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

GB/T 24963-2019

**Installation and equipment for liquefied natural gas - Ship to
shore interface**

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Table of Contents

Foreword

2010 does not cover the content to be supplemented.

1 Scope

2 Normative references

Foreword

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

This standard replaces GB/T 24963-2010 "LNG equipment and installation ship-shore interface", compared with GB/T 24963-2010,

The main technical changes except editorial changes are as follows.

- Revised the scope of the content (see Chapter 1, Chapter 1 of the.2010 edition);
- Added some normative references and replaced some of the converted international standards with national standards (see Chapter 2);
- Removed the acronym section (see 3.2 of the.2010 edition);
- Increased risk identification during LNG interface, terminal operations and transmission (see 4.2, 4.3);
- Increased the dangerous area of the dock, the electrical safety of the terminal and the insulation flange (see Chapter 5);
- Increased the relevant content of the evaporation gas return system (see 6.2.16);
- Increased the contents of shipping operations, port services and maritime interfaces (see Chapter 7, Chapter 8, Chapter 9);
- Added LNG transmission procedures, pre-transmission meetings, information exchange and post-transmission meetings (see 12.3, 12.4, 12.11);
- Increased security management, cargo measurement, personnel training and communication mechanisms (see Chapter 13 ~ Chapter 16).

This standard uses the redrafting method to modify the use of ISO 28460.2010 "oil and gas industry LNG equipment and installation vessels

Shore interface and port operations.

This standard has more structural adjustments than ISO 28460.2010. This standard and ISO 28460.2010 are listed in Appendix A.

The chapter number is compared to the list.

The technical differences between this standard and ISO 28460.2010 and their reasons are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

* Added references to GB/T 19204, GB/T 22724, GB 50116, GB 50058, GB 50183, GB 51156,

JTS165-5-2016, SY/T 6986.1, ISO 5620-1, ISO 5620-2 and ISO 10497.

--- Chapter 3 added the terminology and definition of "shipping restricted zone", "mobile security zone", "ship compatibility study", and deleted "safety failure"

"Dock", "LNG ship bottom gas", "shore power supply", "ship transportation service system", "audit" terminology and definition, unified industry terminology.

--- Deleted the original standard "3.2 abbreviations", the domestic LNG industry has developed over the years, acronyms have formed a consensus, and in other specifications

There are specific instructions.

---4.2 "LNG risk description and potential risk factors in the transmission process" increased the "main potential wind in LNG transmission operations"

"" "including ship mooring failure" "wrong cooling or heating procedures, including cooling/heating of the loading/unloading arms and pipes, setting,

"Change and vent" "Leakage of flanges and valves, including quick connect/disconnect devices" "Storage tank overflow" "Emergency disconnect device"

""The tank pressure is too high or too low (onboard and on the shore)" "water hammer in the transfer line" is targeted to improve the operation process

The risk of strengthening the safety instructions for the operation process.

---4.3 "Relevant factors affecting ship-to-shore interface and terminal operations" added "possible siltation of ballast tanks, icing to pilotage, ports and

"The impact of terminal operations" "Tropical storms, high latitude factors, the impact of currents on berthing"; "other factors to be considered"

Added "collapse of LNG carrier and dock during docking and berthing, stranding or other

navigational errors during inbound and outbound navigation, LNG

The ship loses power, tug cable or engine failure, toxic and flammable gases released at the receiving station or around it. Other dangers, perfect

Risk identification and enhanced safety guidance for the operation process.

--- Chapter 5 "Hazardous Areas and Terminal Electrical Safety" in the "Dangerous Area" was changed to "Explosive Gas Environmental Hazardous Area" and

GB 50058-2014 Explosion hazard environment power device design specification to define the definition of explosive gas environmental danger zone, increase

Explosion-proof tools and flammable materials control requirements, strict reference to the terms used in the standard, and improve the operational requirements.

---6.2.11 "Fire protection" requirements have been added to the "fire water cannon height, the requirements of the two-purpose ship and emergency plan", improve the elimination

Prevention and emergency aspects.

---6.2.12 "LNG Leakage and Overflow Protection" added requirements for adding gas detection equipment and closed-circuit monitoring systems, and increased skills requirement.

--- Added "6.2.13 LNG transmission operation to stop safe operation procedures" to strengthen the guidance on the shutdown operation.

--- Added "6.2.16 Evaporative Gas Return System" to the requirements of the return arm operating principle of the ship-shore interface.

--- Added the contents of Chapter 7 "Marine operations", proposed for the port area navigation plan, mobile safety zone, operating environment restrictions and anchorage

Specific requirements, supplement the content not covered in the original standard.

--- Added Chapter 8 "Port Service" content, and put forward specific requirements for ship transportation service system, tugboat, and pilotage.

--- Added Chapter 9 "Marine Interface" content, for berth areas, restricted areas near berths, berthing and mooring aids, fenders,

The mooring arrangement and the quick disconnecting system put forward specific requirements.

---11.7 "Crew and Ship Shore Channel" added "visitor management", "emergency escape", "auxiliary passage" and "rescue boat" related content,

Complement and improve the shipyard interface management and operation content.

--- Added "12.3 pre-transmission meeting" "12.4 information exchange" "12.11 post-transmission meeting" related LNG transmission program requirements,

ISO 28460.2010 does not cover content to supplement.

--- Added Chapter 13 "Security Management", Chapter 14 "Cargo Measurement", Chapter 16, "Communication Mechanism", for ISO 28460.

2010 does not cover the content to be supplemented.

This standard also made the following editorial changes.

--- Modified the standard name;

--- Removed the appendix A (informative appendix) of ISO 28460.2010 "ship equipment";

--- Removed ISO 28460..2010 Appendix B (informative appendix) "Typical cargo transfer flow chart";

--- Removed ISO 28460..2010 Appendix C (informative appendix) "conventional LNG shutdown operation security strategy";

--- Removed ISO 28460..2010 Appendix D (informative appendix) "Recommended configuration of ship-shore signal and electrical connection";

--- Added Appendix B (informative appendix) "Shipside Safety Checklist";

--- Added Appendix C (informative appendix) "LNG transmission operation to stop safe operation procedures";

--- Added Appendix D (informative appendix) "ship compatibility table".

This standard is proposed and managed by the National Oil and Gas Standardization Technical Committee (SAC/TC355).

This standard is drafted by. Zhonghai Zhejiang Ningbo LNG Co., Ltd.

Participated in the drafting of this standard. Zhonghai Petroleum Gas and Electricity Group Co., Ltd., Sinopec Qingdao LNG Co., Ltd., Zhongshi

Oil Dalian LNG Co., Ltd.

1 Scope

This standard specifies the safe navigation of LNG carriers in the port area and the safe and efficient transmission of LNG at the receiving station.

Cheng Zhong, the requirements for receiving stations, LNG carriers and ports as service providers. include.

a) Pilotage and Vessel Traffic Service System (VTS);