



Marine and Engineering Specialists to the Renewable Energy Sector

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**Draft Scope for Project
Development Guidelines**

EMEC

Marine Energy Converter

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Draft Scope for Project Development Guidelines

Scope

This draft document seeks to establish a basis for the development of a guideline defining the processes to be followed in developing a Marine Energy Converter Project (Wave or Tidal) through the phases of feasibility, conceptual design, design, manufacture, installation and operation. The guideline shall outline the recommended processes and procedures to be followed in processing a Marine Energy Converter Project from conception through to commercial operation.

References

BS 0-1:2005, A Standard for Standards
BS 7998-3 (IEC 60027-3), Letter symbols to be used in electrical technology
BS ISO 31, Quantities and Units
ISO 10241, International terminology standards

Terms and Definitions

BS 0-1:2005, Shall apply
Add development specific Terms and Definitions as appropriate

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The intent of this guideline is to act as an aide memoire to Marine Energy Converter Project Developers in covering the primary issues to be addressed in the planning, consenting and implementation phases of a wave or tidal development project.

1. The Site

Describe the processes and considerations applied in selecting the site.

Define and describe the process adopted for selection of the site, define site conditions (sea-bed topography, sea states, wave heights, currents etc) being utilised and the data sources used; explain how the type of technology selected has been determined to fit with the prevailing site conditions, define locality of grid connection point and availability of grid capacity at location. Outline the status of discussions / agreements reached with the energy buyer and arrangements (terms and conditions) for grid connection at that location

2. Environmental Considerations

Describe the consultation process and considerations given to the site's environmental constraints and required consents.

Define the process to be adopted in developing and scoping the Environmental Impact Assessment (EIA), ascertaining site environmental conditions and considerations, process of discussion and interaction with local stake holders (fishing, navigation etc;), define perceived environmental constraints, compliance with statutory requirements and the consultation process to be implemented, explain procedures for monitoring / recording / auditing compliance with EIA and Consents requirements. Specify mandatory legislation to be complied with and define the procedures by which these will be monitored to ensure compliance.

3. Health and Safety

Describe and define the health, safety and environmental provisions being implemented.

Provide HSE Management Plan and Developers Information Management System, explain procedures for monitoring / recording / auditing HSE performance, provide site specific waste management plan, define process to be utilised for Technical and Commercial Risk Management and Assessment, for both the device and the overall development. Specify mandatory legislation to be complied with and method to monitor and ensure compliance.

4. Design

Provide narrative, drawings and specifications outlining the design parameters utilised in developing the device and the specific development project.

Provide details (Front End Engineering Design) for the device(s) and the development including layout of array(s), cable routings, grid connection, site boundary marking and secure areas, define applicable (compliant) codes and standards.

5. Project Development Strategy

Describe the project's objectives, parameters and execution strategy and the procedures / systems to be utilised in managing, monitoring and auditing the project's progression.

Prepare the Project Execution Plan (PEP) defining the projects objectives, organisation, budgets, contracting strategy, quality assurance plan, schedule and marine management plan.

The PEP shall contain details of the procedures and systems by which the project will be managed, controlled and audited and provide an overview of the commercial / economic parameters upon which the development is based; it will provide an overview of the procedures adopted for the acquisition of the necessary consents and consultation processes and describe the means by which compliance with consents and other mandatory / legislative requirements will be monitored.

6. Project Fabrication and Installation Strategy

Describe the strategy to be adopted in contracting for the manufacture, installation and connection of the device.

Prepare the Project Contract Fabrication and Installation Plan (CP) defining the contracting strategy to be adopted for device manufacture, installation and commissioning.

The CP shall contain details of the tendering procedures, scope of contractor services / supply and resource availability (both national and local) and define the measures to be taken to ensure the security and protection of the facilities during the manufacture and installation phases of the project.

7.0 Operation and Maintenance

Describe the organisation and processes to be utilised to ensure safe and efficient operation of the installed facilities and the procedures by which the facility will be maintained.

Prepare the Operation and Maintenance Plan (O&MP) defining the management structure and procedures to be implemented to ensure maximum energy availability throughout the life of the installed facilities.

The O&MP shall contain details of the procedures and systems by which the operation of the installed facility will be managed, controlled and audited and provide details of the preventative maintenance plan and the process to be adopted in implementing, monitoring and auditing the preventative maintenance plan. It will describe the means by which compliance with mandatory / legislative requirements will be monitored and reported.

The O&MP shall define and detail the HSE Management Plan and Information Management System to be implemented during the operation and maintenance of the facility and describe the means by which HSE statistics and reports will be developed and reported.