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Petroleum and natural gas industries — Offshore production installations — Requirements and guidelines for emergency response

AS ISO 15544:2022

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Petroleum and natural gas industries — Offshore production installations — Requirements and guidelines for emergency response

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Preface

This Standard was prepared by the Standards Australia Committee ME-092, Materials, equipment, structures and related services for petroleum, petrochemical and natural gas industries.

The objective of this document is to describe the functional requirements and guidelines for emergency response (ER) measures on installations used for the development of offshore hydrocarbon resources. It is applicable to fixed offshore structures or floating production, storage and off-take systems.

This document is identical with, and has been reproduced from, ISO 15544:2000, *Petroleum and natural gas industries — Offshore production installations — Requirements and guidelines for emergency response* and its Amendment No. 1 (2009) which has been added at the end of the source text.

As this document has been reproduced from an International document, the following apply:

(a) In the source text "this International Standard" should read "this document".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15544 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum and natural gas industries*, Subcommittee SC 6, *Processing equipment and systems*.

Annexes A, B, C, D, E, F and G of this International Standard are for information only.

Introduction

The successful development of the arrangements required to promote safety and environmental protection during the recovery of hydrocarbon resources requires a structured approach to be applied to the identification and assessment of the hazards which may be present during the various phases in the lifecycle of an offshore installation. These principles also apply to the development of the strategy, arrangements and procedures required to respond to emergencies. An understanding of the hazards can be achieved by the application of ISO 17776[4], which gives guidelines for the processes of hazard identification and assessment for the offshore industry.

The content in this International Standard on escape, refuge, evacuation and rescue is consistent with the content of ISO 13702[1] but addresses in more detail how these aspects are built into development of emergency response measures.

This International Standard has been prepared primarily to assist in the development of new installations, and as such it may not be appropriate to apply some of the requirements to existing installations. Retrospective application of this International Standard should only be undertaken where it is reasonable to do so. During the planning of a major change to an installation there may be more opportunity to implement the requirements, and a careful review of this International Standard should be undertaken to determine those clauses which can be utilized in the change.

This International Standard is based on an approach where the selection of measures for emergency response is determined by an evaluation of hazards on the offshore installation. The methodologies employed in this assessment and the resultant recommendations will differ depending on the complexity of the production process and facilities, type of facility (i.e. open or enclosed), manning levels, and the environmental conditions associated with the area of operation.

The verbal form “shall” indicates provisions that are mandatory and “should” indicates provisions to be considered.

Users of this International Standard should note that, while observing its requirements, they should at the same time ensure compliance with such statutory requirements, rules and regulations as may be applicable to the individual offshore installation concerned.

The principal objectives of this International Standard are to describe both the approach to be used and important considerations in determining the emergency response measures that are required on an offshore installation in order to:

— assure the safety of all personnel;

— minimize impact on the environment;

— minimize impact on assets and operations.

The technical guidance in clauses 4 to 13 of this International Standard is arranged as follows:

Objectives identify the goals to be achieved by the emergency response measures being described.

Functional requirements represent the minimum conditions which shall be satisfied to meet the stated objectives. The functional requirements are performance-orientated measures and, as such, should be applicable to the variety of offshore installations utilized for the development of hydrocarbon resources throughout the world.

Guidelines describe recognized practices which should be considered in developing the measures for emergency response. The guidelines are limited to principal elements and are intended to provide specific guidance which, due to the wide variety of offshore operating environments, may in some circumstances not be applicable.

The functional requirements and guidelines are supplemented by annexes A to H. The guidelines and annexes should be considered in conjunction with statutory requirements, industry standards

and individual company philosophy, to determine the particular measures that are necessary for emergency response.

NOTES

Australian Standard®

Petroleum and natural gas industries — Offshore production installations — Requirements and guidelines for emergency response

1 Scope

This International Standard describes objectives, functional requirements and guidelines for emergency response (ER) measures on installations used for the development of offshore hydrocarbon resources. It is applicable to fixed offshore structures or floating production, storage and off-take systems.

NOTE For mobile offshore units, the ER plans developed in conformance with the requirements and recommendations of the International Maritime Organization (IMO) are generally adequate for the normal, independent operation of the unit in most locations. The following aspects of ER planning are generally not addressed by IMO and should be specially considered:

— area evacuation, e.g. precautionary evacuation in areas of tropical revolving storms;

— combined operations wherein an integrated command and ER system should be developed;

— arctic operations;

— uncontrolled flow from a well.

2 Terms, definitions and abbreviated terms

For the purposes of this International Standard, the following terms, definitions and abbreviated terms apply.

2.1 Terms and definitions

2.1.1
abandonment
act of personnel onboard leaving an installation in an emergency

2.1.2
accommodation
place where personnel onboard sleep and spend their off-duty time

Note 1 to entry: It may include dining rooms, recreation rooms, lavatories, cabins, offices, sickbay, living quarters, galley, pantries and similar permanently enclosed spaces.

2.1.3
control
⟨of hazards⟩ limiting the extent and/or duration of a hazardous event to prevent escalation

2.1.4
control station
place on the installation from which personnel can monitor the status of the installation, initiate appropriate shutdown actions and undertake emergency communication

2.1.5
embarkation area
place from which personnel leave the installation during evacuation

EXAMPLE A helideck and associated waiting area or a lifeboat/liferaft boarding area.

2.1.6
emergency
hazardous event which cannot be handled by normal measures and requires immediate action to limit its extent, duration or consequences