



## **Marine Institute Galway Bay Wave Energy test site Procedure for use**

This document describes the conditions of use for wave energy device developers applying for use of the Marine Institute's Galway bay wave energy test site. This initiative has been co-funded by the Marine Institute and Sustainable Energy Ireland.

This document outlines the legal, marine safety, environmental and technical conditions, which must be satisfied prior to a device being granted use of the site for a testing programme.

The site provides developers with an instrumented, licensed test site, which is well marked by day and night with a cardinal buoyage system to prevent damage to the device or danger to vessels through unintentional transit of the area. A wave-measuring buoy is installed on site providing a record of wave conditions at the site. Access to the site is available using smaller vessels from Spiddal and for larger vessels from Galway Dock. A shore viewing point is accessed from the main Galway –Spiddal Road.

Developers will supply their own mooring system and data acquisition/transmission system.

Wave measurements and modelling of the site indicates its suitability for scaled devices of around 1/3-1/5 scale.

Testing periods of devices are expected to be in the region of 3-6 months

An application form for developers applying for use of the site for a testing programme is available on the marine institute website and applications will be accepted by mail, fax or email.

### **Criteria for approval of devices for testing:**

#### **Insurance:**

Developers to have public liability insurance (minimum cover €3,000,000) and employers liability insurance.

*\* Certificates of these are to be presented to MI prior to any works beginning at site.*

**Hull construction/Certification:**

Hull design and construction to be undertaken or approved by a recognised and approved contractor, All mooring and towing points to be certified welded.

*\*Detailed specification of device to be submitted to MI prior to deployment.*

*\*Evidence of competence of design and construction contractors to be provided with application*

**Mooring system:**

Mooring system to be constructed and sized to appropriate standards for expected loading. All mooring materials to be certified. Mooring design to be undertaken by recognised and competent contractors.

*\*Proposed mooring design and materials to be submitted to MI for analysis prior to deployment*

**Deployment and Recovery strategy**

Deployment and recovery strategies to be outlined, giving details of vessels employed, means of deployment/recovery and duration and weather requirements for deployment and recovery.

**Safety:**

- Device is to have an argos/iridium/gsm/other drift alarm installed giving rapid indication and warning of drift of device outside designated area. This system is to be monitored by the developer or by appropriate local contact to facilitate rapid response to alarm.
- Yellow flashing light to be fitted.
- Radar reflector to be fitted.
- Hull to be painted bright orange/yellow or Red
- Boarding ladder facilitating easy access to be fitted with adequate handrails/ harness clipping eyes and markings.
- Towing eye /towing strops to allow towing/recovery to be fitted
- Emergency plan and procedure outlining actions to be taken in case of drift or sinking of device to be submitted. Local contact in case of emergency to be designated. Location of suitable recovery vessels to be indicated

## **Technical:**

The compliance of device development and testing programmes with the broad outline described in the Marine Institute /HMRC document “Ocean Energy Development and Evaluation protocol” will also be necessary. A copy of proposed testing programme aims and objectives and expected duration as well as a broad outline of methodology to be followed will be required.

### **Outline procedure**

1. Developer completes and submits application form and copies of required documentation.
2. Application initially assessed for technical competence by MI expert panel and for suitability of proposed testing programme for Galway Bay site.
3. Prior to deployment, Insurance certificates, Emergency plan and detailed testing programme details to be submitted to MI.
4. Test-Site use agreement to be signed by developer prior to works commencing on the site
5. Marine notice detailing installation details and duration to be issued prior to deployment of moorings and device
6. Device moorings deployed and tested
7. Device deployed at site location