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

GB/T 44042-2024

Test method for underwater radiated noise from ships

船舶水下辐射噪声测量方法

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Standardization work rules Part 1: Structure and drafting rules for standardization documents" Drafting: Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document is under the jurisdiction of the National Technical Committee for Standardization of Marine Vessels (SAC/TC12): This document was drafted by: China Ship Science Research Center, China Classification Society Shanghai Standards Institute, China Shipbuilding Group Co., Ltd: The 708th Institute, the 715th Institute of China Shipbuilding Industry Corporation, and the 91388th Unit of the People's Liberation Army of China: The main drafters of this document are: Pang Yezhen, Wu Wenwei, Pei Yuqing, Li Zhichao, Zhou Yajun, Wang Fuhua, Hu Dongsun, Liu Jin, Li Zecheng, Ye Xi, Chen Yi, Qin Jiangxuan, Liu Yucai, Cao Liang, Zhang Shuai, and Fashion: Measurement method of underwater radiated noise from ships

1 Scope

GB/T 44042-2024 gives the Chinese method for measuring the underwater radiated noise of ships. The subject has moved from a naval concern to a commercial and environmental one: shipping noise is now recognised as a pervasive pressure on marine mammals and fish, classification societies issue quiet notations, and China is both the largest shipbuilder and a party to the international work on the question. Measuring it is difficult because the quantity wanted is the source level of a moving vessel, inferred from pressure measured at a hydrophone array in a sound field shaped by the depth, the seabed and the water column. The standard sets the principle, the measurement site and its requirements on

depth, bathymetry and background noise, the hydrophone configuration and the distances, the calibration, the run pattern and the ship operating conditions, the acquisition and the processing including the propagation correction to the reference distance, the calculation of the source level spectrum, the uncertainty and the reporting. It takes effect on 1 December 2024.

This document specifies the instrumentation, measurement requirements and measurement methods for measuring underwater radiated noise of ships in marine or lake environments: Process and data processing methods: This document is applicable to the underwater radiated noise measurement of surface ships in navigation, including manned and unmanned ships, and other underwater navigation objects: The underwater radiated noise during navigation can also be applied for reference:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document: For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document:

GB/T 3947-1996 Acoustic terminology

GB 12327-2022 Hydrographic Survey Specification

GB/T 41311:1-2022 Acoustics Quantities describing underwater noise of ships and their measurement methods Part 1: Quantities for comparison purposes Requirements for deepwater precision measurement

ISO 17208-2:2019 Acoustics Quantities describing underwater noise from ships and their measurement methods Part 2: Measurement conditions under deep water

IEC 60565-1:2020 Underwater acoustics - Hydrophone calibration - Part 1: Free-field calibration procedure for hydrophones hydrophones)

IEC 60565-2:2019 Underwater acoustics and hydrophones - Hydrophone calibration - Part 2: Low frequency sound pressure field calibration procedure calibration)

3 Terms and definitions

The terms and definitions defined in GB/T 3947-1996 and the following apply to this document: 3:1 deepwater The water depth is greater than the larger value of 150m and 1:5 times the ship length: 3:

2 Shallow water The water depth is greater than 30m and less than 150m and 1:5 times the larger value of the ship length: 3:3 background noise Noise generated by all noise sources

(biological and abiotic) other than the vessel being measured (including the self-noise of the measurement):

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