

EIRGRID

East West Interconnector Cable Remedial Works 2024

DEML2364v1 Cable Protection Report



P2226_R6467_Rev0 | 8 July 2024

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DOCUMENT RELEASE FORM

EirGrid

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East West Interconnector Cable Remedial Works 2024

DEML2364v1 Cable Protection Report

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Rev No	Date	Reason	Author	Checker	Authoriser
Rev 0	08/07/2024	Initial issue	VEF	AP	AP

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1. INTRODUCTION

1.1 Project Overview

The East West Interconnector (EWIC) is a 500 MW High Voltage Direct Current (HVDC) electricity interconnector linking the Irish and British electricity markets. Following post-installation inspection surveys in 2022, one cable exposure (Section 1-2) and three areas of low sediment cover (less than 0.5m; remaining sections) were identified along the EWIC cable route which needed remedial works to reinstate the EWIC cable back to a level of acceptable risk. EWIC is owned and operated by EirGrid, who are the licence holders for the remedial works. Intertek have been contracted by EirGrid to undertake the marine licencing process for the remedial works.

The remedial works consisted of placement of external cable protection in the form of Precise Rock Placement (PRP) units (i.e. rock bags) and concrete mattresses. A marine licence was applied for to enable the placement of the cable protection, which was determined initially on the 31st January 2024, with a variation to correct the coordinates (and therefore updating the licence to a Version 1) determined on the 5th March 2024 (the licence number is DEML2364v1). Table 1-1 details the maximum number of deposits permitted by the licence at each location.

Table 1-1 Maximum Deposits Permitted by Marine Licence DEML2364v1

Section	Concrete Mattresses	Rock Bags
1 – 2	4	12
3 – 4	3	7
5 – 6	2	4
7 – 8	10	26

The works commenced on the 6th March 2024 and finished on the 8th March 2024, and were carried out by the contractor NKT onboard the NKT Victoria. Figure 1-1 shows the location of the remedial works along the cable route.

1.2 Report Objectives

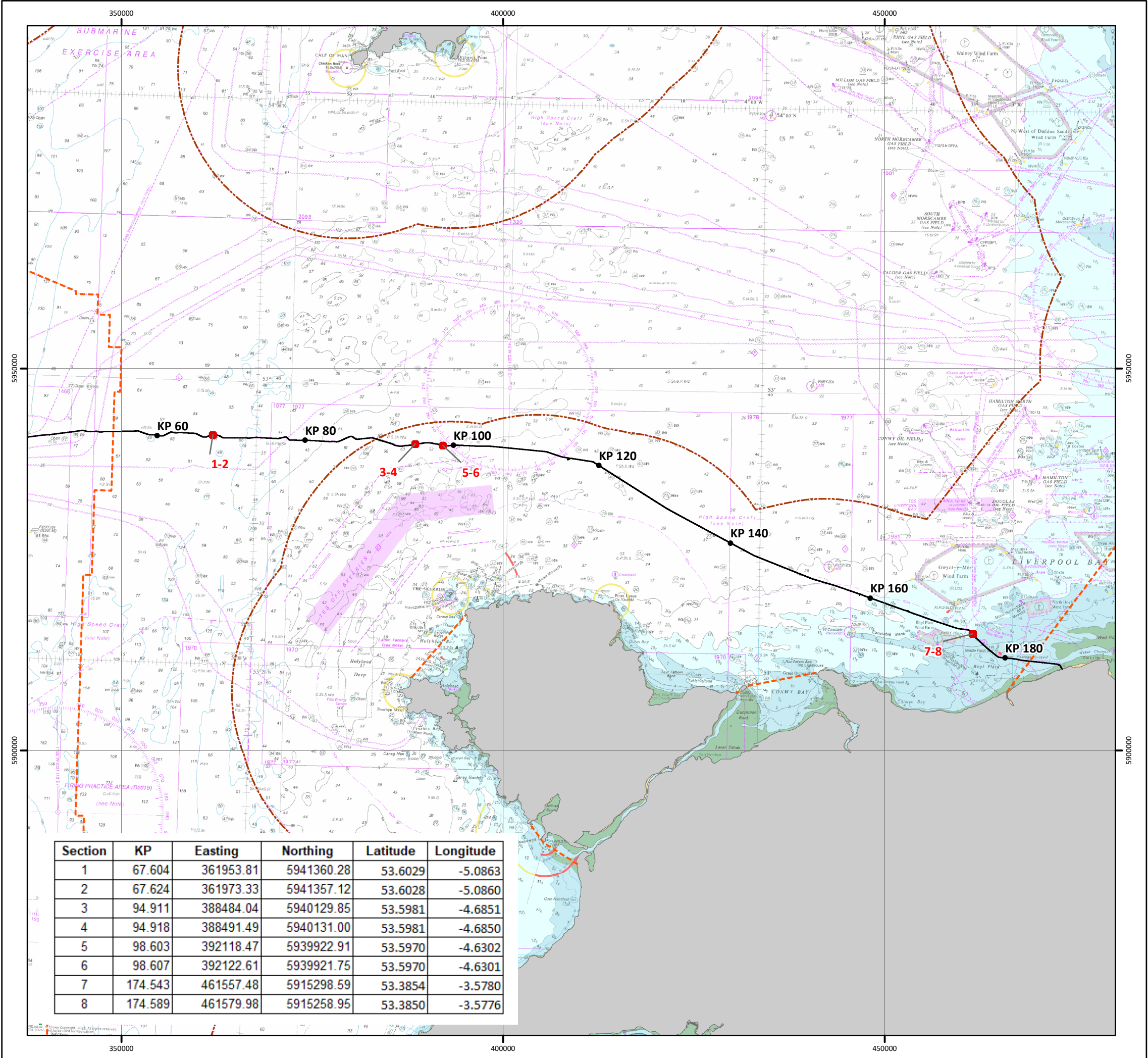
The purpose of this report is to satisfy marine licence condition 3.22, which states the following:

3.22 Cable protection report

The Licence Holder must provide to the Licensing Authority the following information within 4 months of completion of the licensable activity for written approval:

- (i) The final locations (in WGS84), types, and quantities of cable protection used, deposited, or installed, and
- (ii) Identification of potential dangers to navigation.

In the event that any potential danger to navigation is identified following the completion of the licensable activities the Licence Holder must propose measures to ensure the safety of navigation in writing to the Licensing Authority for written approval. The measures must be implemented as approved.



Section	KP	Easting	Northing	Latitude	Longitude
1	67.604	361953.81	5941360.28	53.6029	-5.0863
2	67.624	361973.33	5941357.12	53.6028	-5.0860
3	94.911	388484.04	5940129.85	53.5981	-4.6851
4	94.918	388491.49	5940131.00	53.5981	-4.6850
5	98.603	392118.47	5939922.91	53.5970	-4.6302
6	98.607	392122.61	5939921.75	53.5970	-4.6301
7	174.543	461557.48	5915298.59	53.3854	-3.5780
8	174.589	461579.98	5915258.95	53.3850	-3.5776

EAST WEST INTERCONNECTOR

LOCATION OVERVIEW

Marine Licence Application - UK Waters

Drawing No: P2226K-LOC-004

A

Legend

EWIC Remedial Works Location

KP

EWIC Cable Route

12nm Territorial Sea Limit

Median Line

NOTE:

Coordinates are provided in WGS 84 UTM 30N Eastings and Northings in metres (m), and WGS 1984 Latitude and Longitude in Decimal Degrees (DD)

19 October 2023

WGS 1984 UTM Zone 30N

Transverse Mercator

WGS 1984

UKHO; DECC; MarineRegions; MarineFind; GEBCO; EirGrid

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2. CABLE PROTECTION

2.1 Locations, Type and Quantities of Cable Protection

Table 2-1 shows the type and quantities of each cable protection type (rock bags or concrete mattresses) at each of the four remedial locations, their confirmed deposited locations and recorded depths at that location. In total, 37 rock bags and 4 concrete mattresses were deposited. The coordinates provided are in WGS 84.

Table 2-1 Cable Protection Deposited During the 2024 Remedial Works

Deposit Type	Latitude	Longitude	Recorded Depth (m)
Section 1 - 2			
Concrete mattress 1	53.60285036	-5.086280893	78.0
Concrete mattress 2	53.60284761	-5.086114188	78.3
Concrete mattress 3	53.60284476	-5.086024567	77.6
Concrete mattress 4	53.60284494	-5.085926932	76.8
Section 3 - 4			
Rock bag 1	53.59811523	-4.685153584	78.7
Rock bag 2	53.59811935	-4.685129567	78.9
Rock bag 3	53.59812551	-4.685100344	78.9
Rock bag 4	53.59812726	-4.685084847	79.0
Rock bag 5	53.59812925	-4.685071174	78.9
Rock bag 6	53.59813007	-4.685038715	79.0
Rock bag 7	53.59813415	-4.685016965	79.0
Section 5 - 6			
Rock bag 1	53.59701793	-4.630176922	71.9
Rock bag 2	53.59701548	-4.630145999	72.0
Rock bag 3	53.59701268	-4.630127152	72.0
Rock bag 4	53.59701235	-4.630091929	72.1
Section 7 - 8			
Rock bag 1	53.38528604	-3.577862172	10.54
Rock bag 2	53.38528805	-3.57783694	10.59
Rock bag 3	53.38527821	-3.577883566	10.56
Rock bag 4	53.38529573	-3.577885758	10.73
Rock bag 5	53.38529886	-3.577870615	10.65
Rock bag 6	53.38531169	-3.577893943	10.83
Rock bag 7	53.38532518	-3.577910664	10.83
Rock bag 8	53.38533877	-3.577925883	10.89

Deposit Type	Latitude	Longitude	Recorded Depth (m)
Rock bag 9	53.3853509	-3.577945594	10.86
Rock bag 10	53.38536139	-3.577950697	10.86
Rock bag 11	53.38537423	-3.577972372	10.87
Rock bag 12	53.38538747	-3.577985331	10.96
Rock bag 13	53.38539898	-3.578003379	10.99
Rock bag 14	53.38513546	-3.577734589	10.52
Rock bag 15	53.38513817	-3.577714479	10.57
Rock bag 16	53.38512215	-3.577718622	10.70
Rock bag 17	53.38510802	-3.577703095	10.75
Rock bag 18	53.38509367	-3.577696586	10.69
Rock bag 19	53.38508276	-3.577684861	10.66
Rock bag 20	53.38507094	-3.577676131	10.71
Rock bag 21	53.38505822	-3.577665885	10.75
Rock bag 22	53.38504763	-3.577663486	10.80
Rock bag 23	53.38503154	-3.577644475	10.83
Rock bag 24	53.38501669	-3.577629539	10.84
Rock bag 25	53.38500392	-3.577612978	10.85
Rock bag 26	53.38499023	-3.577598961	10.79

2.2 Differences in Location

During the installation campaign, it was found that the previously recorded location of cable exposure at Section 1-2 did not match the observed exposure. The exposure was located approximately 4.5 m east of the coordinates listed in Table 2 of the marine licence. It was agreed that the concrete mattresses planned for the area should still be placed at the exposure in order to protect the cable and reducing the snagging risk for other marine users. NRW were notified of this placement on the 6th March 2024 who subsequently advised contacting Welsh Government Marine Enforcement Officers. The officers were contacted via phone call and informed of the issue on the 7th March 2024. The total concrete mattresses placed in the area matched the total listed in the licence for this location and the further three installations at the other locations were completed without incident. A summary email was sent to Tim Croucher on the 28th March 2024 with locations of the mattress deposits for his information.

3. POTENTIAL DANGERS TO NAVIGATION

3.1 Identification of Potential Dangers

The placement of cable protection deposits along the EWIC route reduced the navigable depth by up to 0.4 m (the maximum height of the deposits). Chart Datum in the shallowest section of the works (Section 7 – 8) is approximately 10.5 m. As seen in Table 2-1, the rock bags placed in this section have a shallowest depth of 10.52 m, meaning there is negligible change in navigable depth due to the remedial works at this location. The installation of rock bags at this location surrounds the existing rock berm, and the rock bags extends the area of protection at the same height as the rock berm.

Due to the increased depth (greater than 70 m depth) of the other three remedial works locations, the reduction to navigable depth is not greater than 5% at any of the remaining locations.

The remedial works were completed in one area of cable exposure and three areas identified as low burial along the cable route. Installation of the cable protection deposits has reduced the risk of other marine users snagging on the exposed or shallowly buried cable, therefore reducing risk to both the EWIC cable and other marine users in the area.

3.2 Conclusion

Condition 3.20: Depth Reductions of the Marine Licence stated, “The Licence Holder must ensure that any depth reductions resulting from the Works do not compromise safe navigation and that there is no more than 5% reduction in surrounding depth referenced to Chart Datum at any point without prior written approval from the Licensing Authority.” Based on the 5% or less reduction to navigable depth from Chart Datum after the remedial works, there is no risk to navigation posed by the cable protection deposits. The additional protection has also reduced the risk of snagging the cable to other marine users in the area.