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First edition
2009-12-15

Petroleum and natural gas industries — Specific requirements for offshore structures —

Part 6: Marine operations

*Industries du pétrole et du gaz naturel — Exigences spécifiques
relatives aux structures en mer —*

Partie 6: Opérations marines



Reference number
ISO 19901-6:2009(E)

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Published in Switzerland

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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 19901-6 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 7, *Offshore structures*.

ISO 19901 consists of the following parts, under the general title *Petroleum and natural gas industries — Specific requirements for offshore structures*:

- *Part 1: Metocean design and operating considerations*
- *Part 2: Seismic design procedures and criteria*
- *Part 4: Geotechnical and foundation design considerations*
- *Part 5: Weight control during engineering and construction*
- *Part 6: Marine operations*
- *Part 7: Stationkeeping systems for floating offshore structures and mobile offshore units*

The following part is under preparation:

- *Part 3: Topsides structure*

ISO 19901 is one of a series of International Standards for offshore structures. The full series consists of the following:

- ISO 19900, *Petroleum and natural gas industries — General requirements for offshore structures*
- ISO 19901 (all parts), *Petroleum and natural gas industries — Specific requirements for offshore structures*
- ISO 19902, *Petroleum and natural gas industries — Fixed steel offshore structures*
- ISO 19903, *Petroleum and natural gas industries — Fixed concrete offshore structures*
- ISO 19904-1, *Petroleum and natural gas industries — Floating offshore structures — Part 1: Monohulls, semi-submersibles and spars*

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- ISO 19905-1, *Petroleum and natural gas industries — Site-specific assessment of mobile offshore units — Part 1: Jack-ups* ¹⁾
- ISO/TR 19905-2, *Petroleum and natural gas industries — Site-specific assessment of mobile offshore units — Part 2: Jack-ups commentary* ¹⁾
- ISO 19906, *Petroleum and natural gas industries — Arctic offshore structures* ¹⁾

1) Under preparation.

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Introduction

The series of International Standards applicable to types of offshore structure, ISO 19900 to ISO 19906, constitutes a common basis covering those aspects that address design requirements and assessments of all offshore structures used by the petroleum, petrochemical and natural gas industries worldwide. Through their application, the intention is to achieve reliability levels appropriate for manned and unmanned offshore structures, whatever the type of structure and the nature or combination of materials used.

It is important to recognize that structural integrity is an overall concept comprising models for describing actions, structural analysis, design rules, safety elements, workmanship, quality control procedures and national requirements, all of which are mutually dependent. The modification of one aspect of design in isolation can disturb the balance of reliability inherent in the overall concept or structural system. It is necessary, therefore, to consider the implications involved in modifications in relation to the overall reliability of offshore structural systems.

The series of International Standards applicable to types of offshore structure is intended to provide a wide latitude in the choice of structural configuration, material and techniques without hindering innovation. Sound engineering judgment is, therefore, necessary in the use of these International Standards.

This part of ISO 19901 was developed to provide requirements and guidance for the planning, engineering and safe execution of marine operations for all types of offshore structures except for drilling rigs, pipe-laying barges and diving support vessels. Marine operations for offshore structures are parts of the construction, transportation and installation phases when the structure is at risk from the marine environment. Marine operations can extend to decommissioning, redeployment, removal, etc.

This part of ISO 19901 describes the principles of and provides requirements and guidance for marine operations associated with fixed and floating offshore structures, from the point of view of planning, engineering, implementation and documentation. Alternative requirements, methods and provisions can fulfil the intention of this part of ISO 19901 and may be applied, provided it can be demonstrated that they achieve at least the same level of confidence. The overall objective of this part of ISO 19901 is to ensure that marine operations are conducted within defined and recognized safety/confidence levels, wherever they are performed. Additional standards, codes and guidelines should also be taken into account, where applicable. Special attention should be paid to national regulations governing the area in which the marine operations are performed.

It is not the intent of this part of ISO 19901 to govern the design of structures, systems and components used in marine operations, beyond the principles given. Recognized codes and standards are normally accepted as the basis for the detailed design and the fabrication requirements of such components.

Annex A provides some background and some additional information to the main body of the document and it is intended that it be read in conjunction with the main body of the document.

Annex B provides regional information on the application of the document to certain specific offshore areas.