

BS ISO 13613:2011



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Ships and marine technology — Maintenance and testing to reduce losses in critical systems for propulsion

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National foreword

This British Standard is the UK implementation of ISO 13613:2011.

The UK participation in its preparation was entrusted to Technical Committee SME/32/-/3, Ships and marine technology - Piping and machinery.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Ships and marine technology — Maintenance and testing to reduce losses in critical systems for propulsion

*Navires et technologie maritime — Maintenance et essais pour réduire
les pertes dans les systèmes critiques pour la propulsion*



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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 13613 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

0 Introduction

0.1 General

This International Standard informs shipboard personnel and other parties about the need to consider factors affecting operational maintenance and testing for certain systems that have been linked to ship propulsion losses. A recently completed survey of SOLAS ship casualties from 2003 to 2007 revealed that a number of the reported casualties were propulsion losses involving air start systems for engines, fuel oil quality problems, and fuel switching.

Industry groups have stated that current procedures for fuel switching underway, in compliance with air quality regulations, may increase the risk of propulsion losses.

0.2 Air start system failure

Air start system failure typically occurs when a ship with direct drive diesel propulsion is changing direction. Air valves needed to stop and restart the engine in the other direction seize or fail to respond. Maintenance and testing of the air systems minimize the risk of failure.

0.3 Fuel oil quality problems

Fuel oil problems can cause propulsion loss by clogging a filter and starving the engine. Use of incorrect fuel over prolonged periods can cause damage to fuel pumps and engine cylinders. A ship can also lose propulsion when a generator shuts down because of fuel problems, as electrical power is generally needed to drive cooling and lubrication pumps for the propulsion engine. Maintenance and testing of fuel oil purifying equipment, tanks and piping minimize quality problems.

0.4 Fuel switching

In order to comply with air quality regulations, ships may need to switch to low sulfur fuel while underway. They perform the switch before they enter an emission control area (ECA). This procedure can involve a changeover from heavy fuel oil to a distillate fuel. Proper fuel switching procedures and awareness of possible fuel compatibility problems can minimize the risk of propulsion loss.

0.5 Informative annexes

Annexes A to E are provided for information only as examples of recommendations for ship engineering systems and components. The survey of ship propulsion casualties identified only high pressure air and fuel system (fuel quality and fuel switching) problems as being linked to a number of casualties.

