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International

ISO 13702

Oil and gas industries — Control and mitigation of fires and explosions on offshore production installations — Requirements and guidelines

Industries du pétrole et du gaz — Contrôle et atténuation des feux et des explosions dans les installations en mer — Exigences et lignes directrices

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Foreword ..... **v**
Introduction ..... **vii**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Abbreviated terms **5**
5 Fire and explosion evaluation and risk management **6**
5.1 Management system 6
5.2 Risk assessment and the risk management framework 6
5.3 Risk assessment process 6
5.4 Hazard identification 6
5.5 Risk analysis 7
5.6 Risk evaluation 7
5.7 Risk treatment 7
5.7.1 General 7
5.7.2 Prioritization of risk treatment measures 8
5.8 Risk treatment in the context of offshore oil and gas operations 8
5.8.1 General 8
5.8.2 Design loads 10
5.8.3 Fire and explosion strategy and performance standards 10
5.8.4 Verification 11
6 Installation layout **11**
6.1 Objectives 11
6.2 Functional requirements 11
7 Emergency shutdown systems and blowdown **12**
7.1 Objective 12
7.2 Functional requirements 12
8 Control of ignition **13**
8.1 Objective 13
8.2 Functional requirements 13
9 Control of spills **13**
9.1 Objective 13
9.2 Functional requirements 13
10 Emergency power systems **13**
10.1 Objective 13
10.2 Functional requirements 14
11 Fire and gas (F&G) detection systems **14**
11.1 Objectives 14
11.2 Functional requirements 14
12 Active fire protection **15**
12.1 Objectives 15
12.2 Functional requirements 15
13 Passive fire protection **16**
13.1 Objective 16
13.2 Functional requirements 16
14 Explosion mitigation and protection measures **17**
14.1 Objective 17
14.2 Functional requirements 17

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15.2 Functional requirements 17
16 Inspection, testing, and maintenance 18
16.1 Objective 18
16.2 Functional requirements 18
Annex A (informative) **Typical fire and explosion hazardous events 20**
Annex B (informative) **Guidelines to the control and mitigation of fires and explosions 25**
Annex C (informative) **Typical examples of design requirements for large integrated offshore installations 52**
Bibliography 63

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This third edition cancels and replaces the second edition (ISO 13702:2015), which has been technically revised.

The main changes are as follows:

— visualized the risk treatment process in a flow diagram in 5.8;

— improved description of the explosion blast description in Clause A.3;

— improved guidance with respect to risk mitigation in Clause B.1;

— introduction of ESD hierarchy and guidance related to principles to protect pressurised equipment against fire in Clause B.2;

— improved guidance on ignition source control in Clause B.3;

— included guidance for control of spills related to floating LNG in Clause B.4;

— expanded guidance related to gas detection in Clause B.6;

— included guidance related to ignition source control for firewater pump drivers and external power supplies in B.8.2;

— addressing personnel safety related to CO_2 or other asphyxiating gases in B.8.11;

— introduced guidance related to passive fire-retarding surface for helidecks in B.8.13;

— introduced guidance related to tests in B.13;

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The successful development of the arrangements required to promote safety and environmental protection during the recovery of hydrocarbon resources requires a structured approach to the identification and management of health, safety, and environmental hazards applied during the design, construction, commissioning, operation, inspection, maintenance, and decommissioning of a facility.

This document has been prepared primarily to assist in the development of new installations through their lifecycle.

The content of this document is arranged as follows.

— Objectives: lists the goals to achieved by the control and mitigation measures being described.

— Functional requirements: represent criteria to meet the stated objectives. The functional requirements are performance-orientated measures and, as such, are applicable to the variety of offshore installations utilized for the development of hydrocarbon resources throughout the world.

— Annex A: describes typical fire and explosion hazardous events.

— Annex B: describes recognized practices that can be considered in conjunction with statutory requirements, industry standards, and individual operator philosophy to determine that the measures necessary are implemented for the control and mitigation of fires and explosions. The guidance is limited to principal elements and are intended to provide specific guidance which, due to the wide variety of offshore operating environments, cannot be applicable in some circumstances.

— Annex C: describes typical examples of design requirements for large integrated offshore installations.

This document is based on an approach where the selection of control and mitigation measures for fires and explosions primarily caused from loss of containment is determined by an evaluation of hazards on the offshore installation. The methodologies employed in this assessment and the resultant recommendations differ depending on the complexity of the production process and facilities, type of facility (i.e. open or enclosed), staffing levels, and environmental conditions associated with the area of operation.

NOTE Requirements, rules, and regulations can, in addition, be applicable for the individual offshore installation concerned.

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