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Marine energy – Wave, tidal and other water current converters – Part 10: Assessment of mooring system for marine energy converters (MECs)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MARINE ENERGY – WAVE, TIDAL AND OTHER WATER CURRENT CONVERTERS –

Part 10: Assessment of mooring system for marine energy converters (MECs)

FOREWORD

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IEC TS 62600-10 has been prepared by IEC technical committee 114: Marine energy – Wave, tidal and other water current converters. It is a Technical Specification.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Added specific Design Load Cases in alignment with 62600-2.
b) Added additional robustness check requirements.
c) Rearranged document for ease of use and alignment with 62600-2.
d) Added additional informative clauses on mooring materials.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
114/390/DTS	114/395/RVDTS 114/395A/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

A list of all parts in the IEC 62600 series, published under the general title *Marine energy – Wave, tidal and other water current converters*, can be found on the IEC website.

The language used for the development of this Technical Specification is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

This document defines rules and assessment procedures for the design, installation and maintenance of mooring system with respect to technical requirements for floating marine energy converters.

The proposed work aims to bring together expert knowledge from the marine energy power and offshore engineering industries in order to formulate a guideline specification of the design, installation and maintenance requirements for mooring system of floating Marine Energy Converters.

In addition to safety and ocean environmental requirements, this document focuses on the strength requirements of mooring systems for Marine Energy Converters.

MARINE ENERGY – WAVE, TIDAL AND OTHER WATER CURRENT CONVERTERS –

Part 10: Assessment of mooring system for marine energy converters (MECs)

1 Scope

The purpose of this document is to provide uniform methodologies for the design and assessment of mooring systems for floating Marine Energy Converters (MECs) (as defined in the TC 114 scope). It is intended to be applied at various stages, from mooring system assessment to design, installation and maintenance of floating Marine Energy Converters plants.

This document is applicable to mooring systems for floating Marine Energy Converters units of any size or type in any open water conditions. Some aspects of the mooring system design process are more detailed in existing and well-established mooring standards. The intent of this document is to highlight the different requirements of Marine Energy Converters and not duplicate existing standards or processes.

While requirements for anchor holding capacity are indicated, detailed geotechnical analysis and design of anchors are beyond the scope of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 62600-1: 2020, *Marine energy – Wave, tidal and other water current converters – Part 1: Vocabulary*

IEC TS 62600-2:2019, *Marine energy - Wave, tidal and other water current converters - Part 2: Marine energy systems - Design requirements*

IEC TS 62600-4:2020, *Marine energy – Wave, tidal and other water current converters – Part 4: Specification for establishing qualification of new technology*