subsequent input from agencies and the fishing industry.

2.0 Cable Route and Project Activities in UK Waters

The proposed Project includes installation of a subsea cable through the Scottish TS and the UK EEZ, and associated activities, including rock placement in the EEZ. The planned cable route is shown in Figure 1.

[i] Licensable activities are limited to cable installation through Scottish Territorial Seas (TS) and rock placement in the EEZ. However, fishing consultation is integral to all stages and components of the Project; therefore, the FLMAP addresses a wider scope than the Marine License Application.

Figure 1: Proposed Cable Route through the UK EEZ and Scottish TS



Burial Category	Description	
A *Full Target Burial*	Cable burial expected to target depth of cover of 2.0m	No identified risk of damage to the burial equipment due to seabed conditions.
B *Reduced Burial*	Cable burial to a predicted cover depth <2.0m, but >0.5m	These sections can represent uncertainty in bottom composition, unfavorable seabed conditions and/or moderate risk of damage to burial equipment due to seabed conditions.
C *Poor Burial*	Cable burial to a predicted cover depth <0.5m	
D *Overburial*	Risk of uncontrolled cable burial to a cover depth >2.0m	Extremely low strength CLAY/SILT areas, with bearing capacity <5kPa for considerable depth
E *Surface Lay/No PLB*	Cable burial will not be attempted, due to seabed composition and/or high risk to burial equipment due to seabed conditions.	
F *Surface Lay/PLB*	Cable burial requiring Post Lay Burial (PLB) attempt. This includes PLB by route design (e.g. INS cable or pipeline crossings, BU integration, Initial/Final Splices), or where seabed obstructions preclude plowing but are favorable to ROV operations.	

3.0 Fishing Activity in the Project Area

The cable route will cross several important fishing grounds in the Scottish TS and EEZ. There are many different types of fishing activity in the area and a variety of equipment e.g. bottom trawling, mid-water trawling, fixed nets and strings of pots, and bottom long lines. The greatest concern is for bottom fishing practices, such as trawling, which have the potential for snagging with unburied cables during and after installation. Fixed gear which may not impact the cable after installation, may impact the installation process and must be cleared temporarily. Table 1 provides an overview of the fishing activities that take place in the vicinity of the Project in UK waters.

Table 1 Fishing Activity in the Project Vicinity

Gear Type	**Bottom (Otter) Trawl**	**Seine Netting**	**Longlining**	**Set Nets**	**Mid-water trawling**
Target Species	Flatfish, Nephrops, Shrimp, Queens, Lobster, Crab, Anglerfish, Megrim	Cod, Haddock, Whiting, Mackerel, Salmon, Sea Trout, Flatfish, Sprat	Cod, Haddock, Whiting, Flatfish, Halibut, Cod, Ling, Tusk and Skate in deeper water	Salmon, Sea Trout	Mackerel, Herring, Sprat, Saithe, Hake
Areas Fished	Throughout Project Area	Throughout Project Area	Throughout Project Area	Throughout Project Area	Throughout Project Area
Depths Fished (meters)	5-2,000	Any depth mid water	Small lines 5-175 Great lines 175-300 (known to go to 1,100m targeting sablefish)	1.5-6	Any depth mid water
Depth of seabed penetration (cm)	3-4	0	0	0	0
Potential Interactions	Trawl doors, hardware, ground gear	Entanglement during cable installation, anchor drop	Possibility of laying cable over longline	Anchors	Entanglement during cable installation, anchor drop
Season	Dependent on species targeted	Dependent on species targeted	Dependent on species targeted	Dependent on species targeted	Dependent on species targeted
Est. # Active Vessels (Scottish Fleet)	70 scallop dredgers, 116 inshore trawlers, 79 offshore drawlers	20	Limited numbers	Limited numbers	20
Comments	Risk to exposed cables			Mostly confined to inshore fishing in Scotland	

Source: Galbraith et al. 2004; ICES 2018

4.0 Consultation Overview

TE SubCom is undertaking a multi-staged consultation effort and awareness campaign with fishing interests in the North Sea on behalf of the Havfrue subsea cable project. Engagement efforts are still ongoing at the time of writing. Consultation efforts in the UK include:

- Pre Survey consultation with SFF (February 2018)
- Notice to mariners for survey operations
- Post Survey Route consultation with SFF (August- September 2018)
- Cable awareness campaign (approx. 3 months in advance of installation)
- Notice to mariners for cable installation and associated marine operations (planned: summer 2019)

Additional information is provided below on consultation and outreach efforts undertaken to date. Copies of key correspondence / minutes of meetings are provided in Attachment E to the Marine License Application.

Pre Survey Consultation with Scottish Fishing Federation

Consultation was carried out with the Scottish Fishing Federation (SFF) beginning in November 2017 during development of the preliminary cable route. SFF retains the most complete and comprehensive knowledge of fishing and fishing impact in Scotland and represents the interests of fishing fleets in the region, therefore the most significant initial consultation was limited to this organization. The National Federation of Fishermen's Organisation and The Kingfisher Information Service) and Marine Scotland were also made aware of the project.

Feedback from phone conversations and emails with SFF has provided valuable information on fishing activities and seabed conditions in the area, including the types of equipment used, species targeted, and optimal depth of cable burial given fishing activity. Coordinates of particularly intensive fishing zones were provides by SFF; these were considered in the final presurvey route. This information was utilized for installation and burial planning, design specifications of the rock installations over crossings and to facilitate ongoing communication with fishermen regarding the project. Feedback will continue to be provided to stakeholders in future rounds of consultation. SFF will also provide fishing liaison officers and guard vessels as needed during the installation phase of the project. None were required during the survey.

Notice to Mariners for Survey Operations

A Notice to Mariners (NTM) was issued in advance of the commencement of survey operations. The NTM detailed the survey vessel, equipment to be used and survey route.

Post Survey Consultation with SFF

Upon completion of the survey and completion of the final route engineering and burial plan, a review of the route burial plan, and Burial Feasibility Study was conducted by SFF. Comments received from SFF indicated that they had no objection to the route.

Cable awareness campaign prior to installation (March 2019)

The Project will continue to coordinate through SFF in order to provide cable awareness to the fishing fleets prior to the installation. Printed charts and fliers will be distributed to all groups. The printed fliers will be produced on waterproof paper for each vessel. Distribution of electronic files on email and flash drives is recognized as an effective method, although many fishermen still prefer to have hard copies of charts and Cable Awareness fliers on board. Posters depicting global undersea communications networks and other printed material will also distributed. A general overview of submarine cables will be provided during the visits, whereby all matters relating to submarine cables are discussed in depth; these are accompanied by presentations of submarine cables' purpose. It will be explained that the purpose of the visit is to educate fishermen about the proposed Havfrue cable, other submarine cables, vessel safety when operating near cables to avoid damage to both the cable and fishing gear, and to avoid endangering vessel crews.

Notice to Mariners for Installation Operations

A Notice to Mariners (NTM) will be issued in advance of the commencement of installation operations. The NTM detailed the installation vessels, equipment to be used and cable route. Please see Attachment G (Communication Strategy) for more detail.

5.0 Personnel

Fisheries Liaison Manager

According to the guidance from ESCA (2012), it is recommended that a Fisheries Liaison Manager (FLM) is appointed and retained through the life of a project, either as an employ of the cable operator or a specialised third party contractor/consultant. A Fisheries Liaison Manager (FLM) and Fisheries Liaison Officers (FLO) will be employed throughout all stages of the Project.

The primary responsibilities of the FLM/FLO are:

- To have a good understanding of the potential impacts of the Project on the fishing industry, and to consult with relevant Fishing Industry Representatives on all aspects of the Project, such as cable burial assessment, cable specification and installation plan. It is important to note the preference of the fishing industry for cables to be buried to sufficient depths and add cable protection which is over-trawlable where feasible and where burial is not possible.

- To maintain regular contact with relevant fishermen associations, individual skippers and vessel owners, incl. the Scottish Fishermen's Federation and Royal Yachting Association.

- Prepare and maintain the Havfrue project specific register of relevant stakeholders. For the fishing industry, the following details of fishing vessel operations within the area should be maintained:
    - The vessel's name, registration and home port
    - Skipper & crew detail;
    - Vessel radio call;
    - Vessel/skipper mobile phone number;
    - Method(s) of fishing and static gear surface marker details;
    - Target species;
    - Fishing grounds relevant to project;
    - Fishing periods and operating procedures; and
    - Skippers concerns.

- Prepare and in a timely fashion distribute the necessary information and notices of project activities which have the potential to interact with fisheries stakeholders. The information distributed, would normally include:
    - Description and schedule of works;
    - Co-ordinates of installed infrastructure;
    - Vessel details;
    - Transit route for installation vessel;
    - Conflict avoidance procedures; and
    - Location and timing of safety exclusion zones, if applicable.

- Arrange meetings with Fisheries Working Groups (FWG) during design phase, pre-installation, and installation phase of the Project. Meeting timings and frequency should reflect the level of project activity.

- Be the project's first point of contact for fishermen;
- Advise fishermen and other relevant stakeholders of any changes to the project, scheduling, and policies;
- Monitor fishing activities within the cable installation area;
- Relay concerns from fishermen and other relevant stakeholders to the cable's installer, in this case TE SubCom.

Fisheries Liaison Representative (FLR)

It is considered to be good practice to employ FLRs, where required, during the installation of the cable on the support vessels. It is fundamental that a good working relationship is established between the Project and the fishing industry and it is the duty of the FLR to maintain this. The need for an FLR will be informed by consultation with the fishing industry and regulators.

If it is determined that FLRs are required, their primary responsibilities will be:

- To keep fishing vessels advised of the cable installation and support vessels location, operations, schedule, safety zones and H&S factors;
- Maintain daily contact with, and keep records of, fishing vessels observed to be within the vicinity of the project's area of work;
- Assist and advice cable installation and support vessels officers to minimise the impact to fishing vessels, to avoid any conflict, and ensure that H&S is observed; and
- Keep master and watch officers of support and cable installation vessel informed of fishing vessels, including their gear and mode of operation, within the work area.

6.0 Notifications

The following section outlines the plans for ongoing communication and actions on the part of the Project. An outline of the Project's general communication strategy for outreach to marine users, including fishermen, is provided in Attachment G: Communication Strategy.

Notice of cable installation activities

Clear and timely communication is essential to ensure safety of navigation during the cable installation. The Project will provide notifications through Notice to Mariners (NTM), Kingfisher Bulletins, as well as Radio Navigation Warnings (if applicable).

The Project will aim to provide at least 20 days' notice for all activities (with the exception of *force majeure* circumstances), to allow inclusion in the Kingfisher Fortnightly Bulletin. Applicable information (outlined in more detail in Attachment G) will be communicated via NTM.

This level of communication should be sufficient to allow the fishing industry and other users of the sea to identify planned and ongoing activities in relation to the cable installation, including timings and locations.

As-Laid Cable Information

After the installation of the Havfrue Cable System through the Scottish TS, the as-laid route of the installed cable and the location of all rock installations will be communicated to Crown Estate Scotland, Marine Scotland, MCA, UKHO, NLB, and the Kingfisher Information Service Offshore Renewables and Cable Awareness (KIS-ORCA), and the European Subsea Cable Association (ESCA).

In addition, details of the cable route will be provided to British Hydrographic Office to be incorporated into hydrographic charts.

Notice of Repair Activities

Should a fault develop in the subsea cable which will require repair, a notice of repair activities will be published in advance following the same communication protocols as for the cable installation, discussed above.

7.0 Mitigation Measures

This section summarizes the mitigation measures – some completed and some planned – undertaken by the Project to mitigate potential impacts from the cable installation and operation.

Consultation and Route Planning

The Project has undertaken several rounds of consultation with fishermen, and provided the proposed route and burial plan to fishing groups for comment. Input from these groups was taken into consideration in the final routing, burial, and cable protection decisions. For example, SFF noted that mattressing would represent a potentially significant hazard to fishermen and fishing gear; this option was therefore discarded and rock placement became the preferred alternative for cable protection at cable and pipeline crossings in the UK.

As noted above, fishermen will also be informed of the final as-laid position of all Project components, in order to further reduce the chances of snags or other gear interactions.

Cable Burial

The cable will be buried, as seabed conditions allow, to a target depth of 2 m below the seafloor out to 1,500 m water depth, where substrate type allows. The cable will be surface-laid across hard bottom areas and beyond 1,500 m water depth. Cable burial is the primary method used to avoid interactions with fishing gear in heavily fished areas. More information on expected burial and burial depths for the route within the Scottish TS is provided in Attachment H to the Marine Licence Application: Burial Risk Assessment.

Post-Lay Inspection and Burial (PLIB)

Following completion of the main lay, a post-lay inspection may be carried out in sections of the UK EEZ to inspect the proper laying and burial of the cable in the seabed. PLIB helps to improve burial outcomes for the installation. Where PLIB is required, a Remotely Operated Vehicle (ROV) would be passed along the route to inspect the cable and attempt burial where plough burial was not possible as part of the main lay cable installation (e.g. existing infrastructure crossings).

Continued Engagement

TE SubCom will continue to engage with the fishing community during the installation and until the system is turned over to the cable owners. Long term liaison will be conducted by the Havfrue Owners. For additional detail, reference the communication plan.

Loss of Fishing Gear

ESCA/KIS-Oraca guidelines will be followed if there is a claim for loss of fishing gear during the installation or longer-term presence of the cable. These procedures and forms are consistent with those used by Marine Scotland.

8.0 References

ESCA (European Subsea Cables Association). 2018. *Guideline 01 – Fishing Liaison*, Issue 8. Available online at: https://www.escaeu.org/guidelines/.

Galbraith, R.D. and A. Rice after ES Strange. 2004. *An Introduction to Commercial Fishing Gear and Methods Used in Scotland.* Scottish Fisheries Information Pamphlet No. 25 2004. Available online at: http://www.gov.scot/uploads/documents/fishing%20gear.pdf. Accessed June 2018.

International Council for the Exploration of the Sea (ICES). Available online at: http://www.ices.dk, Accessed June 2018.