

FS006838 Deep Sea Fibre Networks Ltd
Pre-Installation survey and main lay of sub-sea fibre optic cable
at Ballyloughane Beach, Renmore, Co. Galway

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Consolidated Prescribed Bodies Observations

Water and Marine Advisor

Foreshore Unit,
DHPLG,
Newtown Road,
Wexford.

Re: Foreshore Licence Application for a pre-installation survey and fibre optic cable lay from Spain with a landfall at Ballyloughane Strand, Galway Bay by DeepSea Fibre Networks Ltd. Your minute of 12/11/2018 refers -

Introduction

The Foreshore Licence application relates to the installation and survey operations for the proposed Deep Sea Fibre Networks Ltd. fibre optic cable from Bilbao, Spain to the west coast of Ireland at Ballyloughane Strand, Galway Bay. This is referred to as the WINS System (Western Ireland Northern Spain).

Submitted Documentation:

The following documents were submitted by the applicant in support of this Foreshore Consent application:

- Completed Application Form dated the 27/07/2018
- Planning Report
- Appendix 1 : Drawings:
 - 1317-WINS-AL-01 Site Location Map - Landfall at Ballyloughane
 - 1317-WINS-AL-02 Foreshore Licence Map 1 Inshore
 - 1317-WINS-AL-03 Foreshore Licence Map 2 Galway Bay
 - 1317-WINS-AL-04 Foreshore Licence Map 3 South Sound
 - 1317-WINS-AL-05 Foreshore Licence Map 4 Offshore
 - 1317-WINS-AL-08 Overall Route
 - 1317-WINS-AL-09 Site Location Map 2 - Landfall at Ballyloughane
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- Appendix 2- Specifications for pre-installation survey
- Appendix 3- Marine Archaeology Assessment Report
- Appendix 4- Natura Impact Statement
- Appendix 5 Ecological Impact Statement
- Appendix 6- Specifications for Cable Installation
- Appendix 7- Pre-Application Consultation Correspondence Consents

Following a request for further information, by the undersigned through the Foreshore unit, the following additional information was submitted:

- Foreshore Application (updated)
- Drawings: 1317-WINS-AL-06 Admiralty Chart Survey Area
 - 1317-WINS-AL-07 Admiralty Chart Mainlay Route

Description of the Proposed Project

This application relates to two main elements A) Pre-Installation Survey and Site Investigation and B) Proposed Cable Lay. There are currently no subsea telecommunications cables providing Ireland with direction connection to Continental Europe. The WINS cable system is 1774 km in length with the majority of the system routed in deep water off the continental shelf. The objective of this routing is to minimize installation difficulties and maximizing security of the system during its life. Of the 1774 km overall length only 325 km of the system is in water depth of less than 1500m. The cable route is 102.5km from the HWM to the 12 NM Limit i.e. within the state owned Foreshore.

The cable is to be an industry-standard cable with the capability to transmit high-speed data and voice via light wave through the optical fibres contained within the core Unit Fibre Structure (UFS). The cable will be double armoured in Irish waters.

The cable will have Repeaters approximately 120km apart. These are “Optical Amplifiers” whose primary purpose is to boost the optical signal along the route. The copper conductors inside the cable power these Repeaters. The system line current will be of the order of 1 amp. There are no repeaters planned for the foreshore section of the proposed cable.

A) Pre-Installation Survey and Site Investigation

The existing Infomar and INSS survey was used to provide a reliable base for route corridor planning for the subsea cable. Prior to mobilisation of the Main Lay Vessel a detailed marine survey will be undertaken over the full width of the selected route corridor for the entire route from Galway to Bilbao.

The basis of the survey is to ground-truth the sea-bed conditions and check for any anomalies in terms of marine archaeology, submerged landscapes and any subsea environmental features.

The Pre-Installation Survey will include:

- Bathymetry
- Side Scan Sonar
- Sub-Bottom Profiling
- Magnetometer

The Pre-Installation Site Investigation for the Irish landfall section will include the following,

- 3 Trial Pits at 50m centres on the upper section of the beach at Ballyloughane. (2.5 metres target depth, excavated and immediately reinstated by JCB)

- Bar probes at 25m centres from the seaward Trial Pit to the Low Water Line. (effectively non-intrusive investigation)
- Bar probes at 25m centres from the Low Water Line to the 3m water depth contour. (effectively non-intrusive investigation)

B) Proposed Cable Lay.

The proposed landfall is located at Ballyloughane Strand at Renmore in Galway City. Ballyloughane is sheltered from sea conditions generated by westerly winds by Mutton Island and causeway. The shoreline is in the form of a stable sandy beach with a low stub wall protecting a footway which defines the sea-land boundary. The line of the Planned Route on the approach to the landfall has been developed and agreed in consultation with the Harbour Master at Galway Port with respect to navigation and future expansion of the port.

Taking the features of the shoreline into account it is planned that the shore-end will be installed by means of a Horizontal Directional Drill which will be carried out in advance of the cable lay. It is planned that the drilling will be located in the "green" immediately east of the public road. The drill-casing will commence in a pit 1.5m below ground level and this will enable it to cross at 2.5m depth below the road and well below the existing beach level at the shoreline. This form of installation will avoid any excavation or damage to the shoreline and will ensure that nothing is done which would exacerbate the stability of the shoreline. The drill-casing will extend 170 metres beyond the shoreline and the shelving beach adjacent to it and will terminate in the flat sandy foreshore at a depth of 1.5m below beach level. Drilling seaward to that extent will ensure that there will be no impairment of use of the upper section of the beach. On completion of the drilling operations, a beach manhole will be constructed in the vicinity of the drilling pit and the site will be restored to its prior condition. All materials and equipment will be removed and the site area will be cleaned and reinstated to its original condition.

The cable installation from the end of the HDD out to the low water line will be installed by a cable plough at low tide. The cable will be floated ashore from a Shallow Draft Lay Vessel using rigid inflatable boats (ribs) and buoys at high tide. Once the tide ebbs, the end of the HDD duct will be exposed and the cable will be inserted in the HDD duct and pulled into the Beach Manhole where it will be secured. A cable plough will then be pulled by a low-pressure dozer from the end of the HDD duct out to the Low Water Line with the cable being inserted and buried as the plough moves seaward. Target burial depth is 1.5 metres. At the Low Water Line the dozer will be uncoupled from the cable plough and will then reverse towards the shoreline in the same track and will backfill the plough trench by back-blading towards the shore in advance of the flood tide. Beach disturbance will be minimal and the surface will be naturally reinstated by wave action as the tide comes in. The cable plough will then be attached to the Shallow Draft Lay Vessel and the deployment and burial of the subsea cable will continue to the 15 metre depth contour where the Main Lay Vessel will take over.

A Pre-Lay Grapnel Run will be undertaken prior to commencement of Main-Lay. This activity is to ensure that the planned line of the cable is clear of seabed debris which may include chains, steel cables, anchors nets etc. The swathe of the grapnel is less than 1 metre wide and there will be minimal disturbance of the sea-bed during the debris clearance operation. All debris recovered from the sea-bed will be hauled on board and subsequently disposed of onshore in a safe and environmentally approved manner. The PLGR vessel will use a DGPS positioning system. The route followed by the PLGR will be as close as practicable to the selected Route Position List and always within the swathe of the route survey.

The Main Lay vessel will pick up the end of the cable for the Inshore Section and this will then be jointed to the main cable on board the Main Lay Vessel. The jointing process takes approximately 18-24 hours to complete including tests of the cable system. The Main Lay Vessel will then proceed to deploy and bury the cable in the seabed using a sea-plough. The sea-plough is towed by the Main Lay Vessel and is designed to bury the cable at a depth which will be secure from fishing activities.

The plough uses a minimally invasive plough-share to create a furrow in the seabed approximately 750mm in width. As the plough moves forward the cable is placed in the bottom of the furrow which backfills with the natural movement of sediment on the seafloor. Typical ploughing speed is less than 1 knot and is dependent on the stiffness of the seabed sediment. There is no significant noise generation during ploughing operations. Cable installation by plough produces only a minor plume of suspension of seabed sediments in the water column and this is transient and localised due to the nature of the ploughing and natural backfill activities. The target burial depth for the WINS cable systems is 1.5 metres. In areas of stiff soil, the actual burial depth may be reduced but is planned to be still at a depth which will protect the cable from fishing operations and generally not less than 0.4 to 0.6 metres. Over areas of sensitive reef, the cable will be surface laid.

The general criteria for secure sub-sea cable installation are that the cable needs to be trenched to a depth of 500mm to 600mm up to the 1500 metre water-depth. Beyond the 1500 metre water-depth the cable will be surface laid on the sea-floor whilst taking care to avoid hard rock outcrops and hydrodynamic conditions such as submarine landslides and sediment flows. Surface laying is where the submarine cable is laid onto the surface of the seabed. This procedure is carried out in water where the cable cannot, or is not required to, be buried (e.g. in areas where the seabed is too hard for the burial tool, or at a water depth greater than 1500 metres off the Continental Shelf)

While surface laying, the cable is deployed according to the seabed profile, cable type, and bottom characteristics with the intention that the cable moulds itself to the bottom contours and avoiding cable free spans. Real-time cable slack calculations will be used to monitor and control the cable deployment by on-board Cable Engineers during the installation. By utilizing cable slack management techniques during the surface laying operations, the on-board cable engineers will ensure that there is enough cable to allow for the conforming of the system to the various undulations and features on the seabed.

In limited areas requiring Post-Lay burial, a separate Remotely Operated Vehicle (ROV) is utilized. The ROV typically uses a jetting burial tool to bury the cable to the required depth. The seabed is emulsified in the localised region of the burial and a narrow trench is formed. The ROV burial system slowly moves along the seabed on the required cable track cutting a trench into which the cable is placed. The seabed sediment is displaced temporarily to form the trench during the burial operation and then naturally allowed to re-form and 'backfill' the trench after the passage of the ROV's burial tool. It should be noted that the surrounding seawater is used for the jetting system, i.e. nothing alien is introduced into the environment. The burial tool does not remove any seabed materials from the area. The ROV burial operation is controlled from the main vessel and monitored in real time using high definition video cameras mounted on the ROV.

Lease/Licence Area

Map 1317-WINS-AL-06 Admiralty Chart Survey Area which identifies the Pre-Installation Survey/Site Investigation and Map 1317-WINS-AL-07 Admiralty Chart Main lay Route which identifies the proposed cable route as submitted by the applicant should be used as the maps attached to any licence issued on foot of this application. These maps must be on A3 size paper to be of correct scale.

Environment

The proposed development lies within the Inner Galway Bay SPA and is within 15km of an number of other Designated Natura 2000 sites. Consequently as part of the duties as a consent authority, DHPLG through the MLVC must complete the Natura 2000 requirements in accordance Birds and Habitats Regulations 2011. To facilitate this process, the applicant has submitted a Natura Impact Statement and an Ecological Impact Assessment.

Navigation and Other Users

Marine activities will be minimally affected during survey and main lay cable installation operations. A Notice to Mariners will be issued. A small area on Ballyloughane Strand will be required to be fenced off for the short duration of excavating and immediately reinstating trial pits and during cable installation operations as described in the Specification for Cable Installation dated July 2018 submitted with the application. Section 9.0 of the Planning Report identifies the main navigational issues and sets out in Section 9.4 the measures for mitigation of navigation risks.

Decommissioning

The projected lifespan of the cable is a minimum of 25-40 years. Once the cable has passed its operational lifespan the decommissioning procedure must follow best practice guidelines at that time. This may result in the cable being left in situ, partial recovery or complete recovery/dismantling.

Conclusion and Recommendations

I no objections to a licence being granted for both the Pre-Installation Survey/Site Investigation together with the Main Cable Lay operation subject to the following conditions:

A) Pre-Installation Survey and Site Investigation Conditions

1. Advance notification should be given to the Department of at least 2 weeks prior to commencement of .pre-installation survey and site investigation.
2. All Pre-installation Surveys and Site Investigations shall be undertaken in accordance with the 'Planning Report' dated July 2018 and also shall conform to the specific methodologies as outlined within the document entitled "Specifications for Pre-Installation Survey" dated July 2018 .
3. On completion of the Pre-installation Surveys and Investigations the Applicants should ensure that all equipment and materials are removed and the foreshore is reinstated to its original condition, to the satisfaction of the Department of Housing Planning and Local Government.
4. All surveying to comply with DAHG's *"Code of Practice for the Protection of Marine Mammals during Acoustic Seafloor Surveys in Irish Waters."*
5. Marine notice, lighting and markings as and where relevant to be carried out in consultation with the Maritime Safety Directorate, Department of Transport, Leeson Lane, Dublin2.
6. All vessels/floating plant to have appropriate certification from the Marine Survey Office.
7. During the course of the near shore survey operations works the Applicant shall ensure that where relevant:
 - (a) all necessary precautions are put in place to protect the public in accordance with relevant Health and Safety Legislation;
 - (b) existing public access arrangements to the general foreshore area are not impeded by any plant or materials used in connection with the marine survey ,and where relevant this access should be made safe and guaranteed by the provision of appropriate signage/notices/barriers etc. to the satisfaction of the Department of Environment, Community and Local Government;

- (c) procedures are adopted to ensure that the survey operations and any works associated therewith are not injurious to fishing, navigation, adjacent lands or the public interest;

B) Main Cable Lay Conditions

1. All cable installation operations on foreshore shall be undertaken in accordance with the methodologies as outlined in the "Planning Report" dated July 2018. The submarine cable shall be laid in accordance with the Route Position List submitted in Section 2.3 of the application form unless otherwise varied and approved by DHPLG. A drawing including a route position list detailing the "as laid location" for the submarine cable shall be submitted to DHPLG on completion of the cable installation works.
2. The Licensee shall notify DHPLG at least 14 days in advance of the commencement of any works (marine survey, cable lay operations) on the foreshore.
3. The Licensee shall use that part of the Foreshore the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.
4. The Licensee shall ensure that the target burial depth for the length of the near shore (beach, shallow and intertidal zones to LWM) foreshore involved shall be at least 1.5 meters as per application documents with a target minimum depths for offshore burial as set out in the application documents.
5. Further to Condition 4 above a report detailing the location of any part of the cable that was not laid to the full planned depth (including areas where rock armour or equivalent protection was deemed necessary) should be submitted to DHPCLG on completion of the cable installation works.
6. Where relevant the foreshore and adjacent seashore beach area shall be restored to its original condition on completion of the beach manhole. No open excavation shall be left on the foreshore.
7. Appropriate methods of operation shall be adopted in order to ensure that no spillages of fuel, cement based materials or other leakages occur to the marine environment.
8. Marine Notices, lighting and markings as appropriate shall be carried out in consultation with the Marine Safety Directorate, Department of Transport, Leeson Lane Dublin 2
9. All cable lay, cable ship, marine survey and any other vessels to be used in connection with the proposed cable installation and marine surveys/site investigations shall have appropriate certification from the Marine Survey Office.

10. All Mitigation Measures as set out in NIS dated July 2018 and the EclA dated June 2018 shall be implemented in full unless otherwise varied by condition of this licence
11. Any crossings of in situ and future cables or pipelines will be in accordance with the ICPC (International Cable Protection Committee) Recommendations (2014).
12. The Licensee shall comply with the requirements as set out in the document entitled "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" (January 2014) in respect of any cable laying activity on the foreshore.
13. All material/debris collected as a result of the proposed pre-lay grapnel run shall be disposed on shore to a licensed Landfill site in accordance with the appropriate Waste Disposal Legislation subject to the agreement and approval of Galway County Council.
14. Once the cable has passed its operational lifespan, decommissioning procedure must follow best practice guidelines at that time. This may result in the cable being left in situ, partial recovery or complete recovery/dismantling, subject to the agreement of the Minister for HPLG and the relevant statutory authorities.

Marine Institute Comments on the foreshore licence application by DeepSea Fibre Networks Ltd for a pre-installation survey, localised site investigations and the installation of a subsea fibre optic cable on the foreshore, with landfall at Ballyloughane Strand, Galway (FS006838)

DeepSea Fibre Networks Ltd has submitted an application to the Department of Housing, Planning and Local Government for a Foreshore Licence to facilitate a pre-installation survey, localised site investigations and the installation of a subsea fibre optic cable on the foreshore. The works are part of a project involving the installation of a subsea fibre optic cable system, 1,774Km in length, extending from Bilbao, Spain to Ireland with landfall at Ballyloughane Strand in Galway.

The proposed overall cable route from landfall at Ballyloughane Strand in Galway to landfall in Bilbao, Spain, is shown in Drawing No. 1317-A-108, "Overall Route" Rev 02, dated 26/07/2018 submitted by the applicant.

The proposed cable route on the foreshore, which is approximately 102.5Km Km in length, is shown in following drawings submitted by the applicant:

- Drawing No. 1317-A-102, "Forehsore Licence Map 1 Inshore", Rev 02, dated 26/07/2018
- Drawing No. 1317-A-103, "Forehsore Licence Map 2 Galway Bay", Rev 02, dated 26/07/2018
- Drawing No. 1317-A-104, "Forehsore Licence Map 3 South Sound", Rev 02, dated 26/07/2018
- Drawing No. 1317-A-105 "Forehsore Licence Map 4 Offshore", Rev 02, dated 26/07/2018

Cable Installation

The proposed cable installation works will involve a number of elements including:

- **Pre-installation Survey and Site Investigations**

Prior to the mobilisation of the main cable lay vessel it is intended that a marine survey will be undertaken over the full width of the proposed cable route corridor along the entire route from Galway to Bilbao. The survey will include collection of bathymetric, side scan sonar, sub-bottom profiler and magnetometer data.

Site investigations will also include the following;

- 3 Trial Pits at 50m centres on the upper section of the beach at Ballyloughane. The target depth for the pits is 2.5m. The pits will be excavated, logged, photographed and backfilled, by JCB, in a single intertidal period of 1 hour.

- Bar probes at 25m centres from the seaward Trial Pit to the Low Water Line, and again at 25m centres from the Low Water Line to the 3m water depth contour. A total of 24 bar probes will be carried out on the beach and a further 20 probes from the Low Water Line to the 3m water depth contour.
- The area extending seaward from the 3m water depth contour and inshore of the safe working draft limits of the primary survey vessel will be surveyed with a small craft using Multibeam Echosounder, sidescan sonar and sub-bottom profile equipment
- A total of 6 sediment grab samples will be collected from the 3m contour to the 15m contour
- A total of 45 gravity cores or Cone Penetration tests will be collected from the 15m contour to the 12 nautical mile limit.

Specifications for the survey and associated site investigations are set on in Appendix 2 of the “Planning Report” document, dated July 2018, submitted by the applicant.

- **Cable Installation on the Beach**

It is intended that the shore-end will be installed by Horizontal Directional Drilling (HDD), which will be carried out in advance of the cable lay. The drilling will be located above the high water mark immediately east of the public road at Ballyloughane. The drill casing will commence in a pit 1.5m below ground level and extend circa 170m from the shoreline. When the HDD reaches its target length it is proposed to excavate a small reception pit on the beach. On completion of the installation of the HDD pipe a messenger line will be installed and cap fitted to prevent the ingress of sediment /debris. The reception pit will then be backfilled. A beach manhole will be constructed in the grassed area east of the road at Ballyloughane.

- **Subsea Cable Installation**

The cable installation from the end of the HDD out to the low water mark will be carried out by cable plough at low tide. The cable will be floated ashore from a shallow draft cable lay vessel. The HDD duct will be exposed on an ebbing tide, the cable inserted into the duct and pulled to the beach manhole where it will be secured. A cable plough will then be pulled by a low-pressure dozer from the end of the HDD duct out to the Low Water Line with the cable being inserted and buried as the plough moves seaward. At the Low Water Line the dozer will be uncoupled from the cable plough and will then reverse towards the shoreline in the same track and will backfill the plough trench by back-blading towards the shore in advance of the flood tide. The cable plough will then be attached to the Shallow Draft Lay Vessel and the deployment and burial of the subsea cable will continue to the 15 metre depth contour where the Main Lay Vessel will take over.

The Main Lay vessel will pick up the end of the cable for the Inshore Section and this will then be jointed to the main cable on board the Main Lay Vessel. The Main Lay Vessel will then proceed to deploy and bury the cable in the seabed using a sea-plough. The sea-plough uses a minimally invasive plough-share to create a furrow in the seabed approximately 750mm in width. As the plough moves forward the cable is placed in the bottom of the furrow which backfills with the natural movement of sediment on the seafloor.

Specific details of the cable installation works are provided in Appendix 6 of the “Planning Report” document, dated July 2018, submitted by the applicant.

- **Pre-lay grapnel run**

A pre-lay grapnel run, to clear debris from the seabed along the installation route, is proposed prior to cable installation. This is standard practice. The swathe width of the grapnel is < 1m and impacts on the seabed are considered to be minimal and not significant. All debris recovered from the seabed will be stored on board the vessel used to carry out the pre-lay grapnel run and will be disposed of onshore.

It is anticipated that the overall duration of the works will be approximately 5 months. It is proposed to carry out the site investigations in April 2019 (1 week), the shore –end installation works in June 2019 (1 week) and main cable lay in June – August 2019.

On the basis of the information provided by the applicant the Marine Institute is of the view that considering the nature, scale, location and duration of the proposed works impacts on the marine environment are not likely to be significant.

There are no licenced aquaculture sites along, or adjacent to the proposed cable route and the Marine Institute is of the view that there would be no impact on aquaculture activities as a result of the proposed works.

Pot fisheries for shrimp, lobster and crab takes place in inner Galway Bay (inside Black Head) as well as in the South Sound and along the Clare Coast, in the vicinity of the proposed cable corridor. There may be short term disruption to these fisheries during the proposed cable installation but overall impacts are not likely to be significant. Fishing for oysters and clams takes place in the south eastern part of Galway Bay and these fisheries are not likely to be impacted.

The Marine Institute has no objections to a licence being granted.

It is recommended that the following Conditions should be attached to any licence that may be granted:

1. The Licensee shall use that part of the Foreshore the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.

2. The cable shall be installed as detailed in the submitted "Planning Report: July 2018" unless otherwise approved by the Department of Housing, Planning and Local Government
3. The Licensee shall appoint a Fisheries Liaison Officer who shall consult with the SFPA and relevant fishermen's groups in order that appropriate actions can be taken to avoid or minimize any interactions with ongoing fishing activities in the area during the course of the works on the Forehsore.
4. The Licensee shall be fully compliant with the requirements set out in the "Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters" (January 2014) in respect of the cable installation activity on the foreshore.
5. The mitigation measures set out in Appendix 5 and Appendix 6 of the submitted "Planning Report: July 2018" shall be implemented in full
6. On completion of the works the Licensee shall ensure that all equipment and materials are removed from the foreshore and the foreshore is reinstated to its original condition.
7. A chart and a route position list detailing the "as laid location" of the cable shall be provided to the Department of Housing, Planning and Local Government on completion of the works

Marine Environment and Food Safety Services

Marine Institute

Marine Survey Office

Subject: RE: FS6838 DeepSea Fibre Networks

Good afternoon.

Having examined the above foreshore application and considered the mitigating measures, this office raises no objections from a navigational safety perspective.

In addition to the Marine Notice including a local Port marine notice and consultation with fisheries, the Irish Coast Guard should be advised of operations and arrangements made for radio broadcasts.

Any vessel engaged in the operation that may interface with an Irish port may require an Irish Load Line certificate. All vessels must be operated and manned consistent with international standards.

Kind regards.

Marine Survey Office

An Roinn Iompair, Turasóireachta agus Spóirt
Department of Transport, Tourism and Sport

An Tsráid Mhór Uachtarach, Béal Átha Seanaidh, Co. Dhún Na Ngall, F94 C44W
Upper Main Street, Ballyshannon, Co Donegal, F94 C44W

MARINE LICENCE VETTING COMMITTEE:

Re: DHPCLG file ref. FS6838 Foreshore Application on behalf of DeepSea Fibre Networks Ltd, for a licence under the Foreshore Acts for a pre-installation survey, localised site investigation and installation of subsea fibre optic cable at Ballyloughane Strand, Renmore, Co Galway.

Request for observations from Robyn Plunkett (DECLG) dated 15.11.2018

Overview:

There are three components to this application:

- Pre-installation survey
- Localised site investigations
- Installation of fibre optic cable

Ecological impact report does not appear to cover the issues of pre-installation surveying. Gives good coverage to the ecological entities and to the cable laying route.

The Natura 2000 report indicates that pre-installation survey will include bathymetry, side-scan sonar, sub-bottom profiling and magnetometry.

IFI comment:

IFI notes the comprehensive coverage in regard to the localised site investigations at the cable landing site and to the marine cable laying.

IFI notes that some of the proposed survey instruments, for the pre-installation survey, emit sound levels in excess of 200dB into the aquatic environment. There do not appear to be any mitigation measures in regard to sound generation during this particular survey process. The cable route assessment process does not appear to be covered to any degree. In contrast, the cable laying process is well-described and is as minimally invasive as seems feasible.

IFI notes the proposed method of horizontal directional drilling to bring the cable under the foreshore. Data is presented in regard to the noise generated by this process. IFI notes that the examples given relate to sound dispersal in air. The sound levels dispersed into the immediate foreshore area may be more relevant to aquatic organisms.

IFI would propose that any foreshore licence would include mitigation measures in regard to noise in the aquatic environment. No mitigations appear to be included in documentation submitted. Mitigations should include:

- Specific soft-start procedures (to comply with the “Code of Practice for the Protection of Marine Mammals during Acoustic Seafloor Surveys in Irish Waters”) will be developed and incorporated in the project execution plan before mobilisation.
- The duration of noise-generating surveys will be reduced to the minimum necessary to collect results of sufficient quality.
- It is proposed to contact the Sea Fisheries Protection Agency (SFPA) to seek advice regarding the timing of survey works to avoid clashing with spawning periods of fish in the area. This will reduce any potential for noise damage to larval and juvenile life stages of fish when they are more susceptible to noise damage than adults.

A number of similar projects, in areas where commercial fishing is actively in operation, have appointed a Fisheries Liaison Officer for the inshore and offshore sections of the survey. The appointment of a Fisheries Liaison Officer would have the purpose of keeping commercial fishermen informed of the survey works including time lines, dates of sampling and locations of sampling vessels. IFI would recommend that Foreshore Unit consider the inclusion of a Fisheries Liaison Officer, funded by the applicant for the project duration, as a licence condition

The opinion of the SFPA in regard to timing of the survey is critical from the spawning/larval life stages of commercially-important fish species using the area.

IFI would point out that the timing of proposed geophysical surveys must also take into account the potential for impact on migratory fish species, particularly Annex II Habitats Directive species relevant to IFI. This issue has been already flagged by IFI in earlier correspondence from Mr David Harrington (email of 3.5.2018) to Altemara:

As previously discussed during our telecom, the proposed cable laying timeline (July 2019) will coincide with the main salmon run returning through Galway Bay into the River Corrib catchment for the purposes of spawning. I am aware that Dr William Roche has already advised that the salmon smolt run is from mid-April to the end of May (outside the timeline of the proposed cable laying works).

However, I note from your summary information that “there is no significant noise generation during ploughing operations. As the cable installation by plough is relatively slow it produces only a minor plume of suspension of seabed sediments in the water column and this is transient and localised due to the nature of the ploughing and natural backfill activities”. It is also noted that the cable laying operation from Ballyloughane Beach to the Aran Islands should only take approximately three days.

IFI will need to be notified at least one week before the cable lay from Ballyloughane Beach in order to monitor the operation to ensure there are no negative impacts on returning Salmon.

Any acoustic surveys associated with the site investigations (April 2019) will obviously require appropriate mitigation measures given the sensitivity of the habitat in question.

The opinion of the Sea Fisheries Protection Authority (SFPA) in regard to timing of the survey is critical from the spawning/larval life stages of commercially-important fish species using the area.

On a side note, I presume that the proposed extension of Galway Harbour has also been accounted for and will not affect the cable?

I look forward to reviewing a copy of the Foreshore Licence Application in due course.

IFI notes that, in similar such projects, the survey process for cable route, including geophysical etc. surveys, and the actual cable laying process are generally structured as two separate foreshore applications.

IFI would also point out the mitigation measures for marine mammals are not necessarily applicable to fish species. This is particularly the case in regard to use of MMOs, such measure being of no value to conservation of fish species.

[Inland Fisheries Ireland 2](#)

IFI had no further comment to make on DSN's response to Prescribed Body Observations.

Department of Agriculture, Food and the Marine (DAFM)

Subject: RE: FS6838 DeepSea Fibre Networks Ltd.

Your Ref: FS 006838

Our Ref: FW 12/18

Re: **Foreshore Licence application by DeepSea Fibre Networks Ltd for a pre-installation survey, localised site investigation and installation of subsea fibre optic cable at Ballyloughane Strand, Renmore, Co Galway**

Further to your email dated 15/11/2018.

On the basis of the information provided the Department has no objections to the proposed development, however we recommend the following conditions should be attached to any licence that may be granted:

1. The Licensee shall use that part of the Foreshore the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.
2. The cable shall be installed as detailed in the submitted "Planning Report: July 2018" unless otherwise approved by the Department of Housing, Planning and Local Government.
3. The Licensee shall appoint a Fisheries Liaison Officer who shall consult with the SFPA and relevant fishermen's groups in order that appropriate actions can be taken to avoid or minimize any interactions with ongoing fishing activities in the area during the course of the works on the Foreshore.
4. On completion of the works the Licensee shall ensure that all equipment and materials are removed from the foreshore and the foreshore is reinstated to its original condition.

The Department is not aware of any other developments, plans or projects that may, in conjunction with this application, have a significant cumulative effect on a Natura 2000 site.

Kind regards,

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

National Seafood Centre, Clogheen, Clonakilty, Co. Cork, P85 TX47
An Lárionad Bia Mara Náisiúnta, An Cloichín, Cloich na Coillte, Corcaigh, P85 TX47

www.agriculture.gov.ie

Department of Culture, Heritage and the Gaeltacht (DCHG)

Underwater Archaeology Unit

From: Foreshore EPA Marine
Sent: 19 December 2018 10:01
To: foreshore <foreshore@housing.gov.ie>
Subject: Foreshore Licence FS006838

RE: Foreshore Licence FS006838 by DeepSea Fibre Networks Ltd for a licence under the Foreshore Acts for a pre-installation survey, localised site investigation and installation of subsea fibre optic cable at Ballyloughane Strand, Renmore, Co Galway.

A chara,

Please find the underwater archaeology recommendations of the Department of Culture, Heritage, and the Gaeltacht for the above mentioned foreshore application application.

It is noted that the proposed investigations are within an area of underwater archaeological potential. The Wreck Inventory of Ireland Database lists numerous wrecks for the cable route area, which are subject to statutory protection under section 3 of the 1987 National Monuments (Amendment) Act. Given the location of the proposed investigations it is possible that underwater archaeology may be impacted by the investigations. It is therefore recommended that the following be added as conditions on any foreshore licence that may be granted for the proposed development.

1. It is recommended that all known wrecks and archaeological sites be avoided by the proposed works.
2. It is recommended that the proposed geophysical surveys be carried out in advance of any geotechnical works. . It is recommended that the proposed geophysical surveys be licenced under the National Monuments Acts 1930-2004. The geophysical data for all proposed geotechnical investigation locations (i.e. grab sampling, gravity cores CPT penetration works and site investigations for the landfall section) shall be assessed by a suitably qualified archaeologist to ensure that the proposed works do not negatively impact on locations where there is known or potential archaeology and to ensure no samples or cores are taken from an area where a wreck site is located.
3. A report summarising the assessment of the geophysical data should be forwarded to this office for review prior to the geotechnical works taking place. Where archaeological material/features are shown to be present, preservation in situ, avoidance, preservation by record (archaeological excavation) or archaeological monitoring may be required. The applicant shall be prepared to be advised by the Department of Culture, Heritage, and the Gaeltacht.
4. Archaeological analysis of the geophysical and bathymetric pre installation surveys should be undertaken to both confirm the locations of the wreck sites within the survey corridor and also to identify any potential unrecorded seabed and sub seabed maritime archaeological features. Where the location of the wreck site directly on the cable route is confirmed the cable should be re-routed to avoid them.
5. Should the proposed cable route be subject to further revision, details of these revisions should be forwarded to this Department for assessment.

6. The proposed geophysical surveys and dive surveys (i.e. diver swim survey and dive investigations of potential archaeological anomalies) should be licenced under the National Monuments Acts 1930-2014. The dive survey should be accompanied by a hand-held metal detection survey which should also be licenced under the National Monuments Acts 1930-2014.
7. It is recommended that Archaeological Monitoring, as described below, be carried out of all proposed seabed disturbance works to take place as part of this development. This includes the cable installation from the end of the HDD out to the low water line, horizontal directional drilling at the proposed landfall, cable laying works from the low water mark out to the 12mile limit, prelay grapnel run surveys and the geotechnical and site investigation works (including the bar probes, trial pits, gravity cores, grab samples and CPT). The site investigation works should avoid locations of known wreck sites.

Archaeological Monitoring shall consist of the following:

- In order to ensure the preservation of potential archaeological sites, wrecks and features the applicant is required to engage the services of a suitably qualified underwater archaeologist to monitor all disturbance works associated with the development including beach preparations works and foreshore works at the landfall, pre-lay grapnel run operations and cable burial operations. The archaeological monitoring shall be licensed under the National Monuments Acts 1930-2004.
- A detailed method statement shall accompany the licence application and shall include details on the proposed works, duration of works; archaeological monitoring team proposed and a find's retrieval strategy.
- Should archaeological material be found during the course of monitoring, the archaeologist shall have the work in that area suspended, pending a decision as to how best to resolve the archaeology. The applicant shall be prepared to be advised by the Department of Culture, Heritage and the Gaeltacht with regard to any necessary mitigating action (e.g. avoidance, preservation in situ or excavation). The applicant shall facilitate the archaeologist in recording any material found.
- The Department of Culture, Heritage and the Gaeltacht shall be furnished with a report describing the results of the monitoring.

It should be borne in mind, that if significant archaeological remains are found, further archaeological mitigation might be required.

Mise le meas,

An Roinn Cultúir, Oidhreachta agus Gaeltachta
Department of Culture, Heritage and the Gaeltacht

Aonad na nIarratas ar Fhorbairt
Development Applications Unit

Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90

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Nature Conservation Unit

From: Foreshore EPA Marine
Sent: 17 January 2019 14:38
To: foreshore <foreshore@housing.gov.ie>
Subject: Foreshore Licence FS006838

RE: Foreshore Licence FS006838 by DeepSea Fibre Networks Ltd for a licence under the Foreshore Acts for a pre-installation survey, localised site investigation and installation of subsea fibre optic cable at Ballyloughane Strand, Renmore, Co Galway.

A chara,

Please find the nature conservation recommendations of the Department of Culture, Heritage, and the Gaeltacht for the above mentioned foreshore licence application.

Nature Conservation

The proposed cable lay between Galway and Spain has been evaluated by a Natura Impact Statement.

The conclusion of the Natura Impact Statement document is that the proposed works are unlikely to pose a significant likely risk to nature conservation interests in the vicinity. The Department of Culture, Heritage, and the Gaeltacht concur with this conclusion provided the stated mitigation is undertaken.

Mise le meas,

An Roinn Cultúir, Oidhreachta agus Gaeltachta
Department of Culture, Heritage and the Gaeltacht

Aonad na nIarratas ar Fhorbairt
Development Applications Unit

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