

Summary of the Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulation 1995

The objectives of this Statutory Instrument are to:

- Prevent fires and explosions and protect persons on an installation from fire and explosion effects if they do occur and
- Secure effective emergency response.

The Statutory Instrument is qualitative and does not contain any formulae or quantitative criteria for design of oil and gas installations. However, the regulations set out the approach that shall be adopted by duty holders in relation to fire and explosion hazard management and emergency response management. The key regulations for fire and/or explosions are briefly outlined below.

1.1 Regulation 4: General Duty

Regulation 4 imposes general duties on the duty holder to take appropriate measures to protect people from fires and explosions and secure effective emergency response.

These measures include inherent safety, prevention, detection, control and mitigation measures and cover both hardware (plant and equipment) and software (management systems) systems.

The regulation specifies that the expenditure to implement a measure should not be completely out of proportion in relation to the risk.

1.2 Regulation 5: Assessment

The Regulations state that the duty holder shall carry out an assessment which shall consist of:

- Identification various events which could give rise to a major accident involving fire or explosion or the need for evacuation, escape or rescue. Duty holders should focus on events that are reasonably foreseeable.
- Evaluation of the likelihood and consequence of such events
- Establishment of appropriate performance standards for measures that provide for effective evacuation and/or protection of people. Performance standards may be described in terms of their functionality, availability, reliability and survivability.
- Selection of appropriate measures.

The objective of the assessment process is to identify measures for the effective management of fire and explosion hazards and for evacuation, escape and rescue and appropriate performance standards for them.

A performance standard is a statement, which can be expressed in qualitative or quantitative terms of the performance required of a system, item of equipment, person or

procedure, which is used as the basis for managing the hazard (e.g. planning, measuring, control or audit) through the life cycle of the installation.

The assessment shall be repeated as often as may be appropriate to take account of changes to the installation, to working practices or to the introduction of new plant and equipment.

1.3 Regulation 9: Prevention of Fire and Explosion

This regulation requires the duty holder to prevent fire and explosion through application of appropriate measures including design measures, engineering and procedural controls or management systems. The prevention of fires and explosions is most effectively achieved through good design.

This regulation also requires the duty holder to take appropriate measures to prevent ignition including:

- Classification of areas where there may be a risk of flammable or explosive atmosphere occurring
- Control of hazardous activities within those areas. The control measures should, for example, include adequate procedures and arrangements for control of hot work and control of maintenance activities.

1.4 Regulation 10: Detection of incidents

The document points out that the duty holder must take appropriate measures to detect fire and other events which may require emergency response and enable information regarding such incidents to be conveyed to places from which control action can be instigated.

The detection measures should be automatic as far as reasonably practicable and should be able to ensure the timely detection of flammable and explosive atmospheres, and toxic gas where appropriate.

A record shall be kept of all instances where gas is detected at or above levels which prompt automatic or manual executive action.

1.5 Regulation 12: Control of emergencies

This regulation states that the duty holder shall take appropriate control measures to limit the extent of an emergency. Control measures include structural measures, operational and management procedures and plant and equipment. Examples of control measures include:

- ESD systems
- Ballast control systems
- Emergency response procedures
- Portable fire fighting

The control measures should, so far as is reasonably practicable, remain operational in an emergency taking into account the conditions to which they are exposed.

1.6 Regulation 13: Mitigation of Fire and Explosion

The Regulations state that the duty holder shall take appropriate measures to protect persons on the installation during an emergency from the effects of fire and explosion and to ensure, so far as is reasonably practicable, that any arrangements made are capable of remaining effective in an emergency.

Measures include both active and passive measures and examples include deluge systems, fixed extinguishing systems, fire-resistant coatings, manual response equipment and procedures, ventilation control systems and fire and blast walls. The measures selected should be based on the assessment carried out as per Regulation 5.

In particular, the guidance to the regulations state that fire and blast barriers should be capable of providing the necessary insulation, stability, integrity and overpressure resistance and that duty holders should identify any conflicting requirements between blast and fire protection measures arising from the assessment described in regulation 5.

1.7 Regulation 19: Suitability and condition of plant

The Regulations point out that it is the responsibility of the duty holder to ensure that all plant (equipment, machinery or appliances) on the installation provided;

- Is constructed or adapted to be suitable for the purpose for which it is used or provided
- Is maintained in an efficient state, in efficient working order and in good repair. This relates only to health and safety and does not cover productivity.

The regulation state that a written scheme of examination should be carried out by a competent and independent person to check that plant is and remains fit for purpose. The suitability of the plant is established by using performance standards as a basis.

The guidance to the regulations defines a competent person as someone with the necessary theoretical and practical knowledge, and actual experience of the type of plant to be examined.