

Lir NOTF ORE Industry Access Programme

Facility Guidelines for the Testing of Marine Renewable Energy Devices and Technologies









Deep Ocean Basin at Lir-NOTF

Introduction

The Lir-National Ocean Test Facility (Lir NOTF) is Ireland’s primary facility for testing and development of offshore technologies and has a long track record in supporting offshore renewable energy (ORE) technologies through early stage TRL development. While fixed offshore wind technologies are commercially advanced, many ORE technologies that are required for deeper water and more aggressive environments are still in early stages of development. These technology developers usually consist of individuals, SMEs and academics who generally do not have the financial resources and expertise to determine the feasibility of their concept and require support. As a result, SEAI and Lir NOTF have teamed up to offer this programme which will provide free to access the to the facilities of Lir-NOTF to Irish ORE developers.

This access programme to the Lir-NOTF is designed to enable the testing and progression of ORE technologies through the early development stages in advance of open sea testing. It is supported by SEAI and is open to any type of ORE technology (wave, wind, tidal, floating solar) that can be tested at the Lir NOTF.

Stage	Description	TRL
 Stage 0	Concept creation	1
 Stage 1	Concept development	2 3
 Stage 2	Design optimisation	4
 Stage 3	Scaled demonstration	5 6
 Stage 4	Commercial-scale single device demonstration	7 8
 Stage 5	Commercial-scale array demonstration	9

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Early (1-3)
Analytical and numerical models

Mid (3-6)
Experimental tests in controlled environment

Late (6-9)
Experimental tests in representative environment

Table 1 Six-stage technology development process

Therefore, applications are invited for the testing of ORE concepts that can show operations and survivability in Irish ORE sites and also can ultimately be beneficial to the Irish economy. These applications will be assessed by a Selection Panel (SP) comprising of experts in this sector.

Successful applicants will have access to one of the following facilities or equivalent use of equipment;

- Deep Ocean Basin
- Ocean Basin
- Wave and Current Flume
- Wave Watch Flume
- EI Electrical laboratory / Energy laboratory

In this access programme the applicant will be expected to supply the model and possibly some of the instrumentation for testing. The Lir NOTF staff will check, setup and run all the tests and on completion will provide all the test data to the applicant.

Please note the following

- Applicants are required to contact the test facility to discuss proposed plans prior to applying
- The maximum access that will be granted is two weeks of tank testing

All testing must be completed by end December 2022.

More information can be found at (www.lir-notf.com) or by emailing ianpower@ucc.ie.

Please read the Application Guidelines before applying.

¹Key principles that Lir-NOTF will endeavour to work towards:

1. The work carried out by the test infrastructure shall be based on accepted scientific approaches, preferably consensus-based, and any deviations from accepted scientific approaches will be substantiated in a manner considered generally acceptable by experts in the Ocean Energy field.
2. The test will produce objective results, within accepted deviations during subsequent testing, and within the constraints of using the same procedures, equipment and persons used during a previous execution of the test.
3. The results produced within the scope of work of the test infrastructure, will primarily be based on measurable or derived quantities.
4. The results produced, within the scope of work of the test facility, are based on a recognised system of measurement that derives from accepted, known quantities (SI system) or other intrinsic or well-characterised devices or quantities.
5. The processes within the facility will produce objective results that are open to internal and external scrutiny, so that factors which may adversely affect the facilities pursuit of objective results based on scientific method, can be readily identified and mitigated.
6. The pursuit of competent results through the use of generally accepted scientific approaches is the primary and overriding influence on the work of persons executing tests, all other influences being considered secondary and not permitted to take precedence.
7. Lir-NOTF has the resources (people with the required skills and knowledge, the environment with the required facilities and equipment, the quality control, and the procedures) in order to undertake the work and produce competent results.
8. Applicant must be able to set up the device within the test facility in good time, whilst complying with all the health and safety guidelines.
9. Staff in the organisation have the authority to execute specific functions within the overall scope of work – and that the organization can demonstrate accountability for the results of the work.
10. Lir-NOTF will work towards a common report style which presents a consistent and

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credible summary of the test outcomes for an external audience.

A summary of the Access Requirements regarding the Access Provider.

1. The Access Provider shall provide access free of charge to the selected user groups to the infrastructure managed by it, including all the logistical, technological and scientific support as well as specific training, that is normally provided to external researchers using the infrastructure.
2. The test setup will remain the property of the party that provided it, unless otherwise agreed upon.
3. Before accessing the Infrastructure, the User may (at the discretion and following normal procedures of the Access Provider) be requested to sign a contract with the access provider outlining:
 - Access terms to the Infrastructure,
 - Agreement to be bound by the provisions of the Grant Agreement,
 - Liabilities of the access provider and the User towards each other, rights with regards to Foreground and Background
 - Consequences of a breach of these obligations by the User.
4. The Access Provider shall ensure that the users enjoy, on a royalty-free basis, access rights to the Background of the Access Provider and to the foreground, if needed to carry out their own work under the project. The Access Provider shall inform, as soon as possible, the Users of any restriction which might substantially affect the granting of access rights.
5. In addition to these agreements, it is important to consider some safety issues as the transnational access entails external people working in Lab/workshop environments. Each Member State may have their own national rules regarding safety standards. The Access Provider is responsible for knowing and enforcing the applicable rules.
6. Visitors must comply with test facility protocol concerning, Covid19, health and safety, security and insurance. Identification and all the necessary certificates and documentation must be provided before testing commences.
7. Local regulations could also require a commitment regarding medical capability, qualification and training on risk prevention, etc.
8. Prior to the access, the Access Provider must supply the User Group with Documentation on prevention of occupational risks: risk prevention manuals, safety standards, technical guidelines, emergency, etc.