ICS 27.140
CCS F 14

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 37551-2019

Marine energy - Terminology of wave, tidal and other water current converters

Issued on: June 4, 2019 **Implemented on: January 1, 2020**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

1 Scope 1
2 Environment 1
2.1 General terms 1
2.2 Wave energy terms 4
2.3 Tidal current energy and other current energy terms 7
3 Technology 8
3.1 General terms 8
3.2 Wave energy terms 13
3.3 Tidal current energy and other current energy terms 14
4 Conversion device 14
4.1 General terms 14
4.2 Wave energy terms 16
4.3 Tidal current energy and other current energy terms 17
Appendix A (informative appendix) Structure changes of this standard compared with IEC /T S62600-1.2011 20
Appendix B (informative appendix) Technical differences between this standard and IEC /T S62600-1.2011 and their reasons 26
Reference 33
Index 34

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafting method to modify and adopt IEC /T S62600-1.2011 "Ocean Energy Wave Energy, Tidal Energy and Other Water Flow Energy Transfer

Replacement device Part 1.Terminology.

Compared with IEC /T S62600-1.2011, this standard has many adjustments in structure. Appendix A lists this standard and

The comparison table of IEC /T S62600-1.2011 compared to chapter number changes.

Compared with IEC /T S62600-1.2011, there are technical differences between this standard, and the clauses related to these differences have been passed on the outer margins.

The vertical single line (|) in the blank position is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

This standard has made the following editorial changes.

---Change the standard name to "Terms of Ocean Energy Wave Energy, Tidal Energy and Other Current Energy Conversion Devices";

---Added the index.

This standard was proposed by the National Energy Administration.

This standard is under the jurisdiction of the National Ocean Energy Conversion Equipment Standardization Technical Committee (SAC/TC546).

Drafting organizations of this standard. National Ocean Technology Center, Harbin Institute of Large Electric Machinery, Guangzhou Institute of Energy Research, Chinese Academy of Sciences, Harbin Engineering

Cheng University, Ocean University of China, China Three Gorges Corporation, China Classification Society Quality Certification Company, Hohai University, CNOOC Research Institute,

First Institute of Oceanography, State Oceanic Administration, Shandong Electric Power Engineering Consulting Institute Co., Ltd.

Introduction

In recent years, with the rapid development of marine energy technology, marine energy standardization has become an important measure of competitiveness in the field of marine energy.

Sign. The terminology standard is the most basic and key standard in the standard system, which helps to clarify and understand the relevant terminology.

The definition and scope of application of language standards is a very important task, so wave energy, tidal current energy and other terms related to water flow energy conversion equipment

The formulation of standards is an urgent matter to be solved.

Ocean energy wave energy, tidal current energy and other current energy

Terminology

1 Scope

This standard defines the general terminology, wave energy terminology, tidal current energy and marine energy conversion device in the three aspects of environment,

technology and conversion device.

Other water flow energy terms.

This standard applies to the wave energy, tidal current energy and other water current energy conversion devices of marine renewable energy.

This standard does not apply to related equipment for dam tidal energy, offshore wind energy, marine biomass energy, ocean temperature difference energy, and salt difference energy conversion devices.

field.

2.1 General terms

2.1.1

Chartdatum

Below the average sea level, the water level that is artificially selected as the starting point for depth.

Note. Different hydrological organizations have different conventions when defining the depth base level of charts.

2.1.2

Tidalrange

The difference between adjacent high and low tide levels.

2.1.3

Wind zone length fetch

The distance the wind acts on the barrier-free water surface.

2.1.4

Free surface

The interface between air and water.

2.1.5

Harmonic analysisoftides

A method of using tide observation data to calculate the amplitude and phase of tidal components.

2.1.6

Mean high waterneaps; MHWN

When the astronomical tidal range reaches its minimum value, the annual average height of two consecutive high tide levels within 24 hours (when the average maximum lunar declination is

23.5°).

Note. The annual average neap tide climax value varies from year to year, and it cycles once every 18.6 years.

2.1.7

Mean high water springs; MHWS

When the astronomical tidal range reaches its maximum, the annual average height of two consecutive high tide levels within 24 hours (when the average maximum lunar declination is

23.5°).

Note. The value of the annual average spring tide climax is different from year to year, and it cycles once every 18.6 years.