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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46461.1-2025

**Information service system of vessel's emergency positioning
based on global navigation satellite system (GNSS) - Part 1:
Functional description**

全球卫星导航系统（GNSS）船舶应急定位信息服务系统 第1部分：功能描述

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1 Scope

GB/T 46461.1-2025 is the Chinese national standard covering what the maritime distress positioning system does - the beacon, the satellite link and the rescue coordination centre, the registration of a vessel against its beacon identity, the alert and its confirmation, and the false alert handling. Part 1 of the series, first edition, under the Ministry of Industry and Information Technology. In force from 1 May 2026. Issued on 5 October 2025, it has been in force since 1 May 2026.

This document specifies the system architecture, interfaces, and positioning parameters of the Global Navigation Satellite System (GNSS) ship emergency positioning information service system. Meaning, information exchange methods, and functional descriptions. This

document applies to the Global Navigation Satellite System (GNSS) Ship Emergency Positioning Information Service System (hereinafter referred to as "Ship Emergency Positioning Information System"). The design, construction, and application of the "Information Service System".

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 16162-2021 Global Maritime Distress and Safety System (GMDSS) Terminology

GB/T 46461.2 Global Navigation Satellite System (GNSS) Ship Emergency Positioning Information Service System Part

2. Emergency Radio Position Marker and Emergency Rescue Center Information Exchange Protocol ITU-RM.1371-

5 Technical characteristics of Automatic Identification Systems using Time Division Multiple Access in the VHF Maritime Mobile Band

3.1 Terms and Definitions The terms and definitions defined in

GB/T 16162-2021, as well as the following terms and definitions, apply to this document.

3.1.1 Positioning based on Global Navigation Satellite System (GNSS) and BeiDou short message communication link or International Search and Rescue Satellite System (COSPAS-SAR) The SAT 406MHz communication link utilizes emergency radio position beacons to provide alarms and position indications for ships and crew in emergency situations. Information is provided through an information system that offers distress response services via an emergency response center.

3.1.2 International Search and Rescue Satellite System COSPAS-SARSAT The global search and rescue satellite system, jointly developed by Canada, France, the United States, and the Soviet Union in 1979, is a global maritime distress and safety system. An important component of the General Data System (GMDSS). Note

1. The International Search and Rescue Satellite System (COSPAS-SARSAT) provides public services to maritime, land, and air forces worldwide, including polar regions. Forwarding and location services for 406MHz distress alarm signals. Note

2. Some GNSS satellites carry the search and rescue payload of the International Search and Rescue Satellite System (COSPAS-SARSAT) and can transmit... 406MHz distress

alarm signal.

5 Interfaces and Definitions

5.1 Interface and Definition of Ship Emergency Positioning Information Service System Using BD-EPIRB

5.2 Interface and Definition of Ship Emergency Positioning Information Service System Using 406MHz-EPIRB 6

6.Information exchange methods 7.

7.Functional Description 8.

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This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 1 of GB/T 46461 "Global Navigation Satellite System (GNSS) Ship Emergency Positioning Information Service System". GB/T 46461 has published the following parts.

1.Functional Description;

2.Emergency Radio Position Beacon and Emergency Response Center Information Exchange Protocol;

3.Performance requirements and test methods for emergency radio beacons. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China. This document was drafted by: China Electronics Technology Standardization Institute, Sifang Electronics Co., Ltd., and China Transport Telecommunications Information Center. China Classification Society, North China Sea Navigation Support Center, East China Sea Navigation Support Center. The main drafters of this document are. Chen Qian, Huang Lunwen, Pang Bobo, Shi Yuan, Wang Wei, Li Chenhao, Li Jianying, Yu Yuan, Gao Wanming, and Yu Shuhai.

GB/T 46461 "Global Navigation Satellite System (GNSS) Ship Emergency Positioning Information Service System" is proposed to consist of the following three parts.

1.Functional Description. The purpose is to systematically describe the entire ship emergency positioning information service system, clarifying its basic components, Working mechanism and main functions.

2.Emergency Radio Position Beacon and Emergency Response Center Information

Exchange Protocol. The purpose is to clarify the ship's emergency radio... The information interface, information exchange method, and transmitted information content between the position marker and the emergency rescue center.

3. Performance Requirements and Test Methods for Emergency Radio Position Beacons. The purpose is to standardize the performance of ship emergency radio position beacons. Technical specifications and testing methods. Global Navigation Satellite System (GNSS) Ship Emergency Response Location Information Service System Part