Department of
Agriculture,
Fisheries and Food
An Roinn
Talmhaíochta,
Iascaigh agus Bia

File Ref: MS51/8/1358

01 September, 2009

Foreshore Section, CZMD

Engineering Report: A foreshore licence application to install a submarine power cable from Glanagow to Raffeen, Cork Harbour, County Cork.

Applicant: Eirgrid Plc
Site: Lower Cork Harbour, County Cork

ESBI Engineering & Facility Management Ltd. submitted an application on behalf of Eirgrid Plc, for a licence under the Foreshore Acts, to facilitate the above-mentioned installation of a submarine circuit across Lower Cork Harbour.

1.0 Background

This application relates to the installation of a submarine power circuit across lower Cork Harbour crossing the main navigation channel. The proposed marine cable is apart of the Glanagow-Raffeen cable connection, which is an element of the overall Cork Transmission Reinforcement Project.

The applicant states the proposed works are essential to facilitate the export of power from the two new power stations in Cork Harbour and to ensure security of electricity supply to the Munster area.

The submarine connection will consist of four submarine cables (three phases and one spare phase) beneath the seabed between Ringaskiddy and Corkbeg in Cork Harbour, each 4.3km long. Fibre optic cables will be bundled to three power cable phases. Each transmission cable is a 220 kV single core cable.

The cables will be brought across the intertidal area in four individual trenches and will be connected to a terrestrial cable circuit, at two individual jointing bays, one at each landfall above the HWM.

A high pressure water jetting system will be used to trench and lay the parallel cables at 25-30 metre spacing. The cables will be laid to a depth of approximately 1-1.5 metre over most the route increasing to 2 metres in the navigation channel. The submarine trenches that are temporarily created while the cables are laid are narrow at a width of approximately 0.4 metres.

Department of Agriculture, Fisheries and Food
An Roinn Talmhaíochta, Iascaigh agus Bia

Oak House
Bessboro Road
Mahon
Cork
Ireland

Teach Darach
Bóthar Bessboro
Machan
Corcaigh
Éire

Telephone +353 (0)21 4515112
Fax +353 (0)21 4515122
gearoid.oshea@agriculture.gov.ie
www.agriculture.gov.ie

The water jetting equipment is mounted on a remotely operated vehicle (ROV) connected to a small vessel. A larger vessel is used to carry the cable that is being laid. During the installation, the trench remains filled with fluidised loose sediments into which the cable settles immediately. Each cable is expected to be laid in approximately 3-4 days with the contractor working 6-8 hour days.

In the intertidal area, the cable trench is to be approximately 600 millimetres wide, 1-1.5 metres in depth. Cable laying in the intertidal area is to be achieved using the water jetting approach where possible. A conventional digger is to be used during low water periods.

The landfall works comprise the construction of two jointing bays (and associated link boxes and manholes) one at the western landfall and one at the eastern landfall.

The proposed western landfall location is to the north of Golden Rock, within the small amenity and car park area adjacent to the local beach at the end of N28 National Road, past its junction to Haulbowline. Spike Island is located to the east of the site.

The proposed eastern landfall location is south of the causeway between Corkbeg Island and the mainland in a grassed area adjacent to the site of the Conoco Philips Oil Refinery. Access to the site is via an internal road.

The applicant intends to carry out the proposed works between the months of January and April 2011. The total duration of the works has been estimated as approximately 12 weeks. The works in the intertidal areas are expected to be approximately 4 weeks and subtidal approximately 6 weeks.

2.0 Recommendations

I have no objections to proposed works set out in the Glanagow-Raffeen Marine Cable Project Environmental Report of August 2009 and attached drawings accompanying the foreshore licence application.

2.1 Foreshore Lease Map

In the interest of clarity, the applicant should resubmit Drawing No. PE424-D3012-037-001-001 changing the drawing title from "Location Map" to "Foreshore Licence Map".

The applicant should indicate the Irish National Grid co-ordinates on the drawing as per Drawing No. PE424-D3012-035-001-001 attached to foreshore licence application MS51/08/1339, Aghada-Cuskinny Cable Project.

2.2 Section Drawings

A number of sections shown in Drawing No. PE424-D3012-038-001-000 (Drawing Title – Sections) are "not to scale". The applicant should resubmit the drawing with all sections to a specified scale.

Gearóid O'Shea
Engineer

October 27, 2009

To: MLVC
From: Francis O'Beirn
RE: Glanagow –Raffeen Marine Cable Crossing – Foreshore Application MS51/8/1358

The application is for a foreshore licence to run 4 submarine cables across outer Cork Harbour. The trenches for the cables are expected to be 1.6m wide and approx. 2m deep. A survey of benthic communities was conducted along the cable routes and in adjacent areas. The survey was conducted using conventional grabs, dredges and trawling equipment and is considered comprehensive and likely would provide a good overview of the communities found in the vicinity of the cable routes.

As expected the communities found are not rare and un-expected around the outer Cork Harbour. A seagrass (*Zostera* sp.) bed was found in the vicinity of Corkbeg Island. Sea-grass habitat is considered sensitive and should be avoided. The bed was considered extensive and as mitigation, the proposed route of the cabling has been re-routed north of the bed and as a consequence will likely not impact on the bed.

Given the proposed method of trenching (water jetting), the impact of the activity is likely to be minimal and short lived. The communities found (with the exception of the seagrass beds) are considered resilient and will recover quickly after operations have ceased.

In order to minimise any potential harm – the dredging operation should be conducted as quickly as possible and at a time to minimise interactions with migratory fishes.

MARINE LICENCE VETTING COMMITTEE:
Re: DAFF file ref MS 51/8/1358 Foreshore licence application –submarine power cable from Glanagow to Raffeen, Cork Harbour

Request for observations from Mr. Gerard Sheil (DAFF) dated 19.8.2009

This application proposes a submarine cable across the Lower Harbour, from electricity generating utilities at Aghada, with a landfall on Ringaskiddy. The general principle of underground laying of power cables has aesthetic benefits.

I note that the pprinciples of cable laying are the same as those proposed for the Eirgrid East Ferry application to MLVC. In that application, backfilling of trenches in the intertidal proposed to use a mix of sand and cement. In the present proposal, it is indicated that the cable in the intertidal will have a concrete slab immediately on top and the remainder of the trench backfilled using sand and the excavated beach material. This is a more preferable and acceptable proposal.

It is agreed that disturbance will be of a short-term nature, confined in essence to the period of works. It is likely that the beach contours around the areas of excavation will return rapidly to present an undisturbed image.

It is apparent that some adverse impact or loss will occur to habitat in the immediate area of the jetting process involved in forming the trenches into which the power cables will be laid. Such loss may include some loss of individuals of species exploited by the commercial fishermen of Cork Harbour. Fish are highly mobile and are capable of avoidance action to escape areas during works. Similarly, fish are capable of moving back rapidly after works. Potential losses to crab species and to shellfish may also occur. A report compiled by the Southwestern Regional Fisheries Board (SWRFB), working with stakeholders, identified the relevant principal species in the Lower Harbour and the areas where these species occur.

A licence condition could require a pre- and post works investigation of species composition and abundance in the areas impacted and in adjoining similar habitats. The post-works survey might be undertaken at same time of year as the pre- survey and approximately one year following completion of the trenching works. There could be a linked condition requiring counterbalancing works to be carried out to offset any losses to habitat, species and or numbers.

The issue of **electromagnetic radiation (EMR)** was identified in the earlier Eirgrid application (East Ferry) and is again identified in the present EIS. The merit of producing a literature survey in relation to EMR and its potential/actual impacts on marine biota was identified at that stage. The current EIS does produce some data to indicate the low likelihood of adverse impact. It also refers to a DCENR report on health issues and a

COWRIE report on impacts on fish. The most recent COWRIE report dates from early 2009 and it would be helpful, and comprehensive, if the EIS were to include copies of the DCENR and COWRIE reports – or internet linkages to both. This would permit interested parties to enquire further and may assuage fears on this issue

James J. King
Central Fisheries Board
22.10.2009

CC Terry Mc Mahon MLVC
Michael Mc Partland, Senior Environmental Officer, SWRFB

Comhshaol, Oidhreacht agus Rialtas Áitiúil
Environment, Heritage and Local Government

24th September 2009

Our Ref: M00031/2009
Your Ref: MS51/8/1358

Mr. Gerard Sheil,
Foreshore Section,
Coastal Zone Management Division,
Department of Agriculture, Fisheries and Food,
Johnstown Castle Estate,
Co.Wexford.

Re: Foreshore Licence Application by Eirgrid PLC for a submarine power cable from Glanagow to Raffeen, Cork Harbour, Co. Cork.

A Chara,

We refer to the application in relation to the above-proposed development. Outlined below are the underwater archaeological and nature conservation observations of the Department of the Environment, Heritage and Local Government. has no objections to this development from an underwater archaeological or nature conservation point of view.

Underwater Archaeology
We refer to the above-proposed development and submitted EIS with archaeological assessment reports. Having reviewed the reports for both the terrestrial/intertidal and submarine works, the following are the further recommendations of the Underwater Archaeology Unit in regard to the proposed cable-laying works.

It is recommended that the works for the cable laying be subject to archaeological monitoring, as detailed below.

Archaeological monitoring:
- The applicant shall engage the services of a suitably qualified archaeologist with underwater monitoring experience to undertake the archaeological monitoring of all proposed works.
- The archaeological monitoring shall be licensed to the Department of Environment, Heritage and Local Government (DEHLG) and a detailed method statement shall accompany the licence application.
- The works in the foreshore for both the landfall sites and underwater for the cable laying across the harbour shall be subject to an agreed scaled monitoring strategy, as it is noted that

burial of the cable may be by way of water-jetting. This scaled monitoring to be agreed in advance by the applicant, archaeologist(s) engaged to undertake the monitoring and the Underwater Archaeology Unit of this Department.

- A find's retrieval strategy shall be incorporated into the monitoring methodology if possible, for the foreshore areas for instance where installation of the cable may be by way of digging.
- The monitoring archaeologist shall have the power to have works suspended if potential archaeology is impacted and all works in that area shall cease until the potential archaeology has been fully resolved.
- The applicant shall be prepared to be advised by the Underwater Archaeology Unit of the National Monuments Service (DEHLG) in regard to the resolution of any potential archaeology identified.
- Should there be any changes to the proposed works or any further proposed impacts, the Underwater Archaeology Unit shall be informed in advance, as further archaeological mitigation may be required.

Reason: To ensure the continued preservation (either *in situ* or by record) of places, caves, sites, features or other objects of archaeological interest.

Nature Conservation
The Department of the Environment, Heritage and Local Government has no objections to this development from a nature conservation point of view.

Further, direct, observations may issue from our Water Quality Section. Please forward to this Section a copy of your decision on this application and the licence when it issues.

Is mise le meas,

Yvonne Nolan

Yvonne Nolan
Development Applications Unit
Ph.: (01) 888 2760
Email: yvonne.nolan@environ.ie

Sheil, Gerard

From: Michael Mc Partland [mcpartland@swrfb.ie]
Sent: 09 September 2009 15:00
To: Sheil, Gerard
Subject: MS51/8/1358 -EirGrid Plc

Gerard

While The Board acknowledges the importance of the proposed works in both the national and local context there is a responsibility to ensure that any negative impacts to fisheries as a result of the proposal, either in the short or long term, are minimal.

The Boards concerns are twofold a) the potential negative impact on the fishing sector and related activities in Cork Harbour b) the potential negative impact on fish stocks and habitat in the impacted area. Both of these impacts have been acknowledged in the EIS. However no details have been provided for offsetting works to be carried out to counterbalance the acknowledged losses to habitat , fish numbers and fishing opportunity. The Board would ask to be informed when such information is submitted.

Michael Mc Partland
Senior Environmental Officer
South Western Regional Fisheries Board
Sunnyside House
Macroom
Co.Cork
Phone: 026-41221
Fax: 026-41223
mcpartland@swrfb.ie

SFPA
AN tÚDARÁS UM CHOSAINT IASCAIGH MHARA
SEA-FISHERIES PROTECTION AUTHORITY

Sea-Fisheries Operations Unit,
SFPA Headquarters,
Maritime Building,
Park Road, Clogheen,
Clonakilty,
Co. Cork.
T: 023-8859309
F: 023-8859720

21st August 2009

Foreshore Section
Coastal Zone Management Division
Dept of Agriculture, Fisheries & Food
Johnstown Castle Estate,
Co. Wexford.

Attn Gerard Sheil

FORESHORE LEASE/LICENCE APPLICATION –
GLENAGOW-RAFEEN MARINE CABLE PROJECT
CORK HARBOUR, CO CORK
DAFF Ref MS51/8/1358

1. The attached application has been forwarded by Foreshore Section, Coastal Zone Management; D.A.F.F. for our observations.

2. The proposed area is not located in a Designated Shellfish Production Area.

3. It is considered unlikely that it will interfere in the long term with any sea-fishing operations.

Regards,

Christopher Nalty
Sea Fisheries Operations Manager

SFPA Mission Statement

"The Sea-Fisheries Protection Authority's mission is to enforce Sea Fisheries Conservation legislation and Seafood Safety legislation fairly and consistently to ensure that the marine fish and shellfish resources from the waters around Ireland are exploited sustainably and may be consumed safely for the long-term benefit of all"

Marine Survey Office,
Ballyshannon Town C,
Ballyshannon,
Co.Donegal.
Ireland.

Tel: 071-9822400

Memorandum to	**CZMD – Foreshore Section**
Attention	**Gerard Sheil**
Fax No	**6783409**
From	**Nick Cantwell**
No of Pages	**1**
Date	**01 September 2009**
Reference	**MS51/8/1358** **Installation of submarine cable Cork HarbourCo.Cork**
CC	

- This office has no objections from a navigational viewpoint to the above application.

- **The applicant is required** to arrange the publication of a local marine notice. This local marine notice should give a general description of operations and approximate dates of commencement and completion. An advertisement in a locally read newspaper will suffice.

- The views of the Divisional Engineer should be sought.

- The locations of the above should be clearly marked with warning notices indicating the position of the cable. These notices should indicate anchoring prohibited by means of signage portraying an – X covering a white/grey anchor symbol.

- The local Harbour Authority should be contacted with respect to above and for any additional comments they may have with respect to the close proximity of the proposed cable to the adjacent marina.

- In order for charts and nautical publications to be updated **the applicant is required** to inform the British Admiralty Hydrographic Office at Taunton, UK, of the location and nature of the proposed works.
  (Fax: 0044 1823 284077, email: hdc@hdc.hydro.gov.uk)

Yours faithfully

Nicholas W. Cantwell.

N.W.Cantwell (Capt.)
Nautical Surveyor