
**Petroleum and natural gas industries —
Offshore production installations —
Guidelines on tools and techniques for
hazard identification and risk assessment**

Industries du pétrole et du gaz naturel — Installations des plates-formes en mer — Lignes directrices relatives aux outils et techniques pour l'identification et l'évaluation des risques



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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 17776 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 and D of this International Standard are for information only.

Introduction

Oil and gas exploration and production activities have many hazards and hazardous events associated with them.

Different tools and techniques can be used to identify and assess hazards and risks, and it is important that the approach selected is appropriate to the particular circumstances.

This International Standard identifies some of the tools and techniques that may be used for this purpose in the offshore exploration and production industry and gives guidance on how they may be applied to particular activities. This International Standard incorporates advice and guidance given in other documents used in the industry, some of which are cited in the Bibliography.

This International Standard does not provide a detailed description of the practical application of the various tools and techniques, as this will need to be specifically developed to deal with particular circumstances. In many cases expert advice from competent practitioners will be required to effectively apply the tools and techniques described in this International Standard.

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Petroleum and natural gas industries — Offshore production installations — Guidelines on tools and techniques for hazard identification and risk assessment

1 Scope

This International Standard describes some of the principal tools and techniques that are commonly used for the identification and assessment of hazards associated with offshore oil and gas exploration and production activities, including seismic and topographical surveys, drilling and well operations, field development, operations, decommissioning and disposal together with the necessary logistical support of each of these activities. It provides guidance on how these tools and techniques can be used to assist in development of strategies both to prevent hazardous events and to control and mitigate any events that may arise.

This International Standard is applicable to:

- fixed offshore structures;
- floating production, storage and off-take systems;

for the petroleum and natural gas industries.

This International Standard is not applicable to design and construction aspects of mobile offshore units that fall under the jurisdiction of the International Maritime Organization.

This International Standard is not intended to be used as part of certification criteria, and no defect in the management of risks should be inferred if any of the tools and techniques covered by this International Standard are not applied to an installation.

2 Terms, definitions and abbreviated terms

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

2.1 Terms and definitions

2.1.1

barrier

measure which reduces the probability of realizing a hazard's potential for harm and which reduces its consequence

NOTE Barriers may be physical (materials, protective devices, shields, segregation, etc.) or non-physical (procedures, inspection, training, drills, etc.).

2.1.2

control

(of hazards) limiting the extent and/or duration of a hazardous event to prevent escalation