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BSI Standards Publication

Marine energy — Wave, tidal and other water current converters

Part 1: Terminology

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National foreword

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The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee PEL/114, Marine energy - Wave, tidal and other water current converters.

A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL SPECIFICATION

AMENDMENT 1

Marine energy – Wave, tidal and other water current converters – Part 1: Terminology

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FOREWORD

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62600-1, which is a technical specification, has been prepared by IEC technical committee 114: Marine energy - Wave, tidal and other water current converters.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
114/65/DTS	114/76/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirm ed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This Technical Specification has been developed as a tool for the international marine energy community, to assist in creating clarity and understanding. The wave, tidal and water current energy industry has recently experienced a period of rapid growth and sector development. With this expansion, it became apparent that a glossary of terms for the sector was required. The aim of this Technical Specification is to present clear and consistent language that will aid the development of programs, projects, and future standards.

This Technical Specification lists the terms that the marine energy industry commonly uses. It is an evolving document that will change as new terms and symbols are added. The terminologies herein have been harmonized with IEC 60050 and other IEC documents as far as possible.

1 Scope

This part of IEC 62600 defines the terms relevant to ocean and marine renewable energy. For the purposes of this Technical Specification, sources of ocean and marine renewable energy are taken to include wave, tidal current, and other water current energy converters.

Terms relating to conventional dam and tidal barrage, offshore wind, marine biomass, ocean thermal and salinity gradient energy conversion are not included in the scope of this Technical Specification.

This Technical Specification is intended to provide uniform terminology to facilitate communication between organizations and individuals in the marine renewable energy industry and those who interact with them.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
added mass
extra mass associated with the additional force necessary to accelerate a body through a fluid compared to the same acceleration in a vacuum

Note 1 to entry: In general, added mass is a variable that depends on the state of the unsteady motion and is not a constant.

Note 2 to entry: In a viscous (real) fluid, the added mass would include kinetic energy of a fluid layer entrained by the accelerating body.

2.2
added mass at infinity
limit of the mass corresponding to the added mass as the frequency tends to infinity

Note 1 to entry: The value of added mass at infinity is normally necessary for time domain modelling of wave-body interaction.

2.3
added mass coefficient
ratio between added mass and the mass of the water displaced by the submerged body

2.4
amplitude control
method to obtain the optimum oscillatory motion amplitude to capture a maximum of wave energy

Note 1 to entry: For a simple oscillating system, the object of amplitude control is to obtain a given oscillatory velocity amplitude that should be related with the wave excitation force.

2.5
annual energy production (marine energy converter)
estimate of total energy production of a marine energy converter system during a one-year period obtained by applying its power performance assessment to a prospective marine energy resource characterization and assuming 100 % availability

Note 1 to entry: Actual annual energy production is unlikely to exceed this estimate.

[SOURCE: IEC 60050-415:1999, 415-05-09, modified]

2.6
array (marine energy)
farm of marine energy converters arranged specifically so as to enhance energy capture

Note 1 to entry: Array spacing is dictated by hydrodynamic considerations and may be very closely packed so as to constitute a single platform or an arrangement of identical devices.