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

GB/T 24964-2019

**Refrigerated light hydrocarbon fluids - Measurement of cargoes
on board LNG carriers**

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Foreword

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

This standard replaces GB/T 24964-2010 "Custody Handover Procedures for Frozen Light Hydrocarbon Fluid Liquefied Natural Gas Ships". This standard and

Compared with GB/T 24964-2010, the main technical changes are as follows.

- Modified the scope of the standard (see Chapter 1, Chapter 1 of the.2010 edition);
- Modified normative reference documents (see Chapter 2, Chapter 2 of the.2010 edition);
- Deleted terms and definitions "end custody transfer", "custody transfer", "board custody transfer system", "start custody transfer", and "hot calibration"

Coefficient" (see 3.2, 3.3, 3.4, 3.5, 3.6 in.2010 edition);

- Added 33 terms and 30 abbreviations (see 3.1, 3.2);

---Added general operational safety measures and regulatory requirements (see Chapter 4);

---Added the performance index requirements, calibration and certification, tank capacity meter, pre-cooling meter, radar level gauge and float liquid of measuring system and equipment

The structure principle and use precautions of the level gauge and capacitance level gauge (see Chapter 5);

- Modified the requirements of temperature measurement time (see 6.2.7,.2010 edition 6.3);

- Modified the pressure measurement time requirements (see 6.2.8,.2010 edition 6.4).

The translation method used in this standard is equivalent to the ISO 10976.2015 "Measurement of Cargo Volume on Frozen Light Hydrocarbon Fluid Liquefied Natural Gas Carriers"

the amount".

The Chinese documents that have a consistent correspondence with the international documents cited in this standard are as follows.

---GB/T 10250-2007 Electromagnetic compatibility of ship electrical and electronic equipment (IEC 60533.1999, IDT);

---GB/T 19204-2003 General characteristics of liquefied natural gas (EN1160.1997, IDT);

---GB/T 24959-2019 General requirements for the temperature measurement system in the cargo compartment of a refrigerated light hydrocarbon fluid LNG carrier (ISO 8310.2012, MOD).

This standard was proposed and managed by the National Petroleum and Natural Gas Standardization Technical Committee (SAC/TC355).

Drafting organizations of this standard. China National Petroleum Corporation Southwest Oil and Gas Field Branch Natural Gas Research Institute, Guangdong Dapeng Liquefied Natural Gas Co., Ltd., CNOOC Fujian Natural Gas Co., Ltd., PetroChina Jingtang LNG Co., Ltd.

Introduction

This standard provides recognized cargo volume measurement methods for LNG carriers involved in LNG ship-to-shore trade, including cargo volume measurement,

Reporting and recording methods.

The purpose of this standard is to establish a unified specification for the measurement of cargo volume on LNG carriers, so as to calculate its energy. Details of this standard

Describes the currently commonly used methods for measuring the volume of goods, but does not exclude the use or development of other technologies or methods, or revised versions of these methods.

Readers are advised to conduct a detailed review of the latest editions of publications, standards and documents cited in this standard in order to improve the understanding of the methods described.

understanding.

This standard is not intended to replace other organizations, such as the International Maritime Organization (IMO), International Shipping Union (ICS), and the International Maritime Forum of Petroleum Companies

(OCIMF), International Group of LNG Importing Countries (GIIGNL), International Association of Gas Carriers and Terminal Operators (SIGTTO), or

Safety or operating regulations recommended by self-employed companies. This standard is not intended to replace any other safety or environmental factors, local regulations or contracts.

Special terms.

This standard uses the International System of Units as the main measurement unit, because the International Unit is a common unit for the measurement of goods in the industry. but,

Since the cargo holds of some LNG carriers are calibrated according to common U.S. units, and some purchase and sale contracts also use U.S. common units, this standard is both International units are given, and equivalent American common units are also provided. All parties involved in the LNG custody transfer agree to use the correct unit

Convert and record.

Frozen light hydrocarbon fluid

Cargo volume measurement on LNG carriers

1 Scope

This standard specifies all the steps required to correctly measure the cargo carried on a liquefied natural gas (LNG) carrier, including liquid volume, gas

Measurement of body volume, temperature and pressure, and volume of all cargo on a transport ship. This standard describes commonly used measurement systems on LNG carriers.

The purpose of the application of the system is to improve the common sense of all relevant parties and improve the measurement procedure in the LNG measurement process. This standard specifies liquefied natural gas

General requirements for ship-to-shore trade.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

ISO 8310 refrigerated hydrocarbon and non-petroleum-based liquefied gas fuel ocean tanker and floating oil storage device automatic measurement thermometer

General requirements