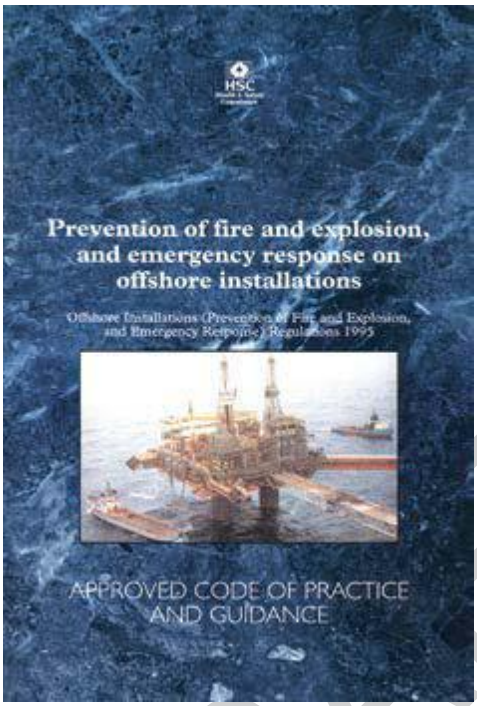
Prevention of fire and explosion, and emergency response on offshore installations

Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995

Approved Code of Practice and guidance



L65 (Second edition, published 1997).

You can buy the book at www.hsebooks.co.uk.

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This publication contains the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995.

It is aimed at all those who own, operate or work on offshore installations and looks at how to prevent fires and explosions as well as how to protect people working on offshore installations should they occur. It also looks at how to respond to emergencies, considering issues such as escape, evacuation, rescue and recovery.

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Approved Code of Practice

This Code has been approved by the Health and Safety Executive, with the consent of the Secretary of State. It gives practical advice on how to comply with the law. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters on which the Code gives advice. You may use alternative methods to those set out in the Code in order to comply with the law.

However, the Code has a special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a Court will find you at fault.

Guidance

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

Contents

Introduction

About this Publication

1. This publication sets out what you have to do to comply with the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995[1] (as amended in 2005 and 2015 – amendments to the regulatory text are shown in square brackets). These are known as the PFEER Regulations. The Approved Code of Practice (ACOP) text and associated guidance provide practical advice on how you can comply with the requirements of the PFEER Regulations.

2. It deals specifically with the prevention of fire and explosions on offshore installations, protecting people on them should such an incident occur including emergency response arrangements for evacuation, escape, rescue and recovery. The Regulations, ACOP and guidance deal with:

(a) preventing fires and explosions, and protecting people from the effects of any which do occur;

(b) securing effective response to emergencies affecting people on the installation or engaged in activities in connection with it, and which have the potential to require evacuation, escape and rescue.

3. Where appropriate, the ACOP text and the associated guidance have been updated and simplified. The main changes, which are summarised below, have been widely consulted on:

- emphasising that when developing an approach to fire and explosion hazard management, consideration should be given to the 'timely detection' of events that have occurred and the 'appropriate reporting and recording' of such events. (see regulation 4 and ACOP);
- emphasising the need in the guidance to regulation 5 that any changes, including improvements, to measures introduced and their associated performance standards as a result of the initial assessment may be a reason to undertake a repeat assessment to ensure that the duties under these regulations are still met;
- updating the definition of a 'performance standard' to provide further clarity (see regulation 5 guidance);
- clarifying that releases of toxic or asphyxiating gases which have the potential to require evacuation, escape and rescue should be included when undertaking a PFEER regulation 5 assessment (see regulation 5 and ACOP);
- adding 'suitable detection systems for asphyxiating atmospheres' to the list of illustrative examples associated with detection arrangements (see regulation 10 guidance);
- providing further explanation on detection systems, alarm settings and their capabilities (see regulation 10 and ACOP);
- emphasising that for measures to remain effective in an emergency, the operator or owner will need to show that the temporary refuge survival time has been adequately defined and demonstrated. Events that are likely to compromise temporary refuge integrity within this time must be clearly identified and addressed in the emergency response plan (see regulation 13 and ACOP);
- revising information on means of evacuation by sea provided by Totally Enclosed Motor Propelled Survival Craft (TEMPSC). There should be sufficient TEMPSC places for ~~at least~~ 150% of the maximum number of persons on board. Additional guidance on regulation 5 assessment considerations has been provided (see regulation 15 and ACOP).

4. In addition, when appropriate, new guidance is given on the 2005 and 2015 amendments to PFEER. For example, guidance is given on:

- new regulation 22A – Inventory of equipment etc;
- new regulation 22B – Initiation and direction of emergency response, and liaison with external response authorities;
- new regulation 22C – Arrangements for early warning of major accidents.

5. In some cases, ACOP and guidance material have been removed as the legal requirement was revoked as a result of the 2005 and 2015 amendments to PFEER.

About ACOPs

5. Approved Codes of Practice are approved by the HSE Board with the consent of the Secretary of State (see Appendix 1 Notice of Approval for details).

6. The ACOP describes preferred or recommended methods that can be used (or standards to be met) to comply with the Regulations and the duties imposed by the Health and Safety at Work etc. Act

1974 (the HSW Act)[2]. The accompanying guidance also provides advice on achieving compliance, or it may give information of a general nature, including explanation of the requirements of the law, more specific technical information or references to further sources of information.

7. The legal status of ACOP and guidance text is given on the copyright page.

Presentation

8. The ACOP text is set out in **bold** and the accompanying guidance in normal type, the text of the Regulations is in *italics*. Coloured borders also indicate each section clearly.

Relationship between these Regulations and other health and safety law

3 These Regulations complement other health and safety regulations in a number of areas. Specific interfaces are described under each regulation. This section describes how the Regulations fit in with general health and safety legislation and the interface with the Offshore Installations (Safety Case) Regulations 2005 (SCR 2005), the Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015 (SCR 2015) and the Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989 (OSRSCR).

General health and safety legislation

4 The HSW Act) places general duties on employers to ensure, so far as reasonably practicable, the health and safety of their employees, and others who might be affected by their undertaking (HSW Act, sections 2, 3 and 4). These general duties are supported by the requirement in regulation 3 of the Management of Health and Safety at Work Regulations (MHSWR) for employers to undertake risk assessments for the purpose of identifying the measures which need to be put in place to prevent accidents and protect people against accidents.

5 The PFEER Regulations support these general requirements in two ways. They specify particular goals for preventive and protective measures to manage fire and explosion hazards, and to secure effective emergency response; and they recognise that, on offshore installations, these measures are best made the responsibility of one person - a primary dutyholder – the operator or owner (referred to from now on as 'dutyholder').

6 Compliance with these Regulations will therefore help dutyholders meet their duties as employers under general health and safety legislation. This does not mean that individual employers who may be involved in activities on offshore installations are absolved from meeting their duties under the HSW Act and MHSWR. Those employers will have to co-operate with the primary dutyholder (see Appendix 2). Specific interfaces are explained in the guidance to each regulation.

Safety Case Regulations

XX The SCR 2015 came into force on 19 July 2015. They apply to oil and gas operations in external waters (the territorial sea adjacent to Great Britain and designated areas within the continental shelf (UKCS)), and replaces SCR 2005 in these waters, subject to certain transitional arrangements. Activities in internal waters (eg estuaries) will continue to be covered by the SCR 2005.

6 The SCR 2005 and SCR 2015 require a safety case to be submitted for acceptance by HSE or the competent authority as appropriate for each installation.

7 Regulation 12(1)(a) of SCR 2005 and regulation 16(1)(a) of SCR 2015 require a demonstration in the safety case of the adequacy of the management system for controlling risks to people on the installation or engaged in connected activities, and of arrangements for independent audit of the management system as appropriate. The organisation and arrangements provided to meet the requirements of the PFEER Regulations form part of the management system for the purposes of the SCR 2005 and SCR 2015 (whichever is applicable).

8 Regulation 12(1)(c) and (d) of SCR 2005 and Regulation 16(1)(c) and (d) of SCR 2015 require a demonstration in the safety case that major accident hazards have been identified, their risks evaluated and that suitable measures have been, or will be, taken to control those risks to ensure the relevant statutory provisions are complied with. Regulation 2(1) of SCR 2005 and SCR 2015 defines the relevant statutory provisions for the relevant regulations, and for SCR 2015 those are relevant statutory provisions

that relate to offshore oil and gas operations. Regulation 5 of PFEER specifies requirements for a fire and explosion, and evacuation, escape and rescue assessment. The results of this assessment will contribute to the demonstration required by the SCR 2005 and SCR 2015 (whichever is applicable).

9 In addition, the PFEER Regulations specify goals for preventive and protective measures for managing fire and explosion hazards, and emergency response. Complying with these Regulations, taking account of the practical guidance contained in this publication, will facilitate HSE's or competent authority's acceptance of the safety case. The Regulations are in general expressed as broad goals rather than specific requirements, allowing duty holders the flexibility to develop detailed arrangements in the light of hazards, plant configuration and other circumstances specific to the installation.

10 By virtue of regulation 12(2) of SCR 2005, and Regulation 16(2) of SCR 2015 safety cases are assessed on the basis of what it was reasonable to expect the duty holder to address at the time of the submission. The bringing into force of the 2015 amendments to the PFEER Regulations did not, in itself, prompt resubmission of any safety case. However, if anything arising from compliance with these Regulations results in a revision to the safety case which makes it materially different, it will need to be resubmitted in line with the SCR 2015 transitional arrangements (see Schedule 14 of SCR 2015).

Safety Representatives and Safety Committees Regulations 1989

12 Another important interface is with the OSRSCR. These Regulations, as amended by SCR 2005 and SCR 2015, specify ways in which safety representatives and committees are to be involved with the safety case (see *A guide to the Offshore Installations (Offshore Safety Directive (Safety Case etc.) Regulations 2015 and A guide to the Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989*. Safety representatives should be consulted on the measures to be taken to comply with the PFEER regulations, particularly the arrangements made under regulation 6 and in preparing the emergency response plan required by regulation 8.

Regulation 1 Citation and commencement

Regulation

These Regulations may be cited as *the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations* 1995 *and shall come into force on 20th June 1995.*

Regulation 2 Interpretation

Regulation

(1) In these Regulations, unless the context otherwise requires —

"the [2013] *Order" means the Health and Safety at Work etc. Act* 1974 *(Application outside Great Britain) Order* [2013];

"the 1974 Regulations" means the Offshore Installations (Construction and Survey) Regulations 1974;

Guidance

14 The Offshore Installations (Construction and Survey) Regulations (SI 1974/289) (CSR) have been revoked, as has been the case since the last reprint of the guidance in 2012.

Regulation

"the 1995 Regulations" means the Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995;

Guidance

15 The abbreviation MAR is generally used for these Regulations in the text of this publication.

Regulation

["the 2005 Regulations" means the Offshore Installations (Safety Case) Regulations 2005];
["the 2015 Regulations" means the Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015];

"acoustic signal" means a *coded sound signal which is released and transmitted by* a *device designed for that purpose, without the use of* a

human or artificial voice;

["competent authority" means the Executive and the Secretary of State acting jointly];

Guidance

Regulation *["duty holder" means -*

(a) in relation to a production installation, the operator; and

(b) in relation to a non-production installation, the owner;]";

Guidance 17 The dutyholder structure for these Regulations is the same as that in SCR 2005 or SCR 2015 (the operator, in the case of a production installation, and the owner, in the case of a non-production installation).

Regulation *"emergency" means an emergency of a kind which can require evacuation, escape or rescue;*

Guidance 18 An emergency includes any unexpected event of whatever nature with the potential to cause harm and to require the evacuation, escape and rescue of one or more persons from the installation.

Regulation *"emergency response" means action to safeguard the health and safety of persons on or near an installation in an emergency;*

Guidance 19 Emergency response covers action in response to potential major accidents; and also to some lesser incidents, for example, persons overboard, sickness or injuries to personnel which necessitate urgent evacuation from the installation for medical treatment or recuperation.

Regulation *"evacuation" means the leaving of an installation and its vicinity, in an emergency, in a systematic manner and without directly entering the sea;*

Guidance 20 Evacuation refers to the planned and controlled method of leaving the installation without directly entering the sea. Successful evacuation will result in people being transferred to a place of safety (ie a safe onshore location, or a safe offshore location or vessel). The means of evacuation should offer protection from the hazard, and should have its own motive power to enable people to move quickly away from the installation.

Regulation *"the Executive" means the Health and Safety Executive;*

"explosion" means unplanned explosion;

["external emergency response plan" means the Search and Rescue Framework for the United Kingdom of Great Britain and Northern Ireland as published by the Secretary of State, as revised or re-issued from time to time];

["external waters" means the territorial sea adjacent to Great Britain and any area designated by order under section 1(7) of the Continental Shelf Act 1964];

"fire" means unplanned or uncontrolled fire;

"illuminated sign" means a sign produced by a device made of transparent or translucent materials which are illuminated from the inside or the rear in such a way as to give the appearance of a luminous surface;

"installation" means an offshore installation within the meaning of regulation 3 of the 1995 Regulations;

["internal waters" means tidal waters and parts of the sea in or adjacent to Great Britain up to the landward limits of the territorial sea];

["licensee"—

(a) in relation to internal waters, means any person to whom a licence to search and bore for and get petroleum in respect of any area within internal waters is granted pursuant to section 2 of the Petroleum (Production) Act 1934 or section 3 of the Petroleum Act 1998; and

(b) in relation to external waters, means an offshore licensee as defined in regulation 2(1) of the Offshore Petroleum Licensing (Offshore Safety Directive) Regulations 2015];

Guidance

21 Detailed guidance on the definition of 'installation' is set out in guidance to MAR, regulation 3.

Regulation

["major accident"—

(a) in relation to internal waters, has the meaning given in regulation 2(1) of the 2005 Regulations; and

(b) in relation to external waters, has the meaning given in regulation 2(1) of the 2015 Regulations];

Guidance

22 Regulation 2(1) of SCR 2005 and SCR 2015 defines the term 'major accident' and this is reproduced below.

"major accident" in SCR 2005:

(a) a fire, explosion or other release of a dangerous substance involving death or serious personal injury to persons on the installation or engaged in an activity on or in connection with it;

(b) any event involving major damage to the structure of the installation or plant affixed thereto or any loss in the stability of the installation;

(c) the collision of a helicopter with the installation;

(d) the failure of life support systems for diving operations in connection with the installation, the detachment of a diving bell used for such operations or the trapping of a diver in a diving bell or other subsea chamber used for such operations; or

(e) any event arising from a work activity involving death or serious personal injury to five or more persons on the installation or engaged in an activity in connection with it;

["major accident" in SCR 2015 means:

(a) an event involving a fire, explosion, loss of well control or the release of a dangerous substance causing, or with a significant potential to cause, death or serious personal injury to persons on the installation or engaged in an activity on or in connection with it;

(b) an event involving major damage to the structure of the installation or plant affixed to it or any loss in the stability of the installation causing, or with a significant potential to cause, death or serious personal injury to persons on the installation or engaged in an activity on or in connection with it;

(c) the failure of life support systems for diving operations in connection with the installation, the detachment of a diving bell used for such operations or the trapping of a diver in a diving bell or other subsea chamber used for such operations;

(d) any other event arising from a work activity involving death or serious personal injury to five or more persons on the installation or engaged in an activity on or in connection with it; or

(e) any major environmental incident resulting from any event referred to in paragraph (a), (b) or (d)],

and for the purposes of determining whether an event constitutes a major accident under paragraph (a), (b) or (e), an installation that is normally unattended is to be treated as if it were attended;

Further guidance on the definition of “major accident” is given in the guide to the SCR 2005 or the guide to SCR 2015.

Regulation

"muster areas" shall be construed in accordance with regulation 14(1)(a);

[“non-production installation” means an installation other than a production installation;]

[“operator”—

[(a) in relation to internal waters—

(i) in relation to the dismantling of a fixed installation (as a fixed installation is defined in the 2005 Regulations), has the meaning given in regulation 11(4) of the 2005 Regulations; and

(ii) otherwise, has the meaning given in regulation 2(1) of the 2005 Regulations in relation to a production installation; and

(b) in relation to external waters, has the meaning given in regulation 2(1) of the 2015 Regulations;”]

Guidance

24 Detailed guidance on the definition of 'operator' is set out in guidance to MAR, regulation 2 and is given in the guide to the SCR 2005 or the guide to SCR 2015.

Regulation

["owner" means the person who controls or is entitled to control the operation of a non-production installation;]

Guidance

25 Detailed guidance on the definition of 'owner' in regard to SCR 2005 is set out in guidance to MAR, regulation 2 and regulation 2(1) of SCR 2015.

Regulation

"personal protective equipment" has the same meaning as in regulation 2(1) of the Personal Protective Equipment at Work Regulations 1992.

[“petroleum”—
(a) includes any mineral oil or relative hydrocarbon and natural gas, whether or not existing in its natural condition in strata; and
(b) does not include coal or bituminous shales or other stratified deposits from which oil can be extracted by destructive distillation; and]

[“production installation”—

(a) in relation to internal waters, has the meaning given in regulation 2(1) of the 2005 Regulations; and

(b) in relation to external waters, has the meaning given in regulation 2(1) of the 2015 Regulations];

(2) Unless the context otherwise requires, any reference in these Regulations to—

(a) a numbered regulation is a reference to the regulation in these Regulations so numbered;

(b) a numbered paragraph is a reference to the paragraph so numbered in the regulation in which the reference appears.

Regulation 3 Application

Regulation

(1) These Regulations shall apply—

(a) [apart from regulations 22A to 22C] in Great Britain, and

(b) to and in relation to installations and activities outside Great Britain to which sections 1 to 59 and 80 to 82 of the 1974 Act apply by virtue of articles 4(1) [and (2)], 5 and 6 of the 2013 Order.

(2) Regulations 4 to 22 [and 22A to 22C] shall not apply in relation to an installation which is in transit to or from a station; and an installation is not in transit to or from a station while it is being manoeuvred at the station.

Guidance

27 The Regulations apply equally to non-production and production installations although they do not apply to installations while in transit to or from a station. An installation is in transit when it is not at, or in the immediate vicinity of, a previous or new working station.

Xx Manoeuvring preparatory to leaving a station, or after arrival in order to position the installation, is not part of transit and is therefore within the scope of these Regulations. Detailed guidance on the terms used in this regulation is contained in guidance to MAR, regulation 4.

28 The Regulations and ACOP apply to existing and new installations throughout their life cycle, taking into account that different measures may be appropriate at different stages of the life cycle of the installation.

29 The Regulations and ACOP apply equally to attended and normally unattended installations. Dutyholders should pay particular attention to the measures for fire and explosion hazard management and emergency response on normally unattended installations, when there are people on board (ie when one or more people arrive on the installation to carry out work).

Xx Emergency response arrangements should be established and confirmed before each visit, including arrangements for effective management of the emergency and the allocation of emergency duties. Operating parameters should be defined to ensure that normally unattended installations are not visited in conditions which could compromise arrangements for evacuation and escape.

30 Particular attention should be paid to the hazard identification, risk assessment, risk reduction measures and their application of the risk reduction methods when defining and evaluating the arrangements for managing fire and explosion hazards and emergency response during combined operations. This is necessary to ensure that the measures and arrangements take account of all the installations involved and the hazards they present as a result of their proximity to one another.

Xx There is a particular need for dutyholders to ensure that emergency arrangements are co-ordinated. For example, in some combined operations the availability of facilities for evacuation and escape may be affected, and duty holders should take this into account in:

(a) their emergency response plans (required by regulation 8);

(b) meeting the requirements for safe evacuation and escape in regulations 15 and 16;

(c) the availability of the life-saving appliances (regulation 20).

Relationship with other Regulations

31 Some installations (eg mobile offshore drilling units) are also classed as ships, and as such may be subject to various international maritime conventions. Codes issued by bodies such as the International Maritime Organisation (IMO) may also be relevant.

32 Installations classed as ships will be required to comply with the relevant maritime legislation and conventions of their flag states and with UK port state requirements, where appropriate, as well as with the provisions of these Regulations. Compliance with the relevant provisions of maritime legislation and conventions may contribute towards discharging duties under these Regulations.

Regulation 4 General duty

Regulation

(1) The duty holder shall take appropriate measures with a *view to—*

(a) protecting persons on the installation from fire and explosion; and

b) securing effective emergency response.

(2) Any more detailed requirement in regulations 6 *to* 21 [and 22A to 22C] *for the purposes referred to in paragraph (1) shall be without prejudice to the generality of paragraph (1).*

Guidance

34 Regulation 4 is a general duty on duty holders to protect people on their installations from all fires and explosions, and to provide effective emergency response. The dutyholder has a responsibility to all people on the installation, not just their own employees.

35 This paragraph explains a number of important terms used in the regulation:

(a) protecting persons from fire and explosion covers all the measures which may be needed to safeguard people from fire and explosion, ie inherent safety by design, preventive (including the appropriate control of all ignition sources), detection, control and mitigation measures;

(b) measures includes both plant and equipment (ie hardware) and also management systems (including software);

(c) appropriate measures with a view to protecting people and securing effective emergency response – the measures should be suitable for their purpose. Taken together they should also allow the Regulations' requirements to be met in the light of the circumstances on the installation, the stage in its life cycle, the nature of the hazard, the likelihood of the hazard being realised and the potential consequences. In determining what is appropriate dutyholders should take account of any specific requirements in the Regulations, the outcome of the assessments required by regulation 5 of these Regulations and regulation 3 of MHSWR, and the risks and the costs of various measures. Appropriate measures should be adequate to achieve the objectives set out in the regulation but would not require expenditure which is completely out of proportion to the risk their implementation avoids;

(d) emergency and emergency response are defined in regulation 2.

Relationship with other Regulations

36 Regulation 4 sets out a general objective, with more specific requirements in the other regulations. Compliance with the other regulations will contribute substantially to satisfying regulation 4. Dutyholders will need to ensure that what they have done to comply with the other regulations is enough to meet the overall duties in regulation 4 to protect people from fire and explosion and secure effective emergency response.

37 Plant and equipment on offshore installations provided to comply with these Regulations may also be subject to the Provision and Use of Work Equipment Regulations 1998 (PUWER). Where such equipment is safety-critical (SCR 2005), or safety and environmentally critical (SCR 2015), it will be subject to verification arrangements under SCR 2005 or SCR 2015.

XX Personal protective equipment (PPE) for use in an emergency is covered by both the Personal Protective Equipment at Work Regulations 1998 (PPEWR) and by regulation 18 of PFEER.

ACOP

38 The purpose of the Regulations overall is to promote a risk-based, systematic approach to managing fire and explosion hazards and emergency response. The general principles of risk prevention set out in Schedule 1 of the Management of Health and Safety at Work Regulations 1999 are relevant to this process and should be followed. They are summarised below:

Principles for preventive and protective measures

(a) it is always best if possible to avoid a risk altogether;

(b) combat risks at source, rather than by palliative measures;

(c) wherever possible, adapt work to the individual;

(d) take advantage of technological and technical progress to improve work methods and make them safer;

(e) risk prevention measures should form part of a coherent policy and approach to reduce risks progressively that cannot be prevented or avoided altogether;

(f) give priority to measures which protect the whole workplace;

(g) make sure workers understand what they need to do;

(h) create an active health and safety culture which affects the organisation as a whole.

The following principles of health and safety management~~, which are implied in the guidance to the Management of Health and Safety at Work Regulations 1999*,~~ are also relevant and should be followed:

Principles for health and safety management

***Planning.* Adopt a systematic approach which identifies priorities and sets objectives. Whenever possible, eliminate risks by the careful selection and design of facilities, equipment and processes or minimise them using physical control measures;**

***Organisation.* Put in place the necessary structure with the aim of**

ensuring that there is a progressive improvement in health and safety performance;

Control. **Ensure that decisions for ensuring and promoting health and safety are implemented as planned;**

Monitoring and review. **Constantly develop policies, approaches to implementation and techniques for risk control, as progressive improvement in health and safety can only be achieved through continual development.**

Health and safety management: Plan, Do, Check, Act

XX Guidance on ~~the~~ Managing for ~~ement of~~ Health and Safety (HSG 65) ~~at Work Regulations~~ adopts the Plan, Do, Check, Act technique to ensure a balance between the systems and behavioural aspects of management is achieved. This approach highlights the need for health and safety management to become an integral part of good management generally rather than be a stand-alone system. This approach and the connection with high-hazard industries is highlighted in the text below.

Plan, Do, Check, Act	*Conventional health and safety management*	*Process safety*
Plan	• **Determine your policy** • **Plan for implementation**	• **Define and communicate acceptable performance and resources needed**
Do	• **Profile risks** • **Organise for health and safety** • **Implement your plan**	• **Identify and assess risks** • **Identify controls** • **Record and maintain process safety knowledge** • **Implement and manage control measures**
Check	• **Measure performance (monitor before events, investigate after events)**	• **Measure and review performance** • **Learn from measurements and findings of investigations**
Act	• **Review performance** • **Act on results**	

39 These principles should be applied for fire and explosion hazard management and emergency response by:

(a) developing an approach to fire and explosion hazard management based on hazard identification and risk assessment, involving an integrated approach to:

i. designing so as to eliminate hazards;

ii. preventing hazardous events occurring;

iii. the timely detection of events that have occurred;

iv. the appropriate reporting and recording of such events;

v. controlling the escalation of such events;

vi. mitigating the consequences of such events;

(b) adopting a systematic approach to emergency response by considering the various stages of an emergency and how each of those stages can be most effectively managed, to reduce risks to health and safety.

Regulation 5 Assessment

Regulation

(1) The duty holder shall perform, and thereafter repeat as *often* as *may be appropriate a process (in this regulation called "an assessment") described in paragraph (2) in relation to the installation.*

(2) An assessment shall consist of—

(a) the identification of the various events which could give rise to—

(i) a major accident involving fire or explosion; or

(ii) the need (whether or not by reason of fire or explosion) for evacuation, escape or rescue to avoid or minimise a *major accident;*

(b) the evaluation of the likelihood and consequences of such events;

(c) the establishment of appropriate standards of performance to be attained by anything provided by measures for—

(i) ensuring effective evacuation, escape, recovery and rescue to avoid or minimise a major accident; and

(ii) otherwise protecting persons from a *major accident involving fire or explosion; and*

(d) the selection of appropriate measures.

(3) The duty holder shall—

(a) record the assessment (including each repetition of it);

(b) keep the record at an address in Great Britain; and

[(c) notify—

(i) in the case of an installation in internal waters, the Executive;

(ii) in the case of an installation in external waters, the competent authority, of such address.]

Guidance

41 The regulation requires the dutyholder to assess major accident hazards arising from fire and explosion and events which may require evacuation, escape and rescue, and identify appropriate arrangements for dealing with them.

Xx Information from the assessment has to be recorded, and the record kept at an address in Great Britain. HSE or the competent authority as appropriate has to be notified of the address. This notification should be sent to the HSE office (see Useful addresses at the back of this ACOP) which

normally deals with the installation.

42 Regulation 5(3) requires the assessment to be recorded but does not specify how. Dutyholders may decide on the best approach for example:

(a) to prepare a single, stand-alone document; or a series of documents; or

(b) to record the assessment as an integral part of the safety case document.

XX Dutyholders are free to keep supporting information in separate documents or reference information already held in other documentation.

43 The regulation requires the dutyholder to repeat the assessment as often as may be appropriate, for example, before making changes to the installation or to working activities, or introducing new equipment or systems.

XX ~~Proposed~~ Any changes to measures introduced and their associated performance standards following the initial or subsequent assessment are ~~further~~ circumstances where it may be appropriate to repeat an assessment ~~should be repeated~~. A repeat assessment may be appropriate when this action is identified following a review of the existing assessment in the context of the proposed change. Changes may cover performance standards, associated maintenance and inspection routines, or verification activities. This is to ensure that interaction with other existing measures including safety-critical elements (SCEs) and safety and environmental-critical elements (SECEs) and specified plant are evaluated, the assessment continues to be valid and to ensure that duties under these regulations are still met.

44 The regulation does not itself stipulate the measures to be taken and the arrangements to be made as a result of the assessment. But the assessment should be used as the basis for determining the detailed measures and arrangements to be made to comply with the other PFEER Regulations.

45 Some of the terms used in this regulation are explained in the guidance on regulation 4. These explanations are relevant here unless otherwise indicated. Other key terms in the regulation are:

- *assessment*, the process described in the regulation 5;
- *major accident*, defined in regulation 2(1) of SCR 2005 and SCR 2015;
- *performance standards*, are statements, which can be expressed in qualitative or quantitative terms, of the performance required of a system, item of equipment, person or procedure, used as the basis for managing a hazard (eg planning, measuring, control or audit) throughout the life cycle of the installation.

XX A performance standard should contain sufficient information against which to assess the suitability and condition of the items to which they apply and cover *functionality, reliability, availability and survivability* where appropriate. The regulation does not specify what performance standards should be - that is for the dutyholder to decide, taking account of the circumstances on the particular installation.

Relationship with other Regulations

46 The assessment feeds into the safety case. The information about fire and explosion major accident hazards and those events requiring evacuation, escape and rescue will contribute to the demonstration required by regulation 12(1)(c) and (d) of SCR 2005 and regulation 16(1)(c) and (d) of SCR 2015. In practice, a summary of the assessment carried out under regulation 5 will be part of this demonstration.

48 The assessment is only required to cover major accident hazards relating to fire and explosion, and evacuation, escape and rescue. Measures for non-major accident hazards should take into account the findings of the risk assessment required by regulation 3 of MHSWR.

49 Compliance with this regulation will be sufficient to ensure compliance with regulation 3 of MHSWR in respect of major accidents from fire and explosion and major accidents resulting in evacuation, escape and rescue.

ACOP

50 The process of assessment should involve the following steps:

(a) identifying fire and explosion major accident hazards, and major accident hazards with the potential to require evacuation, escape or rescue – including those that concern the release of toxic and asphyxiating gases;

(b) identifying the likelihood of them occurring and their consequences;

(c) identifying the measures needed to meet the requirements of these Regulations to identify, monitor, control, mitigate and adequately protect people in respect of major accident hazards from fire and explosion and major accident hazards requiring evacuation, escape and rescue;

(d) identifying performance standards, including consideration of risk assessment for offshore installations and human vulnerability criteria, for those measures to protect people from fire and explosion and to ensure effective evacuation, escape and rescue.

51 There may be considerable iteration between the steps. The aim is to come out of the assessment process with measures for the effective management of fire and explosion hazards and for evacuation, escape and rescue, and appropriate performance standards for them.

52 Although a wide range of potential major accident events may be identified initially, dutyholders should focus on those which are reasonably foreseeable. These events should be considered in depth. The assessment process should identify the factors which influence the way an event may occur and develop, and which will affect the ability of any of the measures put in place to deal with the hazard.

53 Assessment involves judgements against criteria or standards. Dutyholders should determine those criteria and assure themselves that they are appropriate as part of the assessment process. The assessment should provide for a clear decision-making process. The process for carrying out the assessment should set out clearly the practices for making decisions. Assumptions should be justified, sensitivities identified and considered and uncertainty adequately addressed to ensure a realistic perspective of risk is taken.

54 Interactions between safety systems, where the action of one may inhibit the performance of the other, need to be identified and taken into account. Any potential for a system to introduce or exacerbate a hazard should also be identified and addressed.

55 In recording the assessment process enough information should be provided to justify decisions on appropriate measures. The assessment will form the basis for such matters as selecting plant and equipment, and drawing up procedures. Record information from the assessment in an appropriate way, and at an appropriate level of detail, to meet the needs of those who may have to use it, including designers, managers on the installation, contractors, and auditors.

Xx For fire and explosion the record should include the causes, characteristics, likelihood and consequences of fire and explosion

hazards and the means to prevent, detect, control, and mitigate their effects in an emergency.

56 That part of the assessment dealing with evacuation, escape and rescue should address:

(a) the organisation and arrangements for the management of an emergency which might lead to evacuation, escape and rescue, including the formal command structure;

(b) the means of evacuation, including type, capacity and location, available for the evacuation of personnel from temporary refuge, muster areas and other parts of the installation from which access to temporary refuge is not readily available;

(c) types, capacity and location of means of escape to the sea;

(d) the performance of the rescue and recovery facilities, including their function, capacity and availability;

(e) the types, numbers and locations of personal survival and escape equipment.

57 The assessment should identify the factors which might affect the availability of the measures and arrangements. This should include the environmental and weather conditions which may limit the capacity to carry out effective evacuation, escape and rescue. Further guidance on effective recovery and rescue arrangements is given in the ACOP and guidance to regulation 17.

58 Setting performance standards for measures is a crucial aspect of the assessment process. Performance standards should relate to the purpose of the system, item of equipment, procedure etc which they describe. They may be described in terms of functionality, survivability, reliability and availability. They should be measurable and auditable.

Regulation 6 Preparation for emergencies

Regulation

(1) The duty holder shall establish such appropriate organisation and arrangements as *are to have effect in, or in anticipation of, an emergency and which shall include arrangements—*

(a) for command by competent persons which can be maintained, so *far* as *is practicable, throughout an emergency;*

(b) for there to be a *sufficient number of persons on the installation competent to undertake emergency duties and operate relevant equipment;*

(c) in the case of an installation on which personnel are present, for a *sufficient number of such persons to be in attendance at the helicopter landing area during helicopter movements;* ...

(d) for lists of persons referred to in sub-paragraphs (a), (b) and (c) above to be posted at suitable locations on the installation when persons are present [and]

[(e) in relation to external waters only, for coordinating the emergency response with the response planned pursuant to the external emergency response plan.]

(2) The duty holder shall ensure that every person on the installation—

(a) is provided with adequate instruction and training in the appropriate action to take in an emergency, [including how to co-ordinate with persons responding to an emergency who are not on the installation when the emergency begins; and]

(b) can consult written information on the use of emergency plant.

Guidance

60 This regulation reflects the importance of adequate preparation for emergencies. The regulation requires the dutyholder to prepare for emergencies and identifies a number of key areas to address, including;

(a) the command structure;

(b) the selection and competence of personnel to carry out emergency duties;

(c) instruction and training for everyone on the installation on the appropriate action to take in an emergency.

61 In complying with regulation 6(1) dutyholders should ensure that they have arrangements in place for effective management at all times and through all the stages of an emergency; this will include contingency arrangements.

62 Regulation 6(1)(d) requires the dutyholder to display lists of those with emergency duties on the installation. Such lists may refer to the names of individuals or, where appropriate, the relevant job positions, provided everyone understands who is responsible for specific emergency duties.

Xx For normally unattended installations such people should be identified in advance. They should carry the relevant notification with them to the installation, so the identity of those with emergency duties is clear to all those visiting the normally unattended installation.

63 Competence is defined in regulation 6(5) of MHSWR as having sufficient training and experience or knowledge and other qualities. Further guidance on competence in relation to this regulation is provided in the ACOP text that follows.

Relationship with other Regulations

64 This regulation needs to be considered alongside regulation 8. Where other PFEER regulations impact on management issues, for example in complying with the requirements of regulation 12 for controlling emergencies, further specific guidance is provided in the guidance to those regulations. Elements of instruction and training are also a vital part of general management systems and complying with other PFEER regulations will require appropriate levels of instruction and training.

65 In making the arrangements for appointing people to undertake emergency duties, dutyholders must consult safety representatives in line with requirements in regulation 23 of OSRSCR, as amended by regulation 23 of PFEER.

66 Section 2 of the HSW Act and regulation 11 of MHSWR require employers to provide health and safety training. Nothing in this regulation changes those requirements. However, regulation 6 of PFEER places a duty on both the operator or owner to:

(a) ensure that appropriate emergency training has been provided by employers – for example training in personal survival;

(b) provide training themselves where appropriate. This would include training on the emergency response arrangements for the installation

as the operator or owner is best placed to provide this type of installation-specific training. This includes giving a person sufficient instruction and training in the appropriate action they should take in an emergency, including when appropriate the duties they may be expected to carry out.

67 Requirements for the provision of medics and first-aiders in emergency situations are covered in the Offshore Installations and Pipeline Works (First-Aid) Regulations 1989 (OFAR).

XX. SCR 2015 outlines requirements for operators or owners to perform certain duties under PFEER (the duties are set out in regulation 30(14) of SCR 2015) consistently with the external emergency response plan (as defined in regulation 30(13)) and taking into account the risk assessment undertaken during the preparation of the safety case (regulation 30(1)). Regulation 6(1)(e), specifically requires dutyholders conducting operations in external waters to co-ordinate their emergency response with the search and rescue framework for the UK and Northern Ireland.

ACOP

68 In establishing a command structure to comply with regulation 6(1)(a) dutyholders should take the following points into account:

(a) one person should be given responsibility for taking overall charge in the emergency. This should be the offshore installation manager (OIM). Any circumstances when this would not be appropriate should be identified, and a clear system established for someone other than the OIM to take charge. Whoever is in charge should be given clear authority to take decisions on emergency response;

(b) the roles and responsibilities of those in the command structure should be clearly defined and understood. Responsibilities in relation to others (eg the onshore emergency team) should be clear;

(c) contingency arrangements should be drawn up, in case the person in charge, or those with emergency duties, are unable to carry out their role.

69 Those who have command responsibilities, or who have been allocated emergency duties, must be competent. Dutyholders should have a system to assure themselves of the competence of the OIM and others in the command team to manage in an emergency and of those who have specific duties in an emergency. Competence can be gained through training, experience and knowledge, backed up by practice and refresher training.

70 Dutyholders should identify the tasks likely to be carried out during an emergency. In selecting people to carry them out they should ensure no one is allocated conflicting tasks. During combined operations dutyholders should:

(a) consider where people with emergency duties are likely to be located under normal working arrangements;

(b) ensure that sufficient numbers of people able to undertake the necessary emergency duties are available on each installation.

71 Appropriate information, instruction and training on what to do in the event of an emergency should be given to everyone on the installation on or before arrival at the installation. This should include visitors and all employees whether employed by the dutyholder or by contractors.

Xx It should include general training in emergencies, including training in personal survival, installation-specific induction training and training based on the emergency response plan. Dutyholders should take steps

to assure themselves that the information, training and instruction given is sufficient for people to be able to respond in an appropriate manner.

Regulation 7 Equipment for helicopter emergencies

Regulation

The duty holder shall ensure that there is kept available near the helicopter landing area equipment necessary for use in the event of an accident involving a *helicopter.*

Guidance

73 The purpose of the regulation is to ensure that the dutyholder provides equipment which might be needed to deal with an accident involving a helicopter, including crash rescue equipment.

Xx The requirements of the regulation are additional to those dealing with helicopter accidents involving fire and explosion, for which provision would be made under regulations 9, 12 and 13.

Xx Equipment needed for helicopter accidents should be adequate to deal with a range of reasonably foreseeable accident scenarios as identified in the assessment required by regulation 5. The purpose of the equipment should be to enable the timely and effective rescue of persons involved in an accident. Equipment should be readily identifiable and protected from the elements. It should be located so that it is readily accessible for rapid deployment on the helideck.

Relationship with other Regulations

74 Regulation 6(1)(c) requires a sufficient number of personnel trained to deal with helicopter emergencies to be available during helicopter movements. Equipment provided under this regulation will need to comply with regulation 19(1). Regulation 13 of MAR and associated guidance deals with normal day-to-day helicopter operations.

Regulation 8 Emergency response plan

Regulation

(1) The duty holder shall, after consulting persons who are likely to become involved in emergency response, prepare and, as *often* as *is appropriate, revise* a *document (in this regulation called "the emergency response plan") containing sufficient information, for the guidance of such persons, on—*

(a) the organisation and arrangements which are to have effect in an emergency; and

(b) procedures by way of emergency response to be followed in different circumstances.

(2) The duty holder shall ensure that—

(a) the emergency response plan is available to all persons on the installation; and

(b) each person on the installation, and each person who may be called upon to assist in implementing the emergency response plan, are given such notification of its contents as *are sufficient for them.*

(3) The duty holder shall ensure that the organisation, arrangements and procedures referred to in paragraph (1) *are tested, by practice and otherwise,* as *often* as *may be appropriate.*

(4) Every person on the installation shall, in an emergency, so *far* as *is practicable, conform to the appropriate procedure in the plan.*

Guidance

76 This regulation requires the dutyholder to prepare an emergency response plan, which documents the organisation and arrangements for dealing with an emergency on the installation. It requires dutyholders to consult those who may become involved in emergency response.

77 Organisation and arrangements will include the organisational structure for handling emergencies, including the chain of command, the roles and responsibilities of key people, communication arrangements and the action to be taken in response to specific emergencies.

78 Procedures are the actions which specific people need to take in response to particular emergencies. The emergency response plan should include general procedures for everyone on the installation about what to do when the alarm sounds. It should also include more detailed procedures on the role and responsibilities of those with specific duties in an emergency. Although the emergency response plan would not necessarily contain all the detailed procedures required for different types of emergency, it should refer to them.

79 Regulation 8(1) requires dutyholders to consult those who may become involved in emergency response. The ACOP text below gives some specific guidance on complying with this requirement.

Xx In addition, dutyholders should take into account the range of organisations who may become involved in an emergency and who may be able to offer constructive comment on specific aspects of the emergency response plan.

Xx This might include owners of vessels who provide recovery, and rescue facilities and the fire and rescue services who have particular expertise in fire-fighting and could make a useful contribution to the preparation of emergency plans for emergencies involving fire. It would also include the police, and other emergency services, who would be likely to have a role in shore-based aspects of the emergency.

Relationship with other Regulations

80 The organisation and arrangements and procedures to be covered in the plan will need to reflect the preparatory arrangements required by regulation 6, and some of the specific measures required by regulations 10-17.

81 Regulation 7 of MHSWR requires employers to draw up emergency procedures. This regulation builds on the requirement by making specific provision for an emergency response plan. It also places the duty to draw up the plan on the operator or owner, in recognition of who is best placed to co-ordinate emergency response on the installation. Appendix 2 of this publication provides guidance on how the duty of co-operation in MAR might apply in emergency situations.

82 The emergency response plan should also include arrangements for medical and first-aid provision under OFAR.

ACOP

83 The duty holder should consult those who are likely to have a role in implementing the plan and take their views into account. This should include the Maritime and Coastguard Agency (MCA) who will be able to advise on aspects of the plan dealing with evacuation, escape, recovery, and search and rescue.

Xx It should also include pipeline owners, and operators and owners of other installations, as necessary to ensure that the emergency response plan reflects their agreement on the circumstances in which it may be necessary to shut down a pipeline as part of emergency

response and procedures to be followed.

Xx Dutyholders should also consult internally with those who will be affected by the plan, or need to play a part in it. In particular, safety representatives should be consulted (regulation 23(b) of OSRSCR).

84 The plan should cover the arrangements and procedures needed to respond to all reasonably foreseeable emergencies (ie it should set out who does what, when, where, how and to what effect, in the event of an emergency).

Xx It should describe both the offshore and onshore arrangements and ensure that they dovetail. It should reflect the arrangements made under regulation 6, and should cover all stages of the emergency from the time it is detected until it is over.

Xx The plan should indicate the point at which it should be initiated, and give guidance on the factors to consider in choosing particular courses of action, including the choice of external evacuation, rescue and recovery services in specific circumstances. It should be concise, readable, and in a format which can be used readily in real emergencies, as well as in training, exercises and drills.

85 The plan should be exercised and tested with sufficient frequency and depth so that it can be relied upon to work effectively in an emergency, taking into account the range of different people who may be involved in implementation. It should be monitored and reviewed in the light of exercises and tests, and of any practical experience gained from operating the plan in a real emergency, and remedial action identified and taken.

Regulation 9 Prevention of fire and explosion

Regulation

(1) The duty holder shall take appropriate measures with a *view to preventing fire and explosion, including such measures to—*

(a) ensure the safe production, processing, use, storage, handling, treatment, movement and other dealings with flammable and explosive substances;

(b) prevent the uncontrolled release of flammable or explosive substances;

(c) prevent the unwanted or unnecessary accumulation of combustible, flammable or explosive substances and atmospheres; and

(d) prevent the ignition of such substances and atmospheres.

(2) The measures to prevent ignition referred to in paragraph (1) *shall include—*

(a) identifying and designating areas in which there is a *risk of* a *flammable or explosive atmosphere occurring;*

(b) controlling the carrying on of hazardous activities in such areas;

(c) ensuring that, save under procedures pursuant to sub-paragraph (b) above, no plant is used in such areas unless suitable for use within them; and

(d) controlling the placing or use in such areas of electrical fixtures or other sources of ignition.

Guidance

87 This regulation requires the dutyholder to take appropriate measures to prevent fire and explosion. In general, the best way to achieve this is to eliminate the hazard by design. Where this is not practicable, prevention will need to be achieved in other ways (eg through design measures, engineering and procedural controls or management systems).

xx Regulation 9(1)(a)-(d) sets out some specific goals which the dutyholder must meet in order to prevent a fire and explosion. These only relate to the contribution such measures make to preventing fire and explosion, and are to be considered in the context of the overall requirement of regulation 9(1) to take appropriate measures with a view to preventing fire and explosion.

88 Good design is the most effective means of preventing fire and explosion. This involves addressing issues such as:

(a) the choice of process and production method to minimise the risk of fire and explosion;

(b) the need to minimise the frequency, rate and quantity of releases by, for example, reducing the number of release points and addressing causes of failure, and limiting the inventory available for release;

(c) the elimination, minimisation or control of all potential sources of ignition;

(d) optimising the plant layout.

89 Regulation 9(2) includes some specific measures which need to be taken to prevent ignition, including the classification of areas where there may be a risk of an accumulation of flammable or explosive atmospheres. But the specific measures set out in regulation 9(2) are without prejudice to any other measures which may be needed, in the light of the hazards, and the circumstances of the installation.

90 The regulation requires dutyholders to address fires and explosions from all sources (eg fires in accommodation areas and storage areas besides fires and explosions arising from loss of well control or from process plant). But the scope of the regulation does not prevent flammable or explosive atmospheres accumulating where they are permitted by design (eg within process plant).

Relationship with other Regulations

91 The assessment required by regulation 5 and the requirements of regulation 19(1) are relevant. Equipment provided and measures taken to comply with this regulation may also be used to facilitate compliance with others. For example, equipment used to prevent a fire may also have a role in controlling fires and explosions.

Xx The requirements of PUWER also apply to plant where this is work equipment for the purposes of those Regulations. Companies handling explosives offshore are also subject to the requirements of the Explosives Regulations 2014.

Xx The requirements for permits-to-work in regulation 10 of MAR are also relevant.

ACOP

92 Prevention measures for major accident hazards from fire and explosion should be based on the assessment required by regulation 5. This includes the designation of areas where there may be a particular risk that flammable and explosive atmospheres could accumulate.

93 In determining appropriate measures, dutyholders should take

account of the principles of risk control and hazard management set out in the ACOP text (see regulation 4). The most important principle is that prevention should be achieved by designing out the hazard or, where this cannot be done, reducing it by an appropriate combination of engineering measures and procedural or managerial controls.

94 Measures should be designed to achieve sufficient levels of reliability and availability to meet the demands placed upon them.

95 Measures to control activities which might lead to a release or ignition hazard should include adequate procedures and arrangements for control of:

(a) ignition sources, including those from mechanical operations and equipment, use of electrical equipment not designed for use in areas of flammable and explosive atmospheres and hot work (eg welding, flame-cutting);

(b) maintenance activities;

(c) modifications, start-up and shut-down of plant and equipment, storage, handling and use of flammable substances.

96 Personnel required to implement procedures should be competent to do so; adequate training, supervision and information about the hazards should be provided. Human and organisational factors issues should be identified and taken into account in the design of procedures and systems.

Regulation 10 Detection of incidents

Regulation

The duty holder shall take appropriate measures—

(a) with a view to detecting fire and other events which may require emergency response, including the provision of means for—

(i) detecting and recording accumulations of flammable or toxic gases; and

(ii) identifying leakages of flammable liquids; and

(b) with a view to enabling information regarding such incidents to be conveyed forthwith to places from which control action can be instigated.

Guidance

100 This paragraph explains a number of important terms used in the regulation:

- *detecting and recording accumulations of flammable or toxic gases* means that the dutyholder should take steps to ensure that flammable and toxic gas in a designated location identified by risk assessment is detected and that a record is kept of all instances where such gas is detected at or above a level which prompts automatic or manual executive action;
- *identifying leakages of flammable liquids* requires measures to identify those leakages which could reasonably be foreseen to give rise to an emergency. In some circumstances, these measures could be procedural (eg plant watch keeping tours). For incidents where a quick response is required detection equipment linked to automatic action might be necessary;
- *forthwith* in the context of regulation 10(b) means without delays that

would jeopardise the instigation of control action;

- *information regarding such incidents* refers only to information that needs to be conveyed to enable control action to be taken.

98 This regulation requires the dutyholder to take appropriate measures to detect emergencies. This means that detection measures need to be provided for the full range of reasonably foreseeable events which require emergency response.

Xx Regulation 10(a)(i) and (ii) contains some specific requirements for providing means of detecting and recording flammable and toxic gases and identifying leakages of flammable liquids. Other relevant reasonably foreseeable events may include the presence of asphyxiating atmospheres.

99 Detection arrangements will vary widely according to the type of incident to be detected, for example:

(a) particular vigilance will be needed where automatic detection is not available (eg during overside working where there may be a risk of a person falling overboard);

(b) use of radar by a stand by vessel or on an installation to detect an approaching vessel;

(c) systems relying substantially on responsible staff (eg monitoring of incoming helicopter flights; diving operations; supply vessel operations);

(d) automatic detection systems for fire, heat, smoke, flammable and toxic gas;

(e) suitable detection systems for asphyxiating atmospheres; and

(f) ballast control room inclinometers; mooring tension gauges; position monitoring systems.

Relationship with other Regulations

101 The assessment required by regulation 5 is relevant to measures for detecting major accident hazards.

Xx Detection measures need to be considered in conjunction with the communication arrangements required by regulation 11, control measures required by regulation 12 and, for fire and explosions, mitigation measures required by regulation 13.

Xx Regulation 19(1) provides for the suitability and maintenance of all detection plant provided under this regulation. In addition, the verification scheme requirements in SCR 2005 and SCR 2015 will apply as appropriate to plant provided for detecting fire and for detecting and recording accumulations of flammable gases and for detecting asphyxiating atmospheres.

ACOP

Xx Detection measures for major accident hazards should be based on the findings of the assessment required by regulation 5. The risk assessment made under MHSWR will also be relevant for non-major accident hazards.

Xx Detection systems should be appropriate for the range of incidents for which they may be needed. Detection systems should provide sufficient levels of availability and reliability to meet the demands placed on them.

xx Equipment should be appropriately located, taking account:

(a) the type of incident;

(b) how it may develop;

(c) the capacity of the equipment to respond and to relay the right information for effective control action to take place.

xx Detection measures should be automatic where this is reasonably practicable. Transmission of information from detection systems to the point at which control action is instigated should also be automatic where this is reasonably practicable.

Xx Where detection and relay of information cannot be done automatically, adequate arrangements should be in place to detect incidents and to instigate control action.

Xx Detection systems for fire and explosion hazards should be able to detect flammable and explosive atmospheres. They need to have sufficient sensitivity and be suitably located to detect and indicate foreseeable hazards.

Xx Detector alarm and action levels should be set so as to enable sufficient time to respond by implementing the internal emergency plan and minimise the potential for escalation through appropriate activation of protective and/or mitigation measures.

Xx Warning and automated action levels should be set at values that optimise system performance to reduce the risk of escalation. Gas detector alarm levels should be set at values as low as possible but above a value where system dynamics result in spurious indications and actions. Flame detection systems should only have voting if this does not delay emergency action on alarm (eg when multiple detectors are monitoring the same location or equipment). The same principles should be applied to foreseeable hazards of toxic, noxious or asphyxiating atmospheres.

Xx Appropriate measures include automatic systems which detect flammable and explosive atmospheres, and toxic gas and smoke where their presence presents a risk to people, or where there is non-automatic plant necessary for the safety of people. Such areas are likely to include:

(a) accommodation and work areas;

(b) control points;

(c) enclosed or partially enclosed routes to temporary refuge and to evacuation and escape points;

(d) evacuation and escape points.

Xx Dutyholders should establish effective contingency arrangements for circumstances when all or part of the detection system is not available because of maintenance or because of damage during an emergency. Detection systems should remain operational during the emergency to the extent necessary to do the job required of them.

Regulation 11 Communication

Regulation

(1) The duty holder shall make appropriate arrangements—

(a) for giving warning of an emergency, by audible and, where necessary, visual alarm systems, to all persons on the installation;

and

(b) for the purpose of emergency response, for communication between—

(i) persons on the installation;

(ii) the installation and persons not on it and engaged in activities in connection with it; and

(iii) the installation and persons beyond it;

and shall ensure that, so *far* as *is reasonably practicable, the arrangements ae capable of remaining effective in an emergency.*

(2) Subject to paragraph (3), *the duty holder shall ensure that—*

(a) an illuminated sign provided pursuant to paragraph (1)(a) is—

(i) in the case of a warning of toxic gas, a red flashing sign; and

(ii) in all other cases, a yellow flashing sign; and

(b) an acoustic signal provided pursuant to paragraph (1) (a) is—

(i) in the case of a warning to prepare for evacuation, a continuous signal of variable frequency;

(ii) in the case of a *warning of toxic gas, a continuous signal of a constant frequency; and*

(iii) in all other cases, an intermittent signal of a constant frequency

(3) Where an illuminated sign or acoustic signal is in lawful use immediately before the date of coming into force of these Regulations, but it does not meet the requirements of paragraph (2), it shall be sufficient compliance with that paragraph if a change to a sign or signal so complying is made before 20th December 1997.

Guidance

Xx This regulation requires the dutyholder to make appropriate arrangements for rapidly alerting all personnel on the installation that an emergency has occurred, or is occurring. The acoustic signal and colour of lights used for general platform, 'prepare to abandon' and toxic gas alarms are specified in the Regulations, which reflect the industry agreed standard. It is not necessary to provide a toxic gas alarm where there is no toxic gas hazard.

Xx On some installations lights may be used to provide information and warning in addition to the general platform, prepare to abandon and toxic gas alerts. The colours of these additional information and warning lights are not specified in this regulation. However, such lights – if their function is to give warning rather than information – may still be subject to the Health and Safety (Safety Signs and Signals) Regulations 1996 (SSR).

Xx In addition, dutyholders should ensure that there is no conflict or possibility of confusion between such lights and those provided in compliance with regulation 11(2)(a) for general platform, prepare to abandon and toxic gas alerts.

Xx The regulation requires arrangements for communications between

people on the installation for the purpose of emergency response. This would include those responsible for managing the emergency and those people with specific emergency duties. It also includes arrangements for communicating information to all personnel on the installation.

Xx The regulation also requires arrangements for communications with people engaged in activities in connection with the installation, such as diving, heavy lifts or supply vessel operations, and with those not on the installation who have a role in the emergency plan.

Xx Arrangements are needed to alert those people to an incident on the installation, and for them to communicate with personnel on the installation. This might include MCA, other installations, shore-based personnel and rescue and recovery services. Where the incident is likely to lead to an evacuation, the MCA should be alerted and the emergency response plan should provide for this.

Xx During an emergency communications have a vital role and the regulation therefore requires dutyholders to do what is reasonably practicable to ensure that the alarms and communications arrangements remain available.

Xx This means that dutyholders should consider not only the events for which alarms and communications might be necessary but also the impact of the various emergencies on the effectiveness of those arrangements. Where appropriate, contingency arrangements should be put in place.

Xx The effectiveness of communications in an emergency depends heavily on the ability of those who operate communications equipment. Dutyholders should ensure that such personnel are competent, and have clear procedures to follow.

Relationship with other Regulations

Xx This regulation should be considered alongside the following:

(a) regulation 6, which covers the preparatory arrangements for an emergency (eg the requirement for people with emergency duties to be competent);

(b) regulation 8, which requires such matters to be set out in the plan;

(c) regulation 14(4)(b), which covers procedures for mustering;

(d) the assessment required by regulation 5;

(e) regulation 19(1) which provides for the suitability and maintenance of all plant provided in compliance with regulation 11. Regulation 19, and the verification scheme requirements in SCR 2005 or SCR 2015, will apply for plant provided for giving warning of an emergency under regulation 11(1)(a).

Xx The SSR set out requirements for safety signs, including acoustic signals and illuminated signs for use in emergencies. SSR specify tones, colours and other matters. However, the tones of acoustic signals and the colours of the illuminated signs specified in PFEER regulation 11(2) will take precedence in respect of the signals and signs required under PFEER, regulation 11(1)(a).

ACOP

Xx Arrangements should be based on the findings of the assessment required by regulation 5 for major accident hazards and should take into account the findings of the risk assessment required by regulation 3 of MHSWR for non-major accident hazards.

Xx The alarm and communication systems provided should be appropriate for the range of reasonably foreseeable emergencies

identified by the dutyholder and capable of performing their function during the emergency. They should be capable of transmitting clear information to personnel wherever they are likely to be on the installation, taking account of the conditions likely to be encountered in an emergency.

Xx In areas where an acoustic alarm may not be audible above the ambient noise level, a visual alarm should also be provided to alert people in the area that an emergency message is being transmitted and to allow them to take appropriate action.

Xx Where the method of raising the alarm does not automatically initiate general visual or acoustic alarms, there should be clear procedures for instituting the appropriate alarm and conveying information to the relevant personnel.

Xx Dutyholders should ensure that everyone on the installation is aware of the meaning of different alarm signals, and this should be included in installation induction and refresher training.

Regulation 12 Control of emergencies

Regulation

The duty holder shall—

(a) take appropriate measures with a view to limiting the extent of an emergency, including such measures to combat fire and explosion; and

(b) shall ensure that—

(i) where appropriate, those measures include provision for the remote operation of plant; and

(ii) so far as is reasonably practicable, any arrangements made and plant provided pursuant to this regulation are capable of remaining effective in an emergency.

Guidance

Xx Regulation 12 covers all types of emergencies, including fire and explosion to which the regulation specifically refers. The purpose of the regulation is for dutyholders to have appropriate control measures to limit escalation of an emergency. Control measures may consist of structural measures, operational and management procedures, plant and equipment and their control systems.

Xx Control in the context of this regulation includes measures to monitor the extent of an emergency for the purpose of exercising managerial command and control.

Xx This paragraph explains a number of important terms used in the regulation:

(a) measures has the same meaning as in the guidance for the regulation 4 general duty. In the context of this regulation, measures for control purposes include plant, equipment and workplace procedures. Examples include:

(i) emergency shutdown systems;

(ii) ballast control systems;

(iii) vents and drains;

(iv) emergency response procedures (sending key personnel to determine

the appropriate actions);

(v) automatic isolation valves;

(vi) blowdown and flare systems;

(vii) portable fire-fighting equipment.

(b) remaining effective in an emergency, means that arrangements and plant should, so far as reasonably practicable, be capable of remaining operational in an emergency, for as long as they are needed to fulfil their functions, taking into account the conditions to which they may be exposed;

(c) remote operation in the context of this regulation refers to plant to control the hazard which is operable from a safe location.

Relationship with other Regulations

The SCR 2005 and SCR 2015 require the safety case to demonstrate that adequate facilities are provided within the temporary refuge for the monitoring and control of incidents involving explosion, fire, heat, smoke, toxic gases or fumes.

Xx Regulation 12 is a broader requirement for control measures for all types of emergencies. Control measures for major accident hazards should take account of the assessment required by regulation 5 of PFEER, and for non-major accident hazards the assessment required by regulation 3 of MHSWR.

Xx Equipment provided and measures taken in compliance with this regulation may also be used in compliance with others. For example, equipment used to control the extent of a fire may also have a role in preventing or mitigating fires and explosions.

Xx The requirements in regulation 6 for persons with emergency duties to be competent will apply to those who have to undertake control actions in an emergency. Plant provided under this regulation will be subject to regulation 19(1). Plant provided to combat fire and explosion will also be subject to the verification scheme requirements in SCR 2005 or SCR 2015.

Xx There are also specific requirements in respect of emergency shut-down valves in the Pipelines Safety Regulations 1996.

ACOP

Xx For major accident hazards, measures should be based on the assessment required by regulation 5. For non-major accident hazards, measures should be appropriate in terms of scale, duration, frequency and effectiveness.

Xx Equipment used to control the extent of an emergency should, so far as reasonably practicable, be designed on the principle that it does not fail to danger. The design of such equipment should take into account human factors – including ergonomic factors – with respect to its operation in an emergency.

Xx Plant used to limit the spread of fire should, where appropriate, be operable from a safe location.

Xx Appropriate measures to control the emergency should include suitably staffed control points which can be used safely, so far as reasonably practicable, for the period necessary to control the emergency.

Xx Control points will vary between installations and according to the nature of the incident. Some installations may provide a central control point, though local control points may be necessary depending on the

hazards, and the systems needed to control the hazards.

Xx Control points should be appropriately staffed, taking account of the type of installation, and the events for which control points are needed.

Xx For normally attended installations central control points should be staffed at all times.

Xx For normally unattended installations appropriate arrangements need to be made to ensure that necessary control action can be taken in an emergency to ensure an effective response. Personnel allocated to control points should be competent for the range of duties required of them.

Xx Measures should provide for the timely and effective shutdown of systems which could exacerbate an emergency, for example by providing a source of ignition for flammable releases or by escalating a fire and/or release of toxic gas or fumes. Emergency shutdown should be capable of initiation from the control point.

Regulation 13 Mitigation of fire and explosion

Regulation

The duty holder shall—

(a) take appropriate measures with a *view to protecting persons on the installation during an emergency from the effects of fire and explosion; and*

(b) ensure that, so far as *is reasonably practicable, any arrangements made and plant provided pursuant to this regulation are capable of remaining effective in an emergency*

Guidance

XX Regulation 13 requires the dutyholder to put in place measures that will mitigate the effects of fire and explosion (ie protect people on the installation from them). The dutyholder must take into account not just direct hazards to people, but also hazards to structures or plant upon which their safety depends. Measures include active and passive measures to mitigate the effects of fire and explosion.

XX This paragraph explains some of the important terms used in the regulation;

(a) measures has the same meaning as in the guidance for the regulation 4 general duty. In the context of this regulation measures may provide active or passive protection, and include plant, equipment, structures and workplace procedures. Examples of these include;

(i) temporary refuges;

(ii) deluge systems;

(iii) fixed extinguishing systems;

(iv) fire-resistant coatings;

(v) manual response equipment and procedures;

(vi) ventilation control systems; and

(vii) fire and blast walls.

(b) remaining effective in an emergency, means mitigation measures

should, so far as reasonably practicable, be capable of remaining operational in major accident conditions, for as long as they are needed to fulfil their functions, taking into account the conditions to which they may be exposed.

Relationship with other Regulations

Xx The assessment required by regulation 5, the requirements for plant in regulation 19 and the verification scheme requirements in SCR 2005 and SCR 2015 as appropriate, are relevant to this regulation. Equipment provided and action taken in compliance with this regulation may also be used in compliance with others. For example, equipment used to mitigate the effect of a fire or explosion may also have a role in controlling fires.

ACOP

Xx The measures selected for major accident hazards should be based on the assessment required by regulation 5. The roles of different measures should be considered in an integrated way so that the functioning of one measure does not prevent another from meeting its required performance standard.

Xx The measures taken should:

(a) be appropriate for the hazards;

(b) include provision of appropriate fire-fighting media and portable equipment;

(c) provide for automatic systems, or manual operation where this can be justified in the assessment;

(d) provide adequate levels of protection for key locations (e.g. temporary refuge and escape routes) and emergency systems where they have been identified as requiring protection.

Xx Fire and blast barriers should be capable of providing the insulation, stability, integrity and overpressure resistance identified as necessary for the period required to protect personnel, structures and plant. Dutyholders should identify from the assessment any conflicts between blast and fire protection measures and consider how to achieve the best balance between them.

Xx The objective of active systems should be to deliver the required quantities of the fire-fighting media within the required time to the required locations.

Xx In determining what portable equipment is to be provided dutyholders should take into account:

- **(a) the number and location of personnel on the installation;**
- **(b) the practicality of its effective use;**
- **(c) the hazards;**
- **(d) the availability of other systems.**

Xx For measures to remain effective in an emergency, dutyholders must consider suitable contingency arrangements, including operational arrangements and diversity and redundancy in protective systems.

Xx These should take into account the hazards, the role of the system in mitigating them and the consequences of its failure, where all or part of the main system may be unavailable; for example, due to damage

during an accident, or when equipment is undergoing maintenance.

Xx Dutyholders should also take into account any increased vulnerability to the system as a whole by the addition of redundancy. The temporary refuge survival time should be adequately defined and demonstrated through the development of suitable performance criteria, underpinned by testing where required. Such performance standards include, but are not limited to:

(a) the air change rate;

(b) fire resistance and concentrations of substances which could give rise to toxic atmospheres.

XX Where it is reasonably foreseeable that an event will compromise temporary refuge integrity within this time this must be clearly addressed by the emergency response plan.

Regulation 14 Muster areas etc.

Regulation

(1) The duty holder shall make appropriate provision for—

(a) areas for persons to muster safely in an emergency (in these Regulations referred to as "muster areas");

(b) safe egress from accommodation and work areas, and safe access to muster areas, temporary refuge, and evacuation and escape points; and

(c) safe evacuation and escape points.

(2) The duty holder shall ensure that the muster areas, egress, access and evacuation and escape points referred to in paragraph (1)—

(a) are kept unobstructed;

(b) are provided with adequate emergency lighting; and

(c) are marked by suitable signs,

and shall take appropriate measures to ensure that, so far as is reasonably practicable, the egress and access remain passable in an emergency

(3) The duty holder shall ensure that—

(a) doors for use in an emergency—

(i) open in the appropriate direction or, if this is not possible, are sliding doors; and

(ii) are not so fastened that they cannot readily be opened by any person who may require to use them in an emergency; and

(b) accommodation areas are provided at each level with at least two means of egress situated a proper distance apart.

(4) The duty holder shall—

(a) ensure that—

(i) each person on the installation is assigned to a muster area; and

(ii) for each muster area a list of names of persons assigned to it is kept up-to-date and displayed; and

(b) establish procedures—

(i) for mustering at such areas; and

(ii) for accounting for persons.

Guidance

Xx The regulation requires the dutyholder to make provision for personnel on the installation to assemble safely while the emergency is assessed and control action taken. It also requires the dutyholder to ensure personnel can safely access means for leaving the installation if necessary. This should include sufficient available routes so that people can safely get to:

(a) muster areas and temporary refuge from wherever they are likely to be on the installation;

(b) evacuation and escape points from the muster areas and temporary refuge.

Xx Everyone on the installation should be assigned to a muster area and know where it is. The regulation also requires the dutyholder to put in place procedures for accounting for personnel. This should cover both the circumstances where personnel have the opportunity to muster, and where immediate evacuation is required.

Xx The access and egress routes, muster areas and evacuation and escape points required by the regulation should be clearly identifiable, with adequate emergency lighting so that they may still be used if normal lighting fails.

Xx In determining what constitutes a proper distance apart to comply with regulation 14(3)(b) dutyholders should take into account:

(a) the risks to personnel;

(b) the need to ensure that in the event of an incident at least one exit leading to a safe access or egress route remains available.

Relationship with other Regulations

Xx This regulation should be considered in conjunction with Schedules 1-3 of SCR 2005 and Schedules 5-7 of SCR 2015, which specify that safety cases include particulars of temporary refuge and associated facilities for protecting persons on the installation from hazards of explosion, fire, heat, smoke, toxic gases or fumes.

Xx Under regulation 14 dutyholders will also need to consider providing muster areas in addition to temporary refuge. These are to deal with those identified emergencies for which the temporary refuge may not be relevant (eg structural failure or loss of stability).

Xx It should also be considered in conjunction with the requirements of regulations 15 and 16 for arrangements for evacuation and escape, and the requirements in regulation 18 and PPEWR for personal protective equipment for use in an emergency.

Xx The muster arrangements required by regulation 14(4) should be developed in conjunction with the arrangements required by regulation 6 and should be reflected in the plan required by regulation 8.

Xx The communications facilities at muster points should be developed in conjunction with other communications arrangements provided to comply with regulation 11. Regulation 19(1) also applies to any plant provided in compliance with regulation 14.

ACOP

Xx Muster points should remain usable, and access and egress routes passable for the time required to safeguard personnel, based on the scenarios identified in the assessment and the emergency response plan. This may be achieved by various means but protecting routes should be given priority over providing personal protective equipment, which should be regarded as a last resort.

Xx Muster areas need to be clearly identified, protected from the immediate effects of the emergency, and provided with appropriate communications facilities so that information can be passed on about the emergency's progress and further action may be taken where necessary.

Xx Adequate emergency lighting should include, where appropriate, floor-level illumination and direction of escape indicators.

Xx Personnel should be given appropriate information about the location of their muster station, including alternatives, and arrangements for mustering, as soon as they arrive on the installation. This should be part of the arrangements to comply with regulation 6 (see ACOP for regulation 6).

Regulation 15 Arrangements for evacuation

Regulation

The duty holder shall ensure that such arrangements are made which include, to the extent necessary—

(a) the provision of plant on the installation; and

(b) such arrangements with suitable persons beyond the installation,

as *will ensure, so far as is reasonably practicable, the safe evacuation of all persons and their being taken to a place of safety, or to a place from which they can be recovered and taken to a place of safety under arrangements made pursuant to regulation 17.*

Guidance

Xx This regulation requires the dutyholder to make suitable arrangements for all personnel to leave the installation safely in the event of an emergency which requires evacuation, and to be taken to a place of safety.

Xx It covers the means of evacuation which the dutyholder may provide on the installation, such as TEMPSC, and the arrangements the dutyholder may make with others off the installation, such as helicopter operators.

Xx The regulation is phrased in terms that dutyholders have to ensure that arrangements are made. This recognises that dutyholders may be dependent on the actions of others to achieve safe evacuation (eg search and rescue services). Dutyholders themselves are not therefore required to take all the actions needed during an evacuation; but rather to ensure arrangements are made for actions to be taken, as necessary, by others.

Xx Arrangements made should be agreed between the parties involved and documented, for example in the assessment and emergency response plan.

Xx For non-production installations the practice has been for operators to contribute to the arrangements for evacuation, recovery and rescue. The regulation is worded to allow for this; the duty is to 'ensure' that the arrangements have been made, and this would include an arrangement

whereby the owner of the non-production installation had agreed that the relevant operator would make the arrangements. The duty of co-operation in MAR is relevant here (see Appendix 2).

This paragraph explains some important terms used in the regulation:

(a) evacuation is defined in regulation 2; means of evacuation may include helicopters, direct sea transfer, bridge-links, and TEMPSC;

(b) place of safety means an onshore or safe offshore location or vessel where medical treatment and other facilities for the care of survivors are available.

Relationship with other Regulations

Xx The arrangements required by this regulation should take into account the findings of the assessment required by regulation 5. Where the arrangements depend on the co-operation of others, the duty of co-operation in regulation 8 of MAR is relevant; guidance on this is given in Appendix 2.

Xx The evacuation arrangements should to be covered in the emergency response plan required by regulation 8. Regulation 19 will apply to plant provided in compliance with regulation 15. Regulation 20 is also relevant.

ACOP

Xx Dutyholders should select means of evacuation on the basis of their contribution to reducing the risks of those who might have to use them to as low as reasonably practicable.

Xx When making arrangements for evacuation dutyholders should identify and take into account any constraints on their use by weather conditions, the nature and location of the emergency and the time available to evacuate. There are a number of means of evacuation and the preferred one should be the normal means of getting people to and from the installation, unless the emergency, or the circumstances in which it takes place, makes this impracticable.

Xx Alternative means of evacuation should be provided to take account of scenarios where the normal means of getting people to and from the installation could not operate because of:

(a) the nature of the incident;

(b) environmental or weather conditions;

(c) insufficient capacity to evacuate everyone in the time available.

Xx Dutyholders should ensure that the preferred and alternative means provide sufficient capacity to enable all people to evacuate the installation to a place of safety in reasonably foreseeable emergencies.

Xx In most cases, alternative means would be means of evacuation by sea provided by TEMPSC. In these circumstances, there should be sufficient TEMPSC places for ~~at least~~ 150% of the people on board, unless an alternative standard is justified, or called for on the basis of the assessment required by regulation 5.

Xx Means of evacuation by sea should be suitably located so as to be readily accessible to all people on board from temporary refuge. TEMPSC provided in compliance with this regulation should be easy to deploy, reliable in launch, and able to get away quickly from the installation. Where it is reasonably practicable to do so, TEMPSC should be oriented away from the installation on completion of launch.

Xx As part of the regulation 5 assessment, consideration should be given to, amongst other matters, the following:

(a) TEMPSC availability in areas where personnel are likely to congregate or be trapped in an emergency;

(b) the impact on TEMPSC provision and viability of the TEMPSC launching locations where, on occasions, changes of trim and list may become a factor;

(c) the need to evacuate possible stretcher-bound casualties and the associated space required.

XX The assessment should also consider the need for additional TEMPSCs, including their location and distribution on the installation to, mitigate degraded availability arising due to:

(a) events identified from the assessment which could give rise to a major accident or the need (whether or not by reason of fire and explosion) for evacuation;

(b) foreseeable reliability, maintenance or the need for defect repair;

(c) weather or sea conditions that may render a launch unachievable from a specific location(s).

XX Where large-capacity TEMPSCs are used, it is important to consider if additional TEMPSCs may also be required to ensure loading of personnel can be achieved within the appropriate performance standard established in the regulation 5 assessment.

Xx In certain circumstances, justified in the assessment required by regulation 5, it may only be reasonably practicable to rely on one evacuation system. In these circumstances dutyholders should make arrangements for the preferred means of evacuation to remain available while personnel are on the installation. ~~Where the nature of the incident makes that impracticable, d~~Dutyholders ~~sh~~would still have to provide ~~ensure that their~~ means of escape to ensure, so far as is reasonably practicable, the safe escape of all people requiring it in the event of the single evacuation system failing.~~arrangements for escape do not put personnel at more risk than they would have been had an alternative means of evacuation by sea been available.~~

Regulation 16 Means of escape

Regulation

The duty holder shall provide such means as will ensure, so far as is reasonably practicable, the safe escape of all persons from the installation in case arrangements for evacuation fail.

Guidance

Xx Regulation requires the dutyholder to provide means of escape so that people may escape from the installation if the evacuation system fails in a catastrophic incident when a planned and orderly evacuation cannot be achieved.

Xx This paragraph explains some of the terms relevant to the regulation:

(a) escape means the process of leaving the installation in an emergency when the evacuation system has failed; it may involve entering the sea directly and is a 'last resort' method of getting people off the installation;

(b) means of escape covers items that help descent to the sea, such as davit-launched life-rafts, chute systems, ladders, and individually controlled descent devices; and items in which personnel can float on reaching the sea, such as throw-over life-rafts;

~~*(c) so far as is reasonably practicable* here qualifies the requirement for safe escape rather than the number of persons for whom provision should be made, that is, provision should be made for all persons to escape, so far as~~

~~is practicable, safely. This is especially important given that the consequences for personnel may be fatal if there are no means of evacuation and no means of escape.~~

Relationship with other Regulations

Xx The provision of means of escape required by this regulation should be based on the findings of the assessment required by regulation 5, so that the means selected for escape take into account the hazards that may be present.

Xx The escape arrangements should be set out in the emergency response plan required by regulation 8.

Xx Training requirements are set out in regulation 6.

Xx Other requirements relevant to the suitability and maintenance of means of escape are in regulations 19 and 20, in addition to the verification scheme requirements in SCR 2005 or SCR 2015 as appropriate.

ACOP

Xx Dutyholders should select means of escape on the basis of their contribution to reducing the risks of those who may have to escape from the installation to as low as reasonably practicable.

Xx This means that dutyholders should give preference to means which offer some protection from the elements and avoid the need to enter the sea directly. In addition, sufficient means of descent to the sea should be provided on all installations, including fixed ladders, stairways or personal devices for controlled descent where reasonably practicable.

Xx The dutyholder should provide enough means of escape to ensure that they are available for personnel who may have to use them, which may be all personnel. Dutyholders should also ensure that means of escape and any protective clothing provided for use in an emergency are compatible.

Regulation 17 Arrangements for recovery and rescue

Regulation

The duty holder shall ensure that effective arrangements are made, which [shall] include such arrangements with suitable persons beyond the installation, for—

(a) recovery of persons following their evacuation or escape from the installation; and

(b) rescue of persons near the installation; and

(c) taking such persons to a place of safety,

and for the purposes of this regulation arrangements shall be regarded as being effective if they secure a good prospect of those persons being recovered, rescued, and taken to a place of safety.

Guidance

Xx Regulation 17 requires dutyholders to make effective arrangements to enable people who have to evacuate or to escape from the installation to be recovered or rescued and taken to a place of safety.

xxThe regulation also requires arrangements to be made to rescue people from the sea near the installation, such as people falling overboard, or a helicopter ditching on landing or take-off.

Xx The scope of the regulation covers incidents involving one person as well as those involving multiple people. Where there are combined operations, it is for the dutyholders to agree formally who makes the arrangements

required by this regulation.

Xx This paragraph explains some of the key terms used in this regulation:

(a) recovery and *rescue* arrangements are:

(i) facilities and services external to the installation, such as vessels, public sector and commercially provided search and rescue facilities;

(ii) facilities on the installation such as installation-based fast rescue craft;

(b) good prospect of … being recovered, rescued, and taken to a place of safety means arrangements designed to give a good probability (in all but the most severe storm conditions and sea states) of rescuing, recovering and taking to a place of safety people who have to evacuate or escape from an installation, or who fall overboard or are involved in a helicopter ditching on take-off or landing;

(c) place of safety means an onshore or safe offshore location or vessel where medical treatment and other facilities for the care of survivors is available (as with the same term in regulation 15).

Xx The term 'reasonably foreseeable' is used in the ACOP. This would include, for example, a catastrophic failure, a ship collision, a helicopter ditching near the installation, and a person falling from the installation during overside working. It would not, for example, include such things as a jumbo jet crashing into the installation.

Relationship with other Regulations

Xx Regulation 8 requires dutyholders to consult appropriate organisations in drawing up their emergency plan. The regulation 8 guidance and ACOP provide information on consultation with organisations which may be involved in recovery and rescue.

Xx Regulation 8 of MAR requires all personnel to co-operate with dutyholders to enable them to discharge their responsibilities. Additional guidance is given in Appendix 2 of this publication. Those involved in arrangements for recovery and rescue agreed with the dutyholder will be covered by this duty. This may involve providing information reasonably requested by the dutyholder on, for example, operating limits, capacity, time and availability constraints on recovery and rescue services.

Xx The dutyholder should take account of the findings of the assessment required by regulation 5 in respect of major accident hazards requiring evacuation, escape or rescue. It will not, however, be sufficient to aggregate all risks as a basis for arguing for arrangements which do not meet the requirements of the regulation. The assessment therefore needs to consider the effectiveness of the arrangements in their own right.

Xx The performance standards required by regulation 5 are particularly appropriate for recovery and rescue arrangements. For non-major accident hazards (particularly person overboard incidents) the assessment required by regulation 3 of MHSWR should be used to determine what needs to be done to achieve the objective of the regulation, and the necessary arrangements put in place.

ACOP

Xx Effective arrangements should be capable of securing a good prospect that persons evacuating or escaping from the installation, or who fall overboard, or who are in a helicopter which ditches near the installation on landing or take-off, being recovered or rescued and taken to a place of safety.

Xx Performance standards should be set to achieve this for the weather and sea conditions likely to be encountered. However, it should be recognised that there is a possibility of exceptional conditions in which normal emergency response arrangements may no longer be effective. Dutyholders should, therefore, define such exceptional conditions and the measures to be taken in them to reduce the likelihood of an event which requires evacuation, escape and rescue.

Xx The arrangements for recovery and rescue should take into account:

(a) the numbers of personnel who may need to be recovered or rescued;

(b) the capacity of the recovery and rescue services, including realistic response times;

(c) possible restrictions on availability, including distance; operating limits of helicopters, vessels and fast rescue craft; sea states and weather conditions; and any consequential limitations on operational activities;

(d) the need to cover all stages of the recovery and rescue operation, including proper provision for personnel, both direct and contract employees, once they have reached a place of safety;

(e) the nature, time of day and duration of work activities being carried out.

Xx Recovery and rescue arrangements should be appropriate to cope with all reasonably foreseeable events likely to lead to the need for evacuation, escape or rescue.

Xx Dutyholders should consider the relative merits of recovery and rescue arrangements, taking into account:

(a) the risks faced by the person once they have entered the water;

(b) the risks to those carrying out recovery and rescue activities;

(c) the inherent risks in such activities.

Xx Some installations may need a combination both of recovery and rescue arrangements. In their regulation 5 assessment, dutyholders should include a justification for their choice of arrangements. This should demonstrate the effectiveness of those arrangements for securing the survival of persons in the water, including, in particular, a realistic time of response.

Xx There are many circumstances for which only a suitable vessel standing by will provide effective arrangements and, in these circumstances, such a vessel will need to be provided. The vessel should meet the following minimum criteria in all but exceptional weather and sea conditions:

(a) it should be highly manoeuvrable and able to maintain its position;

(b) the areas where survivors are brought on board (ie the rescue areas) and the fast rescue craft (FRC) launch area should be in full view from the bridge. The Master should be able to approach a person or object in the water (within the vessel's direct rescue capability) while retaining control of the vessel;

(c) it should have at least two 360° searchlights capable of being remotely controlled;

(d) it should have at least two suitable power-driven FRCs kept ready for immediate use;

(e) the FRCs should be equipped with adequate means of communicating with the vessel by VHF radio, and carry an adequate portable searchlight;

(f) it should have the means of rapidly and safely launching and recovering the FRCs;

(g) it should have adequate means of communication by radio with its support craft, the installation, nearby vessels, helicopters and the shore;

(h) it should have at least two effective methods of retrieving survivors from the sea, including those who may be incapacitated, and medical facilities for the immediate care of survivors;

(i) it (and its support craft) should be staffed by an adequate number of competent, medically fit crew. The crew should be competent in recovery and rescue activities and first aid. Work patterns should ensure they are ready to carry out their full range of duties whenever required.

Xx The dutyholder's assessment as required by regulation 5 may identify the need for further criteria to be met in addition to these minimum criteria.

Xx Where a vessel is provided it should be maintained, so far as is reasonable, in a position from which it can be best used for the recovery and rescue functions required of it, taking account of the nature and time of day of work activities – such as overside working – being carried out. Such vessels may be shared between installations provided that this does not compromise the object of securing a good prospect of recovery and rescue.

Regulation 18 Suitability of personal protective equipment for use in an emergency

Regulation

(1) In relation to personal protective equipment which protects a person in an emergency against risks to his health and safety -

(a) in conditions of fire, heat, smoke, fumes or toxic gas; or

(b) in the event of his immersion in the sea,

the duty holder shall, for the purposes of the Personal Protective Equipment at Work Regulations 1992(a), be treated as the only employer of all persons on the installation, and such persons shall be treated as only employed by him.

(2) The duty holder shall ensure that there is prepared and operated a written scheme for the systematic examination and, where appropriate, testing, by a competent person, of the equipment referred to in paragraph (1) and for recording the results thereof.

Guidance

Xx The effect of this regulation is to make the owner or operator of an offshore installation responsible, in relation to everyone on the installation,

for the personal protective equipment required by PPEWR for use in an emergency. This does not include clothes or equipment provided for normal working activities, which remain the responsibility of the employer.

Xx Personal protective equipment for use in an emergency should always be considered as a risk control measure of last resort, when the risk cannot be adequately controlled by other means.

Xx The regulation also requires the dutyholder to establish a written scheme for the systematic examination and, where appropriate, testing by a competent person of the personal protective equipment for use in an emergency. Records of the results of the examinations must be kept.

Xx The written scheme should specify which equipment is to be covered and the nature and frequency of examinations, and tests where appropriate. This should take into account;

(a) what the equipment may be needed for;'

(b) the performance standards set for availability and reliability;

(c) the effect on the equipment of conditions on the installation.

Xx Examinations should also verify the location of equipment against plans. Examination and testing arrangements should be reviewed and modified as appropriate, taking into account the findings of the examination. The written scheme may be recorded electronically.

Xx This paragraph explains two of the terms used in this regulation:

(a) personal protective equipment for use in an emergency covers equipment such as survival suits, life-jackets and smoke hoods. The written scheme of examination and testing should specify which equipment is to be covered;

(b) competent in the context of this regulation includes having sufficient expertise in the equipment being examined and tested, and in its intended use. This competence may be available in-house or through a suitably qualified external person or organisation.

Relationship with other Regulations

Xx The regulation modifies the application of the PPEWR Regulations, in so far as they relate to personal protective equipment for use in an emergency. It provides that the dutyholder for the PFEER Regulations, rather than the employer, is responsible for providing personal protective equipment for use in an emergency for people on the installation.

Xx Other duties under PPEWR (eg to ensure the suitability of equipment, maintenance and training in use) regarding personal protective equipment for use in an emergency likewise fall on the operator or owner for that equipment. But this does not affect the employer's responsibility under PPEWR in respect of other types of personal protective equipment.

Xx The requirements for the written scheme in regulation 18(2) are in addition to the requirements of PPEWR. The ACOP text below covers complying with PPEWR in respect of personal protective equipment for use in an emergency.

ACOP

Xx Provision of personal protective equipment for use in major accident hazards should be based on the findings of the assessment required by regulation 5, and for non-major accident hazards on the assessment required by regulation 3 of MHSWR. It should be suitable for:

(a) the circumstances in which it may have to be used;

(b) the individuals who may have to use it.

Xx Provision of personal protective equipment for use in an emergency should include:

(a) personal protective equipment for everyone on the installation for use in conditions of fire, heat, gas escape, or smoke, to enable them to reach muster areas, temporary refuge, evacuation or escape points. This should include a smoke hood, portable light source and heat proof gloves located in the accommodation for every individual, with additional equipment at appropriate locations on the installation;

(b) appropriate personal protective equipment for use by those with specific emergency duties;

(c) life-jackets (suitable to the mode of evacuation) and survival suits for all people on the installation who may require them to maximise their chance of survival in the sea, located in the accommodation (or at another location where the assessment required by regulation 5 shows it to be more appropriate);

(d) sufficient further life-jackets and survival suits at other suitable locations so that all people will have ready access to them in the event of evacuation or escape.

Regulation 19 Suitability and condition of plant

Regulation

(1) The duty holder shall ensure that all plant on the installation provided in compliance with these Regulations (other than aircraft, or equipment to which regulation 18 applies)—

(a) is so constructed or adapted as to be suitable for the purpose for which it is used or provided; and

(b) is maintained in an efficient state, in efficient working order and in good repair.

Guidance

Xx This regulation requires the dutyholder to ensure that plant provided on the installation to meet the requirements of these Regulations is suitable for its purpose and is maintained effectively. This regulation should be considered in conjunction with regulations 19 and 20 of SCR 2005, when operations are within internal waters, or regulations 9 and 10 of SCR 2015, when operations take place in external waters, and their associated guides (L30 and L154). These regulations specify the requirements for verification schemes.

Xx Plant includes machinery, equipment or appliances. It does not cover structural items, or helicopters, which may be used as a means of evacuation, or stand-by vessels. In addition, the regulation does not apply to equipment within the scope of regulation 18.

Xx Maintaining plant in an efficient state, in efficient working order and in good repair, as is required by regulation 19(1)(b), relates only to health and safety matters; it does not cover productivity. It sets the goal to be achieved rather than prescribing how it should be carried out. Dutyholders will need effective maintenance and associated inspection examination and testing programmes to meet this goal.

Relationship with other Regulations

Xx Plant provided to comply with regulations 4, 7 and 9-17 must also meet the requirements of this regulation.

Xx Regulations 5 and 6(1) of PUWER set out general requirements on employers to ensure that work equipment is suitable and maintained properly. The definition of work equipment in PUWER is wide-ranging, but does not cover permanently installed systems such as fire detection systems, mitigation systems such as sprinklers or life-saving appliances.

Xx Regulation 19(1) requires that plant used to manage fire and explosion hazards, or for emergency response, is suitable for its purpose and maintained. The duty is placed on the operator and owner because they are best placed to achieve this. Compliance with regulation 19(1) will contribute towards compliance with regulation 5 and 6(1) of PUWER where appropriate.

Xx SCR 2005 introduced a requirement for written verification schemes for safety-critical equipment (SCE) of offshore installations. This has been extended to cover safety and environmental-critical elements (SECE) in SCR 2015. SCEs or SECEs may include plant subject to regulation 19.

ACOP

Xx Regulation 19(1)(a) requires plant to be suitable, by design, construction or adaptation, for the actual work it is provided to do. Performance standards, determined in the assessment required by regulation 5, should be the basis for assessing that plant required to deal with major accident hazards is suitable for its purpose.

Xx The following approaches might contribute to ensuring the initial suitability of plant:

(a) design, construction or adaptation by reference to appropriate, relevant standards. These may be international or national standards recognised by an appropriate standards-making body; appropriate industry recognised standards, or appropriate company standards;

(b) where relevant standards do not exist, ensuring that the scheme of examination includes scrutiny to ensure that plant and equipment chosen is fit for its purpose (eg through design review, testing, assessment of operational experience in similar situations); or

(c) a combination of these approaches. For example, a dutyholder may wish to use an existing standard in a novel situation. In these circumstances, the use of that standard should be checked as suitable.

Regulation 20 Life-saving appliances

Regulation

The duty holder shall ensure that survival craft, life-rafts, life-buoys, life-jackets and plant for like purposes—

(a) are of such colour as *will make them conspicuous when in use;*

(b) are (where applicable) suitably equipped; and

(c) are kept available for immediate use in sufficient numbers.

Guidance

Xx This regulation sets out the criteria to which life-saving appliances must conform. They must be of a colour that can be easily spotted in the sea. They should be adequately equipped for their purpose which may include, where appropriate, communications equipment and medical equipment, and devices to enable them to be tracked effectively once they are in the sea. Dutyholders should also consider what provision should be made in survival craft and life-rafts for those who might have been injured in an incident.

Xx The regulation does not mean that all life-saving appliances must be available at all times. They may have to be taken out of service for routine preventive maintenance and inspection etc. This is allowed under the regulation provided that it does not compromise the arrangements made for

evacuation and escape in reasonably foreseeable emergencies (ie where people on the installation have to evacuate or escape from the installation, or where life-saving appliances are needed to assist a person who has fallen from the installation).

Relationship with other Regulations

Xx Life-saving appliances may be provided under regulation 15 (TEMPSC), regulation 16 (life-rafts) or PPEWR (life-jackets). Guidance on life-saving appliances in the context of their role in evacuation and escape is set out in regulation 15 and 16 ACOP text. Regulations 18 and 19 also deal with aspects of suitability and maintenance.

Regulation 21 Information regarding plant

Regulation

The duty holder shall ensure that information, giving the location of—

(a) areas in which there is a risk of a flammable or explosive atmosphere occurring;

(b) non-automatic plant for fighting fire; and

(c) plant to which regulations 18(1) and 20 apply (other than plant issued to particular persons),

is available to all persons on the installation.

Guidance

Xx The regulation requires dutyholders to ensure that information is available to every person on the installation about the location of manual fire-fighting equipment (referred to in the regulation as non-automatic plant), life-saving appliances, and personal protective equipment for use in an emergency (other than that issued to individuals), in order to help personnel to locate them quickly in an emergency.

Xx The regulation also requires people on the installation to be informed about the location of areas where a flammable or explosive atmosphere may occur. This may be provided in a number of ways (eg display of plans, electronic media, written information and signs).

Relationship with other Regulations

Xx Regulation 9(2)(a) requires the identification and designation of areas where there is a risk of a flammable or explosive atmosphere occurring. Training and practice requirements for possible emergencies are set out in regulations 6 and 8.

Regulation 22 Certificates of exemption

Regulation

(1) Subject to paragraph (2) and to any of the provisions imposed by the [European Union] in respect of the encouragement of improvements in the safety and health of workers at work,[or by Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC], the Executive may, by a certificate in writing, exempt any person, installation or class of persons or installations from any requirement or prohibition imposed by these Regulations and any such exemption may be granted subject to conditions and with or without limit of time and may be revoked by a certificate in writing at any time.

(2) The Executive shall not grant any such exemption unless, having regard to the circumstances of the case and, in particular, to—

(a) the conditions, if any, which it proposes to attach to the exemption; and

(b) any other requirements imposed by or under any enactments which apply to the case,

it is satisfied that the health and safety of persons who are likely to be affected by the exemption will not be prejudiced in consequence of it.

Guidance

Xx The PFEER Regulations are goal-setting and require dutyholders to take appropriate measures; such measures will take into account the circumstances of the installation. However, there may be circumstances where it is necessary to apply the Regulations flexibly. The exemption provision in this regulation provides that flexibility.

Xx Under regulation 22, HSE must not grant an exemption unless satisfied that the health and safety of people who are likely to be affected will not be prejudiced by it. The regulation also means that HSE may not grant exemptions conflicting with the provisions of the Directive 92/91/EEC concerning the minimum requirements for improving the safety and health protection of workers in the mineral extracting industries through drilling or Directive 2013/30/EU on the safety of offshore oil and gas operations and amending Directive 2004/35/EC.

xx When applying for an exemption, any compensatory measures which will be taken to maintain standards of health and safety should be described, including any additional management controls. HSE will consult representatives of the workforce (through the statutory safety committee where practicable) before agreeing to proposals for exemption.

HSE may grant exemptions subject to conditions and exemption may be given for a limited period to cover short-term arrangements.

XX The SCR 2015 have introduced the following new regulations to PFEER. They are only relevant to oil and gas operations undertaken within external waters.

Regulation 22A. Inventory of equipment etc.

***[22A.**—(1) This regulation applies only in relation to external waters.*

(2) The duty holder must prepare an inventory of available equipment, its ownership, location, transport to and mode of deployment at the installation and any person relevant to the performance of the duties in these Regulations (except the duties in regulations 5, 9, 10, 12, 13, 14, 18, 19 and 20).]

(Guidance text)

Xx An inventory of emergency response equipment relevant to the execution of internal emergency response duties (see regulation 30(14)), including equipment available for use in an evacuation must be prepared.

Xx It is intended that this information be available to the MCA, along with further information on oil spill response equipment obtained under the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention)(Amendment) Regulations 2015 (OPRC 2015) to form an overview of emergency response equipment available for use in the event of a large scale incident within external waters.

Xx Examples of equipment for inclusion on the inventory required under these Regulations include:

a) TEMPSC – number and kind;

b) life rafts;

c) external communication systems;

d) personal devices for controlled descent;

e) alternative descent mechanisms;

f) contracted stand-by vessel provision including access to fast rescue craft;

g) evacuation, rescue and recovery services including those contracted.

[(3) The inventory prepared under paragraph (2) must identify measures in place to ensure equipment and procedures are maintained in operable condition.]

(Guidance text)

Xx These measures should include inspection, maintenance and where appropriate, verification arrangements in place to ensure both equipment and associated procedures remain suitable and in operable condition. This should also include audit arrangements to ensure the element of the management system relating to these arrangements remains effective.

[(4) The duty holder must ensure all equipment on the installation provided in compliance with paragraph (1) is made available at all times and made available as necessary to the Maritime and Coastguard Agency.]

Regulation 22B. Initiation and direction of emergency response, and liaison with external response authorities

***[22B.**—(1) This regulation applies only in relation to external waters.*

(2) The duty holder must authorise one or more persons—

(a) to initiate an emergency response;

(b) to direct an emergency response; and

(c) to liaise with the Maritime and Coastguard Agency.]

(Guidance text)

Xx Installation emergency response procedures should ensure the above activities are allocated named positions in the event of an incident. In practice, this will likely be the offshore installation manager, members of the emergency response team and may include members of the dutyholder's onshore emergency response team. Those appointed to such role(s) must be fully aware of their responsibilities and capable of performing them. Consideration should be given to onshore emergency response arrangements to ensure no conflict arises. Compliance with PFEER regulation 6 (Preparing for emergencies) and regulation 8 (Emergency response plan) will assist dutyholders in complying with this requirement.

Regulation 22C. Arrangements for early warning of major accidents

***[22C.**—(1) This regulation applies only in relation to external waters.*

(2) The duty holder must make arrangements—

(a) for providing early warning of a major accident to the Maritime and Coastguard Agency; and

(b) for providing more detailed information about such an accident as soon as it becomes available,

but nothing in this paragraph is to be taken as imposing a requirement which is imposed by regulation 4(3)(c) and paragraph 11 of Schedule 2 to the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998 (arrangements for early warning of major environmental incidents)]

(Guidance text)

Xx Further to the responsibilities above it should be clear to the post holder when these actions are to be taken. Although emergency response procedures should give guidance on this action it is conceivable that scenarios will arise that fall outwith those detailed in the procedures. For that reason a combination of emergency response procedures and information, instruction and training should enable an accurate decision on when to notify the MCA.

Regulation 23 Amendment of the Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989

Regulation

Regulation 23(2)(c) of the Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989(a) shall be amended—

(a) by deleting the word "and" after paragraph (ii); and

(b) by adding the following paragraph:

"and (iv) the arrangements for the appointment of persons referred to in regulation 6(1) of the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995".

Guidance

Regulation 6 guidance explains the effect of this amendment to OSRSCR. Further guidance on amendments made to OSRSCR is contained in the guidance to MAR, regulation 23 (the latter also amends OSRSCR).

Regulation 24 Amendment of the Offshore Installations (Safety Case) Regulations 1992

Guidance

XX This regulation made amendments to the Offshore Installations (Safety Case) Regulations 1992 and was revoked when those regulations were revoked.

Regulation 25 Revocation

Regulation

The instruments specified in column 1 of the Schedule hereto are hereby revoked to the extent specified in column 3 of the Schedule.

(Guidance text)

XX This provision has done what it was drafted to do, in that it revoked various provisions which were no longer necessary.

Appendix 1

Notice of Approval

By virtue of section 16(4) of the Health and Safety at Work etc Act 1974, and with the consent of the Secretary of State for Work and Pensions, the Health and Safety Executive has on ** / *** / 2015 approved the revised Code of Practice entitled *Prevention of fire and explosion, and emergency response on offshore installations* (3rd edition, 2015, L65).

The revised Code of Practice gives practical guidance on the requirements of the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995 (SI1995/743). The Code of Practice comes into effect on **

This revised edition replaces the previous edition entitled *Prevention of fire and explosion, and emergency response on offshore installations* (2nd edition), which came into effect on 1st June 1997.

Signed

TERESA QUINN

Secretary to the Board of the Health and Safety Executive

** / *** / 2015

Appendix 2 - Co-operation: regulation 8 of the Management and Administration Regulations

Guidance

What the regulation means for emergency response

1. Regulation 8 of MAR places a duty on every person to co-operate with the operator or owner of the installation so far as is necessary to enable them to fulfil all their legal responsibilities. This will include those parties who have made arrangements with the duty holder to cover emergency response. This would include, for example:

(a) operators and owners of other installations, or pipeline owners, where it may be necessary to activate procedures to shut down pipelines or to receive personnel;

(b) providers of commercial helicopter and vessel services, where these had been contracted to provide, respectively, evacuation or recovery and rescue facilities;

(c) parties working in connection with the installation, such as supply vessels or diving contractors, who need to be covered by the arrangements in the emergency response plan;

(d) employers (other than the operator or owner) of persons working on the installation;

(e) persons on the installation.

2 Dutyholders should ensure that those elements of the emergency arrangements which require the co-operation of others are agreed with them, and that they are informed about the action they need to take in an emergency. This should include changes to the emergency response arrangements.

3 Different employers – including other dutyholders under the Regulations – who have employees working in connected activities, or in a combined operation, should co-operate with the dutyholder and with each other so that emergency response arrangements can be properly co-ordinated.

4 This should ensure that procedures and other arrangements for preventing, controlling and mitigating fires and explosions are mutually consistent and that there will be an adequately co-ordinated response in an emergency. This is particularly important where contractors' employees have designated emergency responsibilities.

Relationship with other Regulations

5 Other regulations require emergency procedures for specific activities connected with offshore installations. Diving contractors should co-operate with the dutyholder so that information about the diving rules for diving operations required by the Diving at Work Regulations 1997 and later amendments may be taken into account in the emergency response plan.

6 Likewise, pipeline operators and other installations should co-operate so the pipeline emergency procedures, required by the Pipelines Safety

Regulations and action to be taken by other installations, can be taken into account in the emergency response plan for the installation.

7 For employees, MAR duties to co-operate complement and reinforce in respect of emergencies the general duty in section 7(b) of the HSW Act. In addition, there is a duty on employees under regulation 12(2) of MHSWR to inform their employees of serious and immediate danger. For employers, the duty to co-operate in MAR complements that in regulation 9 of MHSWR.

References and further reading

1 *Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995* – provide for the protection of persons from fire and explosion and for securing effective emergency response.

2 *The Health and Safety at Work etc. Act 1974* – sets out the general duties that employers and the self-employed have towards employees and members of the public, and the duties that employees have to themselves and to each other.

3 *Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015* (SCR 2015) – require the operator or owner of an installation operating in or to be operated in external waters to prepare and submit to the competent authority a safety case for acceptance. This safety case meets the requirements of Directive 2013/30/EU on the safety of oil and gas operations.

XX Offshore Installations (Safety Case) Regulations 2005 (SCR 2005) – require the dutyholder of an offshore installation operating within internal waters to submit, at various stages in the life cycle of the installation, a safety case for the management of health and safety on the installation.

4 *Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989* (OSRSCR) - allow members of the offshore installation workforce to elect two safety representatives from among their number. It also allows for the formation of a safety committee on the installation. This is to ensure that the whole workforce is formally involved in promoting health and safety, through freely elected safety representatives and a safety committee.

5 *Management of Health and Safety at Work Regulations 1999* (MHSWR) – require employers to carry out risk assessments, make arrangements to implement necessary measures, appoint competent people and arrange for appropriate information and training.

6 *The Health and Safety at Work etc. Act 1974 (Application outside Great Britain) Order 2013* – the Order applies sections 1 to 59 and 80 to 82 (the 'prescribed provisions') of the Health and Safety at Work etc. Act 1974 (HSW Act) beyond the mainland of Great Britain to specified offshore areas and work activities.

7 Offshore Installations and Pipelines Works (Management and Administration) Regulations 1995 – require co-operation between everyone who has a contribution to make to ensuring health and safety on the offshore installation or in activities involving the installation.

8 Provision and Use of Work Equipment Regulations 1998 (PUWER) – require that equipment provided for use at work, including machinery, is safe.

9 Personal Protective Equipment at Work Regulations 1992 (PPEWR) – require employers to provide appropriate protective clothing and equipment for their employees

10 Offshore Installations and Pipeline Works (First-Aid) Regulations 1989 (OFAR) – cover requirements for first-aid offshore.

11 *Health and Safety (Safety Signs and Signals) Regulations 1996* – require employers to provide safety signs where other methods, properly considered, cannot deal satisfactorily with the risks.

12 *The Pipelines Safety Regulations 1996* – ensure that a pipeline is designed, constructed and operated safely.

Further reading

HSE's Offshore website: www.hse.gov.uk/offshore

HSE Guidance

A guide to the Offshore Installations (Offshore Safety Directive)(Safety Case etc.) Regulations 2015 L154 (First edition) HSE Books 2015 ISBN 978 0 7176 6325 5. www.hse.gov.uk/pubns/books/L154.htm

A guide to the Offshore Installations (Safety Case) Regulations 2005 L30 (Third edition) HSE Books 2006 ISBN 0 7176 6184 9 www.hse.gov.uk/pubns/books/L30.htm

A guide to the Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989 L110 (Third edition) HSE Books 2012 ISBN 978 0 7176 6493 1 www.hse.gov.uk/pubns/books/L110.htm

A guide to the Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995 L70 (Third edition) HSE Books 2015 ISBN 978 0 7176 6327 9 www.hse.gov.uk/pubns/books/L70.htm

Personal protective equipment at work. Personal Protective Equipment at Work Regulations 1992 (as amended). Guidance on Regulations L25 (Third edition) HSE Books 2015 ISBN 978 0 7176 6597 6 www.hse.gov.uk/pubns/books/L25.htm

Managing for health and safety HSG65 (Third edition) HSE Books 2013 ISBN 978 0 7176 6456 6 www.hse.gov.uk/books/pubns/hsg65.htm

Health care and first aid on offshore installations and pipeline works. Offshore Installations and Pipeline Works (First-Aid) Regulations 1989. Approved Code of Practice and guidance L123 HSE Books 2015 ISBN 978 0 7176 1851 4 www.hse.gov.uk/pubns/books/L123.htm

Safety Signs and Signals. The Health and Safety (Safety Signs and Signals) Regulations 1996. Guidance on Regulations L64 (Third edition) HSE Books 2015 ISBN 978 0 7176 6598 3 www.hse.gov.uk/pubns/books/L64.htm

A guide to the Pipelines Safety Regulations 1996. Guidance on Regulations L82 (Second edition) HSE Books 2015 ISBN 978 0 7176 6396 5 www.hse.gov.uk/pubns/books/L82.htm

Safe use of work equipment: Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22 (Fourth edition) HSE Books 2014 ISBN 978 0 7176 6619 5 www.hse.gov.uk/pubns/books/L22.htm

HSE Information Sheet 'Guidance for Risk Assessment for Offshore Installations' (Offshore Information Sheet 3/2006) – www.hse.gov.uk/offshore/sheet32006.pdf

HID Regulatory Model: Safety Management in Major Hazard Industries

Reducing error and influencing behaviour HSG48 HSE Books ISBN 9780717624522

Non HSE Guidance

Regulation 3

Code for the construction and equipment of mobile offshore drilling units (MODU Code) IMO that is applicable to the installation.

Regulations 5 and 10

Guidelines on fire and explosion hazard management and Guidelines for the management of emergency response for offshore installations, published by Oil & Gas UK.

Regulation 6

Guidelines for offshore emergency training and Guidelines for the management of emergency response for offshore installations, published by Oil & Gas UK.

The Offshore Petroleum Industry Training Organisation (OPITO) produces standards for emergency training in the offshore industry.

Regulation 7

Guidelines for the management of offshore helideck operations, published by Oil & Gas UK.

Offshore helicopter landing areas: Guidance on standards CAP 437 Civil Aviation Authority.

Regulations 8, 10 and 17

Guidelines for the management of emergency response for offshore installations, published by Oil & Gas UK.

Regulation 9

Fire and Explosion Guidance (2007) HS025 published by Oil & Gas UK.

Regulation 12

ISO Standards – the appropriate section of the ISO19901 Series.

Regulation 17

Guidelines for the survey of vessels standing by offshore installations and Guidelines for operation of vessels standing by offshore installations, published by Oil & Gas UK.

Glossary of terms

ACOP	Approved Code of Practice
CSR	Offshore Installations (Construction and Survey) Regulations 1974
DCR	Offshore Installations and Wells (Design and Construction, etc) Regulations 1996
FRC	Fast rescue craft
HSE	Health and Safety Executive
HSW Act	Health and Safety at Work etc Act 1974
IMO	International Maritime Organisation
MAR	Offshore Installations and Pipeline Works (Management and Administration) Regulations 1995
MHSWR	Management of Health and Safety at Work Regulations 1992
OFAR	Offshore Installations and Pipeline Works (First -Aid) Regulations 1989
OIM	Offshore installation manager
OPITO	Offshore Petroleum Industry Training Organisation
PFEER	Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995
PPEWR	Personal Protective Equipment at Work Regulations 1992
PUWER	Provision and Use of Work Equipment Regulations 1992
SCE	Safety-critical element
SECE	Safety and environmental critical element
SCR 2005	Offshore Installations (Safety Case) Regulations
SCR 2015	Offshore Installations (Offshore Safety Directive)(Safety Case etc.) Regulations
SSR	Health and Safety (Safety Signs and Signals) Regulations 1996
OSRSCR	Offshore Installations (Safety Representatives and Safety Committees) Regulations 1989
TEMPSC	Totally enclosed motor propelled survival craft

Useful addresses

Aberdeen
Lord Cullen House,
Fraser Place,
Aberdeen AB25 3UB
Tel: 01224 252500 **VPN**: 525 7139 **GTN**: [7] 7139 8500

Bootle
Redgrave Court,
Merton Road,
Bootle, Merseyside L20 7HS
Tel: 0151 951 4000 **VPN:** 523 4000 **GTN:** [7]4131 4000

Norwich
Rosebery Court,
2nd Floor,
St Andrew's Business Park,
Norwich, Norfolk NR7 OHS
Tel: 01603 828000 **VPN:** 526 8000

Further information

For information about health and safety, or to report inconsistencies or inaccuracies **in** this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 08706005522 Fax: 08706005533

email: customer.services@tso.co.uk Website: www.tsoshop.co.uk/ (They are also available from bookshops.) Statutory Instruments can be viewed free of charge at www.legislation.gov.uk/.