

# **Marine Construction Works/Land Reclamation/Beach Replenishment in the Territorial Sea and Controlled Waters Adjacent to Northern Ireland**

## **Marine Licensing**

**Important:** before completing this form, please read these notes carefully.

The following numbered paragraphs correspond to the questions on the application form and are intended to assist applicants in completing the form. These explanatory notes are specific to this application and so applicants are advised to read these in conjunction with the General Marine Licensing Guidance document. However it may be that these notes do not fully cover all the questions that you may have. If further clarification is needed please telephone us on

028 90569247 or email

[MarineLicensingTeam@doeni.gov.uk](mailto:MarineLicensingTeam@doeni.gov.uk)

For fees categories please see Marine Licensing Fees Addendum

For further Guidance please refer to Marine Licensing Guidance for Applicants

## **EXPLANATORY NOTES**

### **2. Applicant**

The person, company or organisation making the application. (The licensee(s) may be any of the following, the contractor actually carrying out the construction work, the applicant and possibly other bodies involved).

### **3. Agent**

Any person, company or organisation acting on behalf of the applicant. They may be acting under contract (or other agreement) on behalf of any party listed in the answer to question 2, and have responsibility for the control; management or physical deposit of materials anywhere below the tidal limit of the mean high water springs (MHWS). (e.g. A consultancy company submitting the application or a contractor who will be carrying out the works.)

### **4. Duration of project**

Details of the proposed commencement and completion dates of the works.

A licence is normally valid for 1 calendar year or the duration of the works (whichever is longer) but not normally exceeding 3 years. After this period, it will be necessary for licence holders to re-apply for a further licence to continue any ongoing works. It is the licensee's responsibility to apply for any further licences or an extension prior to the expiry of the initial licence.

### **5. Description and Cost of the Proposed Project**

- (a) This estimate should cover only works taking place below the tidal level of Mean High Water Springs (MHWS) and should take into consideration the cost of materials, labour, fees etc.
- (b) Where the project is expected to take longer than 1 calendar year, this description must detail which elements of work are to be undertaken in the first 12 months, with an outline of the schedule for each further 12 month period of work. (The method of work etc. should be described in the answer to question 7.)
- (c) Select the options which most appropriately describe the type of work proposed. Where the project involves a number of elements, please tick each relevant box.

### **6. Location of Works**

Include a list of the latitude and longitude co-ordinates of the boundary points of the proposed project. In a few cases, (e.g. laying of long pipelines) it may only be practicable to supply co-ordinates for the start and end points.

Latitude and Longitude: For positions read from charts of 1:25,000 scale or smaller, the format should be e.g. **55° 55'.5N 2° 22'.2W**. The decimal point specifies that decimals of minutes are used and the datum is stated explicitly. If appropriate, map co-ordinates from the Irish Grid used by the Ordnance Survey Northern Ireland may be used, to a 6 figure grid reference.

**It is important that the correct positions are included with this application, as any errors may result in the application being refused or delayed.**

To supplement the information given in section 6, DoE Marine Division requires the following to be provided with the completed application form:

- A suitably scaled extract from an Ordnance Survey Map (1:2,500 scale but not more than 1:10,000) or Admiralty Chart which should be marked to indicate
  - The full extent of the works in relation to the surrounding area;
  - Latitude and longitude (or 6 figure IGR) co-ordinates defining the area of operation;
  - The level of Mean High Water Springs (MHWS)
  - Any adjacent Special Area of Conservation (SAC), Area of Special Scientific Interest (ASSI), Special Protection Area (SPA)/RAMSAR or similar conservation area boundary.

DoE Marine Division will require copies of all documents to be provided for dissemination to others as part of the consultation process. Normally ten copies of the maps/drawings will be required, if there are ancillary copies required, DoE Marine Division will advise the applicant accordingly. If they are subject to copyright, **it is the responsibility of the applicant to obtain necessary approvals to reproduce the documents and to submit suitably annotated copies with the application.** Alternatively maps/drawings can be sent electronically by email.

- **Sewer outfalls, discharge pipes for storm overflow and industrial waste etc.**  
The size and description of the pipe should be shown on the longitudinal sections and also details of any supports, foundations, methods of jointing and details of any tidal flaps.
- **Bridges over tidal waters:** an elevation with longitudinal and cross-sections of the bridge to a suitable scale should show the dimensions of the spans and width of piers, etc. above and below MHWS and the maximum and minimum heights of the undersides of the superstructures above MHWS. The headroom above MHWS and the width of span of the nearest bridges, if any, above and below the site should be stated.

- **Tunnels under tidal waters:** the longitudinal section of the tunnel should show the distances between the bed of the river or estuary and the top of the tunnel. Cross-sections should show the internal and external dimensions of the tunnel and particulars of construction. When a proposed future dredging level is known this must also be shown on all sections.
- **Overhead cables:** catenaries must be supplied in addition to the site plan showing the minimum clearance of the cable at MHWS and the electrical clearance allowed.
- **Marine Aquaculture:** proposals for fish farming and shellfish growing are subject to different procedures (refer to The Marine Licensing (Exempted Activities) Order (Northern Ireland) 2011).

The applicant should note that if the drawings/plans are subject to copyright, **it is the responsibility of the applicant to obtain the necessary approvals to reproduce the documents and to submit suitably annotated copies with the application.**

## 7. Method Statement

Please provide a full method statement, including details of any temporary structures that may be required below MHWS during the works, and the ultimate fate of the structure and material used in its construction. Details of these structures will be included in any licence that may be issued.

Proposed measures to ensure the marine environment is adequately safeguarded during the work should also be described (e.g. the method to be adopted to ensure that the loss of fine grained material is minimised during construction), as should those taken to minimise any interference with other uses of the sea or foreshore.

## 8. Permanent Deposits

- (a) Tick the appropriate box (es) to indicate all materials to be deposited below MHWS. If you propose using types of materials for which a specific box is not provided, please describe the nature of such material in the box marked "other".
- (b) If any of the materials to be placed below MHWS are to be brought to the site by sea, give details of the material, e.g. clean rock, and average particle size. Also indicate the vessels to be used, a chart showing the proposed vessel route to the site of the works and details of any trans-shipment areas i.e. where material may be off-loaded to smaller vessels or barges for transport inshore to the site of the works.
- (c) Where the proposed works involve beach replenishment or land reclamation, additional information is required about the material to be deposited and method of delivery. The description of material must include details of its chemical quality. Where the material has not been chemically analysed, DoE Marine

Division may request representative samples for analysis or require the applicant to arrange for analyses to be undertaken before the licence can be determined.

## **9. Temporary Deposits**

If temporary deposits are required, please provide details as with the permanent deposits above. The temporary deposit location details (Latitude/Longitude) should be added to section 6 of the form, and the period of time the site will be used must be provided. If issuing a licence, DoE Marine Division will include on the document details of any area that has been approved as a temporary deposit site.

## **10. Dredging**

Indicate whether you are proposing to dredge as part of the works. A separate section of the Marine Licence may be required. The granting of the construction section of the Marine Licence does not imply that the dredging section of the Marine Licence will also be granted, as different assessment criteria are used to determine each type of application.

## **11. Disposal of material at sea**

Indicate whether you are proposing to dispose of any excess material arising from the construction work at sea. A separate section of the Marine Licence may be required. The granting of the construction section of the Marine Licence does not imply that the sea disposal section of the Marine Licence will also be granted, as different assessment criteria are used to determine each type of application.

## **12. Planning**

If the application is subject to planning permission, please give relevant details, including planning reference number, if planning has been approved/rejected and attached a copy of the environmental statement if appropriate.

## **13. Statutory Consenting Powers**

Please describe what (if any) statutory responsibilities you (or your client) have to consent any aspect of the project.

## **14. Consultation**

- (a) Have the public been invited to comment on these proposals? if so to whom and what was the closing date
- (b) Have any consultation meetings been held with the public/other bodies? If so where and when?

## 15. Consultation with Conservation Bodies

Consenting authorities have a duty to ensure that any works will not have a significant adverse environmental impact, particularly upon designated conservation areas (e.g. ASSIs/SAC, SPA/RAMSAR sites etc) listed under The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2007. If the applicant (particularly if they have statutory powers for consenting aspects of these works) has already been in consultation with the appropriate nature conservation body – NIEA, Natural Heritage Directorate, please supply any response that they may have given.

Any application for beach replenishment works should be cross checked as to whether the proposed site is a designated bathing water site and if so, ideally all physical works should be done outwith the Bathing Water Season (1<sup>st</sup> June to 15<sup>th</sup> September). Further guidance on the Bathing waters Directive (76/160/EEC) can be obtained from <http://www.ni-environment.gov.uk/water-home/quality/bathingqualityni.htm>

In addition, guidance can be obtained from [www.foodstandards.gov.uk/](http://www.foodstandards.gov.uk/) with regards to the Shellfish Waters Directive (2006/113/EC) which has parameters set to protect the water quality in which edible shellfish are grown.

## 16. Designated Conservation Areas

Indicate whether the proposed works are located within or close to the boundaries of a conservation area such as an ASSI, SAC, SPA or Ramsar Site.

## 17. Environmental Assessment

Please indicate whether any environmental assessments have been carried out in respect of the proposed works, either under your own powers or as required by another authority. If such an assessment has been undertaken, please indicate if a copy has been provided with your application. If the statement/assessment has been completed but is not available, please provide an explanation in the space provided.

Additionally please also give details if and where a copy has been/ is being made available for public inspection.

Please ensure that you have:

- Completed **all** appropriate sections of the application form
- Signed and dated the declaration
- Provided the relevant documentation, charts and continuation sheets and
- Enclosed the correct payment (refer to fees addendum) or paid by means of BACS (if appropriate)

**Otherwise your application will be delayed or returned to you  
Marine and Coastal Access Act 2009 (Part 4 Marine Licensing)**

**Application for Marine Construction Works/Land Reclamation/Beach  
Replenishment in the Territorial Sea and UK Controlled Waters Adjacent to  
Northern Ireland**

(Construction schemes including coast defences, beneficial uses of dredged materials,  
jetties, land reclamation, outfall pipes etc.)

**It is the responsibility of the applicant to obtain any other consents or  
authorisations that may be required**

**Under Part 4 (Chapter 5) of the Marine and Coastal Access Act 2009, information  
contained within or provided in support of this application will be placed on the  
public register unless DoE Marine Division (as the licensing authority) approves  
the applicant's reasons for withholding all or part thereof.**

**Public Register**

Is there any information contained within or provided in support of this application that  
you consider should not be included on the Public Register on the grounds that its  
disclosure:

- a) would be contrary to the interests of national security YES ☐ NO ☒
- b) would prejudice to an unreasonable degree your or some  
other person's commercial interests or those of a third party? YES ☐ NO ☒

If **YES**, to either (a) or (b), please provide full justification as to why all or part of the  
information you have provided should be withheld.

Not applicable

**1. Project Title**

Please give a brief identifiable description, including the location of the works.

This Marine Licence application has been prepared by DP Marine Energy Ireland Ltd (DPME), on behalf of Fair Head Tidal Energy Park Ltd (FHTEP) which is a special purpose vehicle formed by partners DPME and Bluepower NV.

The application is for a proposed 100MW tidal energy development, covering an area of approximately 4.2km<sup>2</sup>, less than 1km off the North Antrim Coast in Northern Ireland (the "Project").

It relates to the offshore element of the Project to mean high water springs (MHWS). The Project comprises of a number of tidal energy convertors (TECs) with the associated infrastructure including electrical collection hubs and cables required to export the generated energy to shore.

## 2. Applicant Details

Title	<input type="text" value="Ms"/>	Initials	<input type="text" value="C"/>	Surname	<input type="text" value="McGrath"/>
Address:		<input type="text" value="DP Marine Energy Ltd,&lt;br/&gt;Mill House,&lt;br/&gt;Buttevant,&lt;br/&gt;Co Cork,&lt;br/&gt;Ireland, P51 TN35."/>			
Name of contact: (if different from above)		<input type="text"/>			
Telephone number: (inc. code)		<input type="text" value="+3532223955"/>			
Email address:		<input type="text" value="clodagh.mcgrath@dpenergy.com"/>			

## 3. Agent Details (if appropriate): Not applicable

Title	<input type="text"/>	Initials	<input type="text"/>	Surname	<input type="text"/>
Trading Title (If different from above)		<input type="text"/>			
Business Address:					
Name of contact: (if different from above)		<input type="text"/>			
Position within company (if appropriate)		<input type="text"/>			
Telephone number: (inc. code)		<input type="text"/>			
Email address:		<input type="text"/>			
Company Registration No.		<input type="text"/>			

#### 4. Duration of Project

Expected Start Date

2018, operational 2025

Expected Completion Date

2050

#### 5. Description and Cost of the Proposed Project

- (a) Estimated gross cost of the works proposed seawards of the tidal limit of the High Water Mean Spring Tide Mark

An estimated project cost of £350M is derived from the Marine Energy Technology Roadmap 2014 which was developed by the Energy Technologies Institute (ETI) and UK Energy Research Centre (UKERC). This can be considered a reasonably accurate estimate for a tidal project of this size with the installation programme proposed.

- (b) Give a detailed description of the proposed schedule of work

FHTEP propose to deliver a 100MW tidal energy project into commercial operation by 2025, developed in two key phases:

- Phase 1 – Up to 10MW to be operational by 2018/19; and
- Phase 2 – The balance to 100MW to be operational by the end of 2025, built-out in a staged construction approach.

The expected operating life is 25 years from completion of commissioning, expected in 2020. Please note that this 25 year operational phase is assumed from the starting point of commissioning completion. FHTEP will investigate options for decommissioning or re-powering of the project where appropriate subject to the necessary licenses and consents

The project comprises of a number of tidal energy convertors (TECs) with the associated infrastructure including electrical collection hubs and cables required to export the generated energy to the shore on the North Antrim coast, Northern Ireland. The nearshore boundary of the project is mean high water springs (MHWS).

Refer to Chapter 5 ‘Project Description’ of the accompanying Environmental Statement (ES).

If necessary please continue on a separate sheet and tick this box

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## Types of Work Proposed

### Coastal/Flood defences

beach replenishment  
shoreline reinforcement  
flood defence  
sea defence

### Slipways

slipway  
causeway  
launching ramp

### Miscellaneous

habitat creation/replacement  
aquaculture (unless exempted)  
sea wall  
berms/wave screens  
artificial reef  
sea-lock

### Harbour works

dock wall/quay/wharf

### Navigation works

lock gates  
moorings (unless exempted)  
buoy/navigation mark (unless exempted)  
training wall/breakwater

### Land reclamation

bunded/piled area  
dock infill

### Intakes/outfall pipes

intake/outfall

### Cables

**cable/subsea cable**

### Pipeline maintenance

pipe/pipeline maintenance

### Piers etc.

bridge supports/bridge foundation  
pier  
jetty

### Bank stabilisation

### Scour protection

gabion  
mattressing

### Barrages & island etc.

tidal barrier  
barrage  
sculpture, statues, fountains etc.  
ground investigation works  
impoundment

### Sediment manipulation groynes

### Other

**tidal turbine deployment and associated plant**

## 6. Location of Works

This should include either 6 figure Irish Grid Reference (IGR) or Latitude and Longitude co-ordinates (WGS84 to 1 decimal minute) defining the extent of the project.

The Crown Estate (TCE) Agreement for Lease (AfL) area is circa 4.2km<sup>2</sup> and is centred on latitude 55.230° and longitude -6.104°. It lies approximately 750m from the nearest point of its perimeter to landfall. The area boundary co-ordinates are as follows:

Point	Latitude	Longitude
1	55.221721	-6.082154
2	55.222640	-6.092974
3	55.221573	-6.094403
4	55.217691	-6.089979
5	55.218010	-6.090850
6	55.230930	-6.130190
7	55.237900	-6.117200
8	55.234400	-6.095980
9	55.234350	-6.095980
10	55.223820	-6.079350

If necessary, please continue on a separate sheet and tick this box

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## 7. Method Statement

Chapter 5 'Project Description' of the accompanying ES details the full scope of project works/methods using the design envelope approach.

If necessary, please continue on a separate sheet and tick this box

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## 8. Permanent Deposits

(a) quantity of permanent materials to be deposited below HMWS tidemark:

Timber (m<sup>2</sup> or tonnes) .....

Iron/Steel (tonnes) .....

Plastic/Synthetic (m<sup>2</sup>) .....

Silt (m<sup>3</sup>) .....

Sand (m<sup>3</sup>) .....

Concrete (m<sup>3</sup>) .....

Concrete bags/mattresses

(Confirm number, dimensions & total volume m<sup>3</sup>).....

Stone/Rock/Gravel (size range and volume m<sup>3</sup>) .....

If 'other' please describe below

Chapter 5 'Project Description' of the accompanying ES details the full scope of project works/methods.

FHTEP has taken a design envelope approach to the EIA. Refer to ES Section 5.2 'Approach to Design Envelope. It would be impracticable to define an extremely wide design envelope which could accommodate all of the potential tidal energy options and their range of impacts within an EIA. However, enough flexibility needs to be built into the EIA process to enable a sufficient range of devices and technologies to be considered for selection at the time of deployment.

In order to maintain flexibility, the key elements are selected and considered on a realistic "worst case" basis, each being appraised in relation to the various potential impacts and the required reasonable practicable remedial actions, if necessary.

As such, the key objective of the Project design envelope is to assess the potentially greatest environmental impact in each specific area whether visual, navigational, ecological etc. To this end a detailed list of turbine characteristics was compiled and a comparative assessment of "likely greatest effect" was undertaken. This exercise is illustrated in the various tables within Chapter 5 Section 5.6 to Section 5.10 of the ES which indicates, where appropriate, a range of parameters (e.g. rotor diameter) together with the specific details that have been used for the EIA. Although individual parameters for the final Project design at the construction stage may change it is expected they will be within the ranges shown.

Measures to ensure the marine environment is adequately safeguarded during the proposed works are detailed in the accompanying ES. Refer to the following topic specific chapters: 6 Physical Environment, 7 Benthic Habitats and Ecology, 8 Intertidal Ecology, 9 Birds, 10 Marine Mammals, 11 Fish Ecology, 12 Commercial Fisheries, 13 Marine Archaeology, 14 Seascape & Landscape, 15 Commercial Shipping & Navigation, 16 Recreation & Tourism, 17 Socio-Economic

If necessary, please continue on a separate sheet and tick this box

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(b) for work involving salt marsh feeding, beach replenishment or land reclamation please provide the following information relating to the material to be deposited:

Quantity (tonnes) .....

Nature of Material (e.g. sand, silt, gravel etc.).....

Source: (if sea dredged please state location of origin).....

Particle Size .....

Has the material been chemically analysed?

Yes

☐

No

☐

If Yes, please include the analysis data with your application.

## 9. Temporary Deposits

Will there be a need to make any temporary deposits of material below HMWS tidemark during the works

Yes ☐ No ☒

(a) quantity of temporary materials to be deposited below HMWS tidemark:

Timber (m<sup>2</sup> or tonnes) .....

Iron/Steel (tonnes) .....

Plastic/Synthetic (m<sup>2</sup>) .....

Silt (m<sup>3</sup>) .....

Sand (m<sup>3</sup>) .....

Concrete (m<sup>3</sup>) .....

Concrete bags/mattresses

(Confirm number, dimensions & total volume m<sup>3</sup>) .....

Stone/Rock/Gravel (size range and volume m<sup>3</sup>) .....

If 'other' please describe below

Not applicable

If necessary, please continue on a separate sheet and tick this box

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## 10. Dredging

Do you intend to apply for a licence to dredge as part of the works?

Yes ☐ No ☒

If Yes, please indicate the location .....  
of the dredging and nature of material .....

## 11. Disposal of Material at Sea

Do you intend to apply for a licence to dispose at sea material dredged as part of the works?

Yes ☐ No ☒

If Yes, please indicate:

Nature and quantity of material .....  
(sand, gravel, silt, clay, rock etc.) .....

## 12. Planning

Is this project subject to a planning application?

Yes ☒ No ☐

If Yes, attach a copy of environmental statement (if appropriate) and indicate what stage the application for planning permission is at (i.e. approved, awaiting notification, rejected)

The electrical connection beyond MHWS is not considered in this application and associated ES and will be the subject of a separate onshore consent application. Outline details of these elements are included within the accompanying ES for information only to add context to the project. Therefore, the following elements are not included in this ES:

- onshore cabling beyond MHWS mark;
- the jointing bay at landfall;
- ;metering or control room buildings;
- electrical substations;
- electrical connection to the existing Northern Ireland electricity network; and
- operational support or maintenance facilities.

## 13. Statutory Consenting Powers

Do you, or (if appropriate) your client, have statutory powers to consent any aspect of this project?

Yes ☐ No ☒

If Yes, please give details

## 14. Consultation

(a) Have the public been invited to submit comments? **YES** ☒ **NO** ☐  
If **YES**, how and where?

In June 2014 and August 2016, FHT held an open day event as part of pre-submission consultation on the Project. The purpose of the event was to ensure that the wider community was aware of the Project proposals and was given an opportunity to comment on the Project prior to submission of the ES and consent applications.

A website ([www.fairheadtidal.com](http://www.fairheadtidal.com)) for the Project was launched in June 2014 including a Project, Environment and Development sections. Contact details for any general, Project or media queries are also made available on the website.

**(b) Have any consultation meetings been held?**  
(with the public or other bodies)

**YES**

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**NO**

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Since the inception of the Project FHTEP have consulted locally with Moyle District Council and more recently the Causeway Coast and Glens Borough Council, local residents, local fishermen, councilors and politicians. Activities associated with the consultation process (generally listed chronologically) have included:

- monthly visits to undertake surveys: June 2013 to 2015;
- request for Scoping Opinion: December 2013;
- notification of intent to deploy ADCP devices: March 2014;
- letters to local stakeholders, councillor's and politicians: May 2014 and July 2016;
- notification of open days displays (newspapers): May 2014 and July 2016;
- dedicated Fair Head Tidal website: June 2014;
- sponsorship of local Rathlin Sound Maritime Festival: 20104;
- presentation to Causeway Coast and Glens Borough Council: Aug 2016;
- meetings with various Politicians: Aug 2016

Specific consultation meetings for the following EIA topics were conducted:

- birds and mammals;
- commercial fishing;
- navigation workshops; and
- socio-economic.

A summary of these consultation activities and points raised are discussed in detail in each of the relevant impact assessment chapters in the accompanying ES.

*If necessary please continue on a separate sheet and tick this box*

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## **15.Consultation with Conservation Bodies**

Please provide details of any consultation that has taken place with NIEA Natural Heritage and, if appropriate, include copies of any correspondence with your application.

Since the award of the Agreement for Lease (AfL) in October 2012, FHTEP has actively consulted with NIEA: NH via face to face meetings or written correspondence. Face to face meetings were held with NIEA:NH on the following dates: 13<sup>th</sup> November 2012, 20<sup>th</sup> February 2013, 23<sup>rd</sup> October 2014, 19<sup>th</sup> September 2016.

*If necessary please continue on a separate sheet and tick this box*

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## 16. Designated Conservation Areas

Are any parts of the proposed work located within the boundaries of a designated conservation area? **YES** ☐ **NO** ☒

If **No**, please indicate approximate distance of the disposal operation from the nearest designated conservation area.

Appendix 4.2 the Habitats Regulation Appraisal (HRA) report, of the accompanying ES, details the SPAs and SACs that are considered in the Project.

Figure 8.1 and table 8.1 of the Scoping Report shows the Project in relation to North Antrim and the various designations in the area.

## 17. Environmental Assessment

Has an environmental assessment been undertaken to support any application in respect of the works, your own statutory powers (if applicable) or any other reason?

**YES**

☒

**NO**

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If **YES**, is a copy of the assessment included with this application?

**YES**

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**NO**

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If the assessment has been undertaken but has not been included with the application, please provide an explanation below.

Not applicable

Is the environmental assessment available for public inspection?

**YES**

☐

**NO**

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If YES at what locations:

The application and Environmental Statement is available for public inspection online at [www.fairheadtidal.com](http://www.fairheadtidal.com)

I declare that the information given in this form and related papers is to the best of my knowledge and belief true.

**WARNING**  
**It is an offence under the Act under which this application is made to fail to disclose information or to provide false or misleading information.**

Signature of applicant:  
(or agent acting on behalf of applicant)

[Redacted Signature]

Date:

31<sup>st</sup> January 2017

Name (Block Letters):

Clodagh McGrath

Position within company:  
(if applicable)

Project Manager

**PLEASE CHECK CAREFULLY THE INFORMATION YOU HAVE GIVEN AND THAT ALL ENCLOSURES (INCLUDING COPIES) HAVE BEEN INCLUDED**

**Application Checklist**

- **Completed application form**
- **Project drawings**
- **Method statement**
- **Maps/charts**
- **Additional environmental information e.g. photographs, environmental impact assessment etc.**
- **Payment**

## 6. Location of Works (Cont)

Power from the tidal turbines needs to be transmitted to the existing onshore electrical network. As illustrated in Plate 1.1 in Chapter 1 of the accompanying ES. There are two marine export cable route corridor options.

### Marine Export Cable Route Corridor Option A

Option A runs westwards from the AfL area, around the Fair Head headland before continuing into Ballycastle Bay. The total length is approximately 10km with a landfall to the east of Ballycastle Marina in the same vicinity as the existing Rathlin Island sub-sea interconnector (refer to pink line in Plate 1.1). The corridor envelope proposed is defined by the coordinates shown in Table Option A below.

*Co-ordinates (WGS 1984 – decimal degrees) of the sub-sea cable corridor to Ballycastle - ‘Option A’.*

ID	Latitude	Longitude
1	55.213894	-6.227213
2	55.221523	-6.21762
3	55.226415	-6.197286
4	55.229736	-6.182369
5	55.233011	-6.166352
6	55.232921	-6.149094
7	55.230496	-6.134753
8	55.227447	-6.12325

### Marine Export Cable Corridor Option B

Option B cable route corridor runs from the AfL south to a landfall in Murlough Bay, for onward routing to a proposed new substation above Murlough Bay. The total length is approximately 2km. The corridor envelope proposed is defined by the coordinates shown in Table Option B below.

*Co-ordinates (WGS 1984 – decimal degrees) of sub-sea cable corridor to Murlough Bay – ‘Option B’.*

ID	Latitude	Longitude
1	55.217028	-6.125216
2	55.212039	-6.119662
3	55.219577	-6.095617
4	55.227600	-6.120045