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## **Petroleum and natural gas industries — Installation and equipment for liquefied natural gas — Ship-to-shore interface and port operations**

*Industries du pétrole et du gaz naturel — Installations et équipements  
relatifs au gaz naturel liquéfié — Interface terre-navire et opérations  
portuaires*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 28460 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*.

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## Introduction

The original liquefied natural gas (LNG) business was based on long-term sale and purchase agreements with essentially dedicated fleets and terminals and each party having a thorough understanding of the particular ship/shore interface, which resulted in a safe and reliable operation.

The considerable growth of the LNG short-term and spot cargo markets has resulted in the requirement to ensure that the ship/shore interface issues are standardized and well understood to ensure the continuing safe transportation of LNG.

It is necessary that each LNG port facility and terminal have its own specific safety and operational systems and that LNG carriers using the facility comply with these systems. For all vessels, it is necessary to take particular care to ensure that the basic requirements laid down in this International Standard are understood and applied at each cargo transfer in order to ensure the safe, secure and efficient transfer of cargo between ship and shore or vice versa.

This International Standard relates to marine operations during the vessel's port transit and the transfer of cargo at the ship/shore interface taking into account the publications of the International Maritime Organization (IMO), the Society of International Gas Tankers and Terminal Operators (SIGTTO), the International Group of Liquefied Natural Gas Importers (GIIGNL) and the Oil Companies International Marine Forum (OCIMF). Relevant publications by these and other organizations are listed in the Bibliography.

It is not necessary that the provisions of this International Standard be applied retrospectively and it is recognized that national and/or local laws and regulations take precedence where they are in conflict with this International Standard.