



BSI Standards Publication

Marine energy – Wave, tidal, and other water current converters

Part 20: Design and analysis of an Ocean Thermal Energy Conversion (OTEC) plant – General guidance

National foreword

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

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Part 20: Design and analysis of an Ocean Thermal Energy Conversion (OTEC)
plant – General guidance**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARINE ENERGY – WAVE, TIDAL, AND OTHER
WATER CURRENT CONVERTERS –****Part 20: Design and analysis of an Ocean Thermal Energy Conversion
(OTEC) plant – General guidance**

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 TS 62600-20, 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:

Draft TS	Report on voting
114/286/DTS	114/299A/RVDTS

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.

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.

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

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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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MARINE ENERGY – WAVE, TIDAL, AND OTHER WATER CURRENT CONVERTERS –

Part 20: Design and analysis of an Ocean Thermal Energy Conversion (OTEC) plant – General guidance

1 Scope

This part of IEC 62600 establishes general principles for design assessment of OTEC plants. The goal is to describe the design and assessment requirements of OTEC plants used for stable power generation under various conditions. This electricity may be used for utility supply or production of other energy carriers. The intended audience is developers, engineers, bankers, venture capitalists, entrepreneurs, finance authorities and regulators.

This document is applicable to land-based (i.e. onshore), shelf-mounted (i.e. nearshore seabed mounted) and floating OTEC systems. For land-based systems the scope of this document ends at the main power export cable suitable for connection to the grid. For shelf-mounted and floating systems, the scope of this document normally ends at the main power export cable where it connects to the electrical grid.

This document is general and focuses on the OTEC specific or unique components of the power plant, particularly the marine aspects of the warm and cold water intake systems. Other established standards are referenced to address common components between the OTEC system and other types of power plants and floating, deep water oil and gas production vessels, such as FPSOs and FLNG systems. Relevant standards are listed within this document as appropriate.

The flow diagram, shown in Figure 5, illustrates the main design process associated with floating, shelf-mounted or land-based OTEC systems.