

GUIDE FOR

ENHANCED FIRE PROTECTION ARRANGEMENTS SEPTEMBER 2013

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**American Bureau of Shipping
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Foreword

This Guide introduces optional Enhanced Fire Protection notations for the accommodation areas and machinery spaces of vessels, mobile offshore drilling units, mobile offshore units and offshore installations; for the cargo areas of selected types of cargo vessels, and for the industrial areas of mobile offshore drilling units and offshore installations. The Enhanced Fire Protection notations available are **EFP-A** and **EFP-A+** for accommodation areas, **EFP-M** for machinery spaces; **EFP-C** for cargo areas, and **EFP-IA** for the industrial areas. Individual or combinations of the above notations can be provided.

This Guide becomes effective on the first day of the month of publication.

Users are advised to periodically check the ABS website at www.eagle.org to verify the most current and applicable version of this Guide.

We welcome your feedback. Comments or suggestions can be sent electronically by email to rsd@eagle.org.



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CHAPTER 1 General Requirements

SECTION 1 Classification

1 General

This Guide provides the criteria for notations that are intended to increase the level of protection against fires onboard vessels, mobile offshore drilling units (MODUs), mobile offshore units (MOUs) and offshore installations as well as the reduction of the consequences should a fire occur through the addition of certain prevention, detection and extinguishment measures. The requirements and notations identified in this Guide are optional for classification.

The enhanced fire protection notations **EFP-A** for accommodation areas and **EFP-M** for machinery spaces provide criteria for additional fire protection arrangements in accommodation and machinery areas, respectively, of vessels, MODUs, MOUs and offshore installations identified in 1-1/3 below.

The enhanced fire protection notation **EFP-A+** provides criteria for additional fire protection arrangements beyond the **EFP-A** notation for the accommodations of MODUs and offshore installations identified in 1-1/3 below.

The enhanced fire protection notation **EFP-C** provides criteria for additional fire protection arrangements in the cargo area of those cargo vessels identified in Chapter 4 of this Guide.

The enhanced fire protection notation **EFP-IA** provides criteria for additional fire protection arrangements in the industrial areas of MODUs as well as fixed and floating offshore installations identified in 1-1/3 below.

Combinations of the above notations may also be granted. For example, where a cargo vessel complies with the requirements in this Guide for the accommodation areas, the machinery spaces and the cargo area, a combined notation of **EFP-AMC** may be granted.

Where a notation identified in this Guide is requested, the requirements herein are in addition to any and all applicable fire safety and protection requirements in the relevant ABS Rules and Guides as well as those in all applicable national or international regulations.

3 Application

3.1 Vessels

- i) Self-propelled vessels classed in accordance with the *ABS Rules for Building and Classing Steel Vessels (Steel Vessel Rules)*, the *ABS Rules for Building and Classing Steel Vessels Under 90 Meters (Under 90m Rules)* or the *ABS Rules for Building and Classing Offshore Support Vessels (OSV Rules)* for Unrestricted Service are eligible for the **EFP-A** and **EFP-M** notations, except for vessels carrying passengers as defined by SOLAS Ch. 1/Reg. 2(e) and for those which fall under the IMO definition for Special Purpose Vessels.
- ii) Non-self-propelled vessels may be considered subject to special consideration, but as a minimum would require verification of compliance with all fire safety and protection requirements in the ABS Rules and SOLAS Regulations applicable to a similar sized self-propelled cargo vessel.
- iii) The cargo vessels specifically addressed in Chapter 4 of this Guide are eligible for the notation **EFP-C**.

3.3 Mobile Offshore Drilling Units

Mobile Offshore Drilling Units (i.e., MODUs) being classed in accordance with the *ABS Rules for Building and Classing Mobile Offshore Drilling Units (MODU Rules)* for Unrestricted Service are eligible for the optional notations **EFP-A**, **EFP-A+**, **EFP-M**, and **EFP-IA**. MODUs being classed in accordance with the *MODU Rules* for a particular Restricted Service may be specially considered.

3.5 Mobile Offshore Units

Mobile Offshore Units (i.e., MOUs) being classed in accordance with the *ABS Guide for Building and Classing Mobile Offshore Units (MOU Guide)* for Unrestricted Service are eligible for the optional notations **EFP-A** and **EFP-M**. MOUs being classed in accordance with the *MOU Guide* for a particular Restricted Service may be specially considered.

3.7 Floating and Fixed Offshore Installations

- i) A floating offshore installation must be classed in accordance with the *ABS Rules for Building and Classing Floating Production Installations (FPI Rules)* in order to be eligible for the optional enhanced fire protection notations **EFP-A** and **EFP-A+** for the accommodation areas and **EFP-M** for the machinery spaces.
- ii) A fixed offshore installation must be classed in accordance with the *ABS Rules for Building and Classing Offshore Installations (Offshore Installations Rules)* and also comply with all requirements in the *FPI Rules* for the accommodation areas, as defined in 2-1/5.1 of this Guide, in order to be eligible for the optional enhanced fire protection notations **EFP-A** and **EFP-A+**.
- iii) A fixed offshore installation must be classed in accordance with the *Offshore Installations Rules* and also comply with all requirements in the *FPI Rules* for machinery spaces in order to be eligible for the optional enhanced fire protection notation **EFP-M**.
- iv) A floating or fixed offshore installation must be classed in accordance with the *ABS Rules for Building and Classing Facilities on Offshore Installations (Facilities Rules)* and not be involved in the liquefaction or onboard storage of gaseous hydrocarbons in order to be eligible for the optional notation **EFP-IA** for the industrial area.

3.9 Regulatory Requirements

Compliance with Regulatory requirements is considered a prerequisite for these optional notations. Therefore:

3.9.1 Vessels

Vessels are to comply with all applicable IMO fire safety and fire protection requirements for the type of vessel involved. This may be established by the submittal of the appropriate IMO certificates or through independent verification by ABS.

Vessels exempted from the IMO requirements due to size or tonnage are not eligible to receive these optional notations unless it has been determined that all requirements which would normally be applicable to a similar type of non-exempt vessel have been met.

3.9.2 Mobile Offshore Drilling Units

MODUs are to comply with all applicable fire safety requirements in the 2009 IMO MODU Code. This may be established by the submittal of the appropriate IMO certificates or through independent verification by ABS.

MODUs exempted from the 2009 IMO MODU Code are not eligible unless it has been determined that all requirements which would normally be applicable to a similar non-exempt unit have been met.

3.9.3 Mobile Offshore Units

MOUs are to comply with all applicable Flag and Regulatory requirements. This may be established by the submittal of the appropriate documentation or through independent verification by ABS.

3.9.4 Offshore Installations

Offshore installations are to comply with all applicable Flag and Regulatory requirements. This may be established by the submittal of the appropriate documentation or through independent verification by ABS.

5 Class Notations

5.1 EFP-A Notation

Vessels, MODUs, MOUs and offshore installations that meet the criteria in 1-1/3 above and have accommodation areas designed, constructed and equipped in accordance with the requirements in Chapter 1 as well as Chapter 2, Sections 1 through 5 of this Guide will be eligible to receive the optional enhanced fire protection notation **EFP-A**.

5.3 EFP-A+ Notation

MODUs and offshore installations that meet the criteria in 1-1/5.1 above and also comply with the additional requirements for accommodation areas in Chapter 2, Section 6 of this Guide will be eligible to receive the optional enhanced fire protection notation **EFP-A+**.

5.5 EFP-M Notation

Vessels, MODUs, MOUs and offshore installations that meet the criteria in 1-1/3 above and have the machinery spaces designed, constructed and equipped in accordance with the requirements in Chapters 1 and 3 of this Guide will be eligible to receive the optional enhanced fire protection notation **EFP-M**.

5.7 EFP-C Notation

Vessels identified in Chapter 4 of this Guide that meet the criteria in 1-1/3 above and have the cargo areas designed, constructed and equipped in accordance with Chapters 1 and 4 of this Guide will be eligible to receive the optional enhanced fire protection notation **EFP-C**.

5.9 EFP-IA Notation

MODUs as well as floating and fixed offshore installations that meet the criteria in 1-1/3 above and have the industrial area designed, constructed and equipped in accordance with all the requirements of Chapters 1 and 5 of this Guide will be eligible to receive the optional enhanced fire protection notation **EFP-IA**.

7 Alternative Design and Arrangements

When the proposed fire safety design or arrangement deviates from the prescriptive provisions of this Guide, alternative designs or arrangements providing an equivalent level of safety may be specially considered based on an engineering analysis and evaluation carried out in accordance with SOLAS Regulation II-2/17 and the *ABS Guidance Notes on Alternative Design and Arrangements for Fire Safety*.

9 Definitions

9.1 Accommodation Areas

Accommodation Areas as used in this Guide refers to and includes the “accommodation spaces”, the “public areas” and the “service spaces” that are within or directly adjacent to the “accommodation spaces” or “public spaces”.

9.3 Accommodation Spaces

Accommodation Spaces as used in this Guide are those spaces used for corridors, lavatories, cabins, offices, hospitals, cinemas, game and hobby rooms, barber shops, pantries containing no cooking appliances and similar spaces.

9.5 Chemical Carrier

A ship constructed or adapted for the carriage in bulk of any liquid product listed in Chapter 17 of the IMO International Bulk Chemical Code (*IBC Code*).

9.7 Classified Area

A location in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures (see 4-8-4/27.3 of the *ABS Steel Vessel Rules*, the *ABS MODU Rules*, API RP 500, or API RP 505 for additional details). See also “Hazardous Area”.

9.9 Container Carrier

A vessel designed primarily for the carriage of containers in holds or on deck or both, with structures for that purpose, such as cell guides, pedestals, etc.

9.11 Dry Bulk Cargo Carrier

A ship that is constructed generally with single deck, topside tanks and hopper side tanks in cargo spaces, and is intended primarily to carry dry cargo in bulk. It includes a vessel of such type as ore carrier or combination carrier.

9.13 Escape Route

This is a designated path used by personnel to evade an immediate danger and ultimately leads to a temporary refuge or muster station.

9.15 Fixed Installation

A bottom-fixed offshore facility permanently affixed to the sea floor. The term includes, but is not limited to, fixed platforms, guyed towers, jack-ups elevated at same location longer than five (5) years, converted fixed installations, etc.

9.17 Flammable Fluid

Any fluid, regardless of its flash point, capable of feeding a fire is to be treated as a flammable fluid. Aviation fuel, diesel fuel, hydraulic oil (oil based), lubricating oil, crude oil and hydrocarbons are to be considered flammable fluids.

9.19 Flash Point

The minimum temperature at which a combustible liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid or within the vessel used, as determined by the test procedure and apparatus specified in NFPA 30. Ignitable mixture means a mixture that is within the flammable range (between the upper and lower limits) and is therefore capable of propagation of flame away from the source of ignition.

9.21 Floating Installation

An offshore facility designed to provide hydrocarbon processing and/or hydrocarbon storage, and offloading of hydrocarbons. The term Floating Installation is used to generically identify a buoyant facility that is site-specific. This installation is securely and substantially moored so that it cannot be moved without a special effort. The term includes, but is not limited to, Tension Leg Platforms (TLP), Spar Buoys, Permanently Moored Shipshape Hulls and Semisubmersibles.

9.23 General Cargo Carrier

A vessel constructed for the transportation of suitable cargoes in compatible combinations and packaging, such as boxes, bales, barrels, drums, etc.

9.25 Hazardous Area

A location in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures (see 4-8-4/27.3 of the *ABS Steel Vessel Rules*, the *ABS MODU Rules*, API RP 500, or API RP 505 for additional details). See also “Classified Area”.

9.27 Industrial Area

An area that is intended to primarily serve the industrial function and operation of a MODU or offshore installation. This includes the drilling area for MODUs and the areas containing the process and process support systems on offshore installations.

9.29 Jet Fire

A fire resulting from the combustion of a flammable liquid or gas that is being continuously released with some significant momentum in a particular direction or directions.

9.31 Liquefied Gas Carrier

A vessel designed and constructed for the transportation in bulk of liquefied gas or other products listed in Section 5C-8-19 of the *Steel Vessel Rules*, or Chapter 19 of the *IMO International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (International Gas Carrier Code)*, or Chapter XIX of the *IMO Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (Gas Carrier Code)*.

9.33 Local Fixed Fire Extinguishing System

The fixed fire extinguishing system installed to protect a particular piece of equipment.

9.35 Lower Explosive Limit (L.E.L.)

The lowest concentration of combustible vapors or gases, by volume in mixture with air, which can be ignited at ambient conditions.

9.37 Machinery Spaces

Machinery Spaces are all “Machinery Spaces of Category A” as well as all other machinery spaces containing propulsion machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces and trunks to such spaces.

9.39 Machinery Spaces of Category A

Machinery Spaces of Category A are those spaces and trunks to such spaces which contain either:

- i) Internal combustion machinery used for main propulsion;
- ii) Internal combustion machinery used for purposes other than main propulsion where such machinery has an aggregate total power output of not less than 375 kW (500 hp);
- iii) Any oil-fired boiler, oil fuel unit, or any oil-fired equipment other than boiler, such as inert gas generator, incinerator, waste disposal unit, etc.

9.41 Main Fixed Fire Extinguishing System

The fixed fire extinguishing system installed to protect the entire machinery space.

9.43 Mobile Offshore Drilling Unit (MODU)

A mobile offshore unit of the self-elevating or column-stabilized type, that is fitted with drilling equipment and utilized to carry out drilling operations.

9.45 Mobile Offshore Unit (MOU)

A mobile offshore unit of self-elevating or column-stabilized type, not fitted with drilling equipment, production facilities, hydrocarbon storage, or any other system onboard handling hydrocarbons.

9.47 Mud Gas Separator Unit

A *Mud Gas Separator Unit* is intended to separate large volumes of free gas from within the drilling fluid. Also referred to as a gas-buster.

9.49 Oil Carrier

A ship constructed or adapted primarily to carry oil and/or oil product in bulk and includes combination carriers.

9.51 Oil Fuel Unit

An *Oil Fuel Unit* is defined as any equipment, such as pumps, filters and heaters, used for the preparation and delivery of fuel oil to oil-fired boilers (including incinerators and inert gas generators), internal combustion engines or gas turbines at a pressure of more than 1.8 kgf/cm² (0.18 N/mm², 26 psi).

9.53 Passenger

Every person other than:

- i) The master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
- ii) A child under one year of age.

9.55 Oil Systems, Systems Containing Oil

As used in this Chapter, the terms *Oil Systems* or *Systems Containing Oil* refer to any piping system or equipment that contains or transfers flammable fluids.

9.57 Pool Fire

A fire resulting from the combustion of the vapors above a horizontal body of a flammable fluid that has zero or low initial momentum and is typically contained by some surrounding structure.

9.59 Process Area

Area where processing equipment is located. This includes wellhead/manifold areas.

9.61 Process Support Systems

Utility and auxiliary systems that complement the hydrocarbon production and process systems. These systems do not directly handle hydrocarbons.

9.63 Public Spaces

Portions of the accommodations which are used for halls, dining rooms, lounges, and similar permanently enclosed spaces.

9.65 Ro-Ro Cargo Spaces

Spaces not normally subdivided in any way and extending to either a substantial length or the entire length of the vessel in which goods [packaged or in bulk, in or on road cars, vehicles (including road tankers), trailer containers, pallets, demountable tanks or in or on similar stowage units or other receptacles] can be loaded and unloaded normally in a horizontal direction.

9.67 Service Spaces

Spaces used for galleys, pantries containing cooking appliances, lockers, mail and specie rooms, store-rooms, workshops other than those forming part of the machinery spaces, and similar spaces and trunks to such spaces.

9.69 Special Personnel

All persons who are not passengers or members of the crew or children of under one year of age and who are carried on board in connection with the special purpose of that vessel or because of special work being carried out aboard that vessel.

9.71 Special Purpose Vessel

A vessel which by reason of its function carries on board more than twelve (12) special personnel.

9.73 Vehicle Carrier

A vessel designed and constructed for the carriage of vehicles only.

11 Reference Documents

11.1 ABS

ABS Rules for Building and Classing Steel Vessels (Steel Vessel Rules)
ABS Rules for Building and Classing Steel Vessels Under 90 Meters (Under 90m Rules)
ABS Rules for Building and Classing Offshore Support Vessels (OSV Rules)
ABS Rules for Building and Classing Mobile Offshore Drilling Units (MODU Rules)
ABS Rules for Building and Classing Floating Production Installations (FPI Rules)
ABS Rules for Building and Classing Offshore Installations (Offshore Installations Rules)
ABS Rules for Building and Classing Facilities on Offshore Installations (Facilities Rules)
ABS Guide for Building and Classing Mobile Offshore Units (MOU Guide)
ABS Guidance Notes on Alternative Design and Arrangements for Fire Safety

11.3 American Petroleum Institute (API)

American Petroleum Institute (API) RP 500, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division I and Division 2
American Petroleum Institute (API) RP 505, Classification of Locations for Electrical Installations in Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2
API Publication 2030 Application of Fixed Water Spray Systems for Fire Protection in the Petroleum and Petrochemical Industries or an equivalent standard.

11.5 International Maritime Organization (IMO)

International Maritime Organization (IMO) International Convention for the Safety of Life at Sea, 1974, as amended, (SOLAS)
IMO Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (IMO MODU Code)
IMO International Code for Fire Safety Systems (FSS Code)
IMO International Code for Application of Fire Test Procedures (FTP Code)
IMO International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (International Gas Carrier Code)
IMO Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (Gas Carrier Code)
IMO MSC/Circ. 848, Revised Guidelines for the Approval of Equivalent Fixed Gas Fire-Extinguishing Systems as referred to in SOLAS 74, as amended, for Machinery Spaces
IMO MSC.1/Circ.1318, Guidelines for the Maintenance and Inspections of Fixed Carbon Dioxide Fire Extinguishing Systems
IMO MSC/Circ.1387, Revised Guidelines for the Approval of Fixed Water-Based Local Application Fire-Fighting Systems for use in Category A Machinery Spaces
IMO MSC.1/Circ.1432 Revised Guidelines for the Maintenance and Inspection of Fire Protection and Appliances

11.7 NFPA

NFPA Standard 15, Standard for Water Spray Fixed Systems for Fire Protection
NFPA Standard 30, Flammable and Combustible Liquids Code



CHAPTER 1 General Requirements

SECTION 2 Documentation

1 Plans and Details to be Submitted

Below is a generic list of plans and data to be submitted for each notation.

1.1 General (for all notations)

- Safety and Fire Control Plans
- Fire-fighter outfit details
- Number, locations and details of portable and semi-portable fire extinguishers
- Locations and details of fire-fighter outfits
- Location of Information on air compressor for breathing apparatus
- Information on air compressor for breathing apparatus

1.3 For Class Notation EFP-A

- Arrangement drawings for accommodation areas
- Structural Fire Protection plans and details for accommodation areas
- Documentation on combustible materials (test reports and other reference material) used in accommodation areas
- Egress plan and details from accommodation areas
- Fire detection and alarm system – schematics and layout
- Fire main system with accommodations – plans and details
- Water spray system – plans and details (for Offshore Installations)
- Calculations verifying compliance with firefighting system requirements (as applicable)
- Results of “H60/J30” fire testing (as applicable)

1.5 For Class Notation EFP-A+

Plans and details required above as well as:

- Industrial area equipment arrangements and locations
- Additional details of Structural Fire Protection arrangements
- Water spray system drawings
- Calculations verifying compliance with firefighting system requirements (as applicable)
- Fire test data results

1.7 For Class Notation EFP-M

- Arrangement drawings for the machinery spaces w/locations of any oil system piping over 15 bar
- Insulation and shielding arrangement details for hot surfaces
- Shielding arrangements for flammable fluid piping systems
- Thermo scanning report, with corrective measures (for information)
- Color TV monitoring system – arrangements and details
- Egress plan and details from machinery spaces
- Fire detection and alarm system – schematic and layout
- Fire main and emergency fire pump – plans and details
- Main fixed fire extinguishing system – plans and details
- Local fixed fire extinguishing system – plans and details
- Machinery space fire control station – arrangements and details
- Ventilation and ventilation shutdown – details and locations
- Calculations verifying compliance with firefighting system requirements

1.9 For Class Notation EFP-C

- Fire main system – plans and details
- Fixed fire extinguishing systems for cargo area – plans and details (as applicable)
- Details for fixed fire extinguishing system for venting mast risers of cargo tank venting systems (as applicable)
- Details of water spray protection for lifeboats (as applicable)
- Fire detection and alarm system – schematics and layout (as applicable)
- Smoke detection system – schematics and layout (as applicable)
- Gas detection system – schematics and layout (as applicable)
- Inert gas system – plans and details (as applicable)
- Color television monitoring system arrangements and details (as applicable)
- Details of cargo area communications arrangements (as applicable)
- Calculations verifying compliance with firefighting system requirements

1.11 For Class Notation EFP-IA

- General arrangements of industrial areas
- Area classification drawings
- Egress plan and details from industrial areas
- Fire main system – plans and details
- Fixed fire extinguishing systems – plans and details
- Centralized fire control station – arrangements and details
- Arrangements and details of portable and semi-portable fire extinguishers
- Fire detection and alarm systems – schematic and layout

- Insulation and shielding arrangements and details for hot surfaces
- Spray shielding arrangements for flammable fluid piping systems
- Calculations verifying compliance with firefighting system requirements



CHAPTER 1 Scope and Conditions of Classification

SECTION 3 Manuals

1 General

Manuals for the fire protection systems installed are to be provided in a common location onboard that is readily accessible to the crew and as a minimum contain the below information.

- Description of the fire protection system and components
- Standard operation procedures
- Piping and/or electrical schematics
- Maintenance requirements
- Periodic testing requirements and procedures
- Troubleshooting procedures

The manuals for the maintenance, inspection and periodic testing of the fire-fighting, fire detection and alarm systems are to be consistent with the guidelines contained in IMO MSC.1/Circ.1318 “Guidelines for the Maintenance and Inspections of Fixed Carbon Dioxide Fire Extinguishing Systems” and IMO MSC.1/Circ.1432 “Revised Guidelines for the Maintenance and Inspection of Fire Protection and Appliances”, as applicable.



CHAPTER 1 Scope and Conditions of Classification

SECTION 4 Fire-fighter's Outfit

1 General

A vessel, MODU, MOU or offshore installation with one or more of the class notations **EFP-A**, **EFP-A+**, **EFP-M**, **EFP-C**, and **EFP-IA** is to be provided with fire-fighter's outfits complying with this Section.

3 Number of Outfits

At least four (4) sets of fire-fighter's outfits complying with the below requirements are to be provided onboard. Additional fire-fighter's outfits may be required in Chapters 4 and 5 of this Guide. These fire-fighter's outfits may be considered in determining compliance with the number of fire-fighter outfits required by the applicable Rules and IMO regulations.

5 Fire-fighter's Outfit

Each fire-fighter's outfit is to consist of the equipment outlined below.

5.1 Personal Equipment

Personal equipment as identified in Chapter 3 of the IMO International Code for Fire Safety Systems Code (*FSS Code*).

5.3 Breathing Apparatus

- i) The breathing apparatus is to be a self-contained compressed air-operated unit. The volume of the air contained in the cylinders is to be at least 1,800 liters (475.5 gal), unless otherwise determined to be capable of supplying the fire fighter with sufficient air for at least forty five (45) minutes.
- ii) The breathing apparatus is to be fitted with an audible alarm and a visual or other device which will alert the user before the volume of the air in the cylinder has been reduced to no less than 200 liters (52.8 gal) at atmospheric pressure.
- iii) Two spare charges are to be provided for each required breathing apparatus. All air cylinders for breathing apparatus are to be interchangeable.
- iv) The total weight of one apparatus (including cylinder filled with air, valves, and mask) is not to exceed 12.0 kg (26.4 lbs).
- v) All cylinders, apparatus, and valves are to be of the same type.
- vi) An apparatus with less capacity and less weight may be accepted if it is deemed to be more suitable for the intended service and more spares are provided.

5.5 Lifeline

Each breathing apparatus is to be provided with a lifeline complying with Chapter 3 of the IMO Fire Safety Systems (FSS) Code.

5.7 Fire-fighters Communications

At least two (2) two-way portable radiotelephone apparatus for fire-fighter's communications are to be available for each fire party.

Where it is possible that hazardous areas (see 1-1/9.25 for definition) may be encountered, the two-way portable radiotelephone apparatus are to be the explosion-proof type.

5.9 Standards

The components of the fire-fighter's outfit are to comply with appropriate recognized standards.

7 Air Compressor for Breathing Apparatus

7.1 Capacity

A compressor that is suitable to fill the cylinders for the breathing apparatus is to be provided on board. The compressor is to be driven by a separate diesel engine or from the emergency power plant. The compressor is to have a capacity of at least 75 liters/minute (19.8 gpm).

7.3 Location

The compressor and associated equipment for recharging the breathing cylinders are to be suitably located in a sheltered space above main deck level of the vessel or unit.

7.5 Air Intakes

The intake for the air compressor is to be located so that it will draw from a source of clean air at all times, including during a fire event. The air is to be filtered after compression to eliminate compressor oil contamination.

9 Storage of Fire-fighter's Outfits

9.1 Location

The firemen's outfits are to be evenly distributed between two storage lockers that are widely separated from each other. The storage lockers are to be clearly marked and are to have access from the open deck. The boundaries of each locker are to have at least an "A-0" fire integrity rating separating it from other spaces.

9.3 Arrangement

The arrangements of the storage lockers for the fire-fighter's outfits are to provide easy access to the equipment and be such that each piece of equipment has its own location to be stowed to the Surveyor's satisfaction. The protective clothing is to be hung up and stored in a suspended position.



CHAPTER 2 Accommodations

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CHAPTER 2 Accommodations

SECTION 1 General

1 Application

1.1 General

Vessels, MODUs, MOUs and offshore installations complying with Chapter 1 of this Guide and having accommodation areas (i.e., accommodation spaces, public spaces and service spaces within or directly adjacent to accommodation or public spaces) designed, constructed and equipped in accordance with this Chapter will be eligible to receive the class notation **EFP-A**.

1.3 Rules and Regulatory Requirements

In addition to complying with all requirements identified in Chapters 1 and 2 of this Guide, all fire safety systems and arrangements must also comply fully with all applicable Rules and Regulatory requirements (see 1-1/3.9 of this Guide).

3 Basic Principles

The fire safety requirements identified in this chapter are based on the following principles:

- To limit the potential of a fire through limiting combustible materials
- To provide a means to detect and quickly identify the location of a fire within the accommodation areas
- To provide a safe means of egress from any location within the accommodation areas for personnel in the event of a fire
- To limit the spread of any fire in the accommodations by appropriate fire boundaries
- To provide appropriate means to extinguish a fire of the type and scale that is likely to occur in the accommodation areas



CHAPTER 2 Accommodations

SECTION 2 Fire Safety Arrangements

1 General

The fire safety arrangements for the accommodation areas (i.e., accommodation spaces, public spaces and service spaces within or directly adjacent to accommodation or public spaces) are to comply with the following requirements in addition to all applicable Rule and Regulatory requirements.

3 Structural Fire Protection – Method of Construction

3.1 Vessels

For vessels, the method of construction and arrangements for the accommodation areas are, as a minimum, to comply with requirements identified in the *International Convention for the Safety of Life at Sea, 1974, as amended*, (SOLAS) Ch. II-2, as amended, for a “Method IC” level of protection.

3.3 Mobile Offshore Drilling Units and Mobile Offshore Units

For Mobile Offshore Drilling Units (i.e., MODUs) and Mobile Offshore Units (i.e., MOUs), the method of construction and structural fire protection arrangements for the accommodation areas are, as a minimum, to comply with the most stringent of the individual requirements identified in:

- i) SOLAS Ch. II-2, as amended, for a “Method IC” level of protection for a cargo vessel
- ii) The *ABS Rules for Building and Classing Mobile Offshore Drilling Units (MODU Rules)*
- iii) The *IMO Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (IMO MODU Code)*

3.5 Offshore Installations

For offshore installations, the method of construction and structural fire protection arrangements for the accommodation areas are, as a minimum, to comply with the most stringent of the individual requirements identified in:

- i) SOLAS Ch. II-2, as amended, for a “Method IC” level of protection for a cargo vessel
- ii) 3-8/9 or 4-8/9 of the *ABS Rules for Building and Classing Facilities on Offshore Installations (Facilities Rules)*

5 Materials

5.1 General

As a minimum, the materials used are to comply with SOLAS Regulations II-2/5.3 and II-2/6, as amended, for a cargo vessel having an “IC” method of construction.

5.3 Textile Materials

Vertically supported textiles and films (e.g. curtains) are to be tested in accordance with the testing procedures identified in Annex 1, Part 7 of the IMO Fire Test Procedures (FTP) Code and comply with the criteria specified therein.

5.5 Furniture and Other Items in Stairways and Corridors

Furniture in stairway enclosures are to comply with the requirements identified in SOLAS Ch. II-2/Reg. 5.3.3.

5.7 Bedding Components

Bedding components are to be resistant to ignition and the propagation of flame. Therefore, bedding components are to be tested in accordance with the testing procedures identified in Annex 1, Part 9 of the IMO FTP Code and are to comply with the criteria specified therein.

7 Arrangements

7.1 Protection of Accommodation Areas

Where a machinery space, cargo hold, ballast pump room, cargo pump room or an industrial area is located immediately adjacent to, above or below a portion of the Accommodations Area, the bulkheads and/or decks separating the spaces are to have at least an “A-60” fire integrity rating. However, this requirement need not be applied to a Category 7 machinery space (such as air conditioning machinery spaces and service trunks serving only cabins and similar spaces) that is located within the accommodation areas and only serving accommodation and service spaces within the accommodations area.

7.3 B-15 Bulkheads, Linings, and Ceilings

Bulkheads, linings, and ceilings in accommodation areas are to have at least a “B-15” fire integrity rating. However, the space containing the individual sanitary facilities (i.e., water closet, shower, etc.) in a cabin can be accepted as part of the cabin. Further, boundaries with an “A-0” fire integrity rating may, in this context, be considered equivalent to “B-15” for application of this requirement.

7.5 Laundries, Drying Rooms and Similar Spaces

Bulkheads enclosing laundries, drying rooms and similar spaces are to have at least an “A-0” fire integrity rating. Openings such as doors and ventilation ducts are to be of an A-class standard (see Annex 1, Part 3, Appendix 2 of the FTP Code). Exhaust ducts are to have access arrangements for cleaning and are to serve no other spaces. However, such ducts can be connected to the common accommodations air conditioning unit.

7.7 Decks

All decks are to have a minimum fire integrity rating of “A-0”.

7.9 Stairways and Lifts

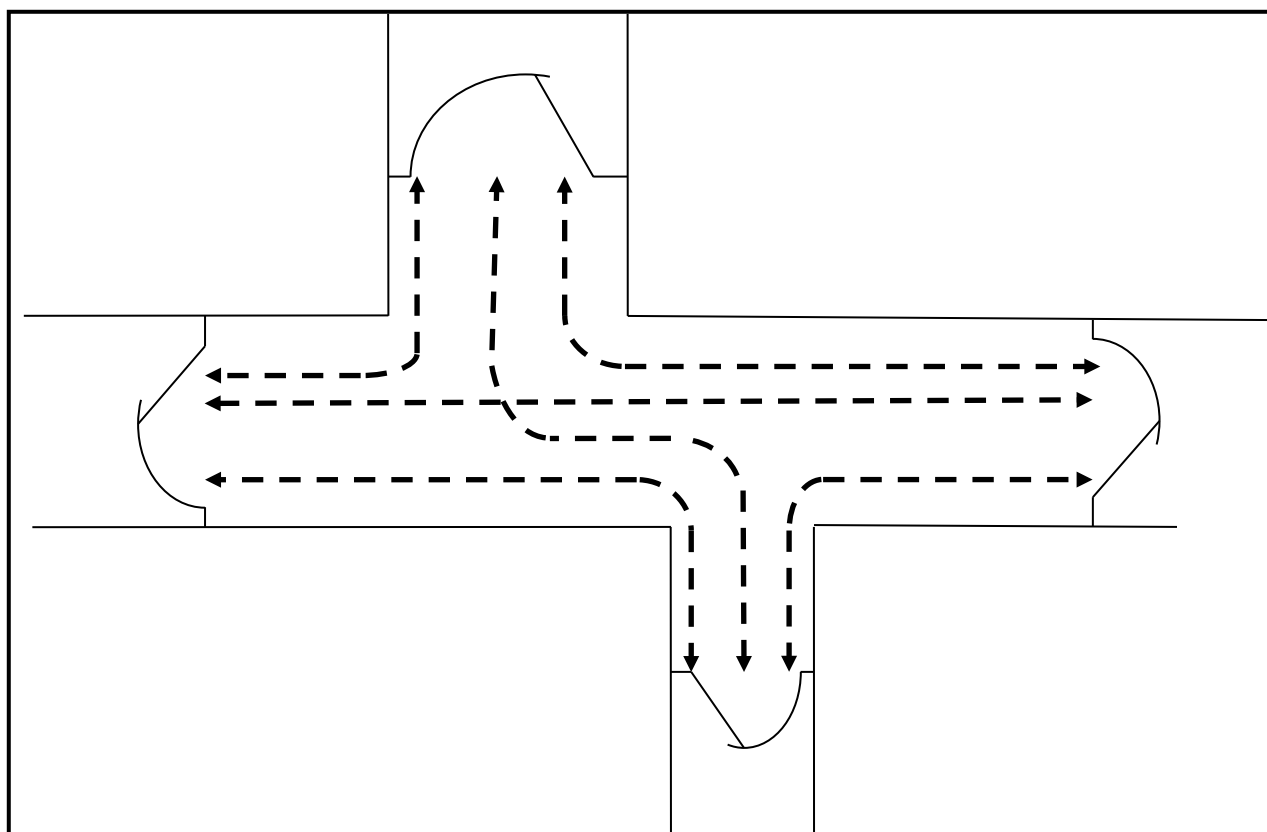
Stairways and lifts penetrating one (1) or more decks are to be protected by divisions and self-closing doors at all levels that have at least an “A-0” fire integrity rating.

7.11 Corridor Length

All passageways in the accommodations area are to be fitted with intervening self-closing doors to limit the potential spread of a fire. The self-closing doors are to be located no more than 20 m (65.6 ft) apart and are to have a minimum “B-15” fire integrity rating. These doors may have a holdback device so long as the door is automatically released upon activation of the fire alarm.

Where transverse corridors intersect longitudinal corridors, the spacing is to be measured as shown in 2-2/Figure 1.

FIGURE 1
Distances for Intersecting Corridors



* Note: Maximum distance of 20 m (65.6 ft) along any one path.

7.13 Access to Cabins and Public Spaces

Doors in the bulkhead of corridors within the accommodation areas are to be of the self-closing type. These doors may have a holdback device so long as the door is automatically released upon activation of the fire alarm.

Doors leading to small, service type spaces may be exempted from the above requirement where the contents of that space are determined not to present a fire hazard.

7.15 Cabin Balconies

Where cabin balconies are provided, they are to comply with SOLAS Ch. II-2/Reg. 5.3.4.

7.17 Floating and Fixed Offshore Installations

The structural fire protection arrangements between the accommodations areas and the industrial area are to comply with the requirements identified in 3-3/5.3 of the *Facilities Rules*.

9 Means of Egress

9.1 General

Spaces within the accommodation areas that are larger than thirty (30) m² (323 ft²) or may accommodate more than fifteen (15) persons at any one time are to have at least two (2) separate and independent means of egress that comply with the following.

- i) The primary means of egress is to be through a door that opens directly into a corridor or onto an open deck.
- ii) The secondary means of egress is to be one of the following:
 - a) Through a door that opens directly into a corridor or onto an open deck,
 - b) Through doors, corridors and stairways that pass through separate spaces, other than galleys, or
 - c) For spaces less than 50 m² (538 ft²), the secondary means of egress may be through a window that is determined to be of adequate size and has fixed step rails installed.

9.3 Marking and Lighting of Escape Routes

9.3.1 Identification and Lighting

Escape route paths are to be properly identified and provided with adequate lighting.

9.3.2 Marking

In addition to the emergency lighting, the means of escape in accommodation areas, including stairways and exits, are to be marked by lighting or photoluminescent strip indicators placed not more than 300 mm (11.8 in.) above the deck at all points of the escape route, including angles and intersections. The marking is to enable personnel to identify the routes of escape and readily identify the escape exits. If electric illumination is used, it is to be supplied by the emergency source of power and it is to be so arranged that the failure of any single light or cut in a lighting strip will not result in the marking being ineffective. Additionally, escape route signs and fire equipment location markings are to be of photoluminescent material or marked by lighting. The lighting or photoluminescent equipment are to be evaluated, tested and applied in accordance with the IMO *International Code for Fire Safety Systems (Resolution MSC.98(73)) (FSS Code)*.

9.5 Escape Route Plan

An escape route plan is to be prominently displayed at various points onboard as well as on the fire control plan.



CHAPTER 2 Accommodations

SECTION 3 Fire Detection and Alarm System

1 General

1.1 Location

An approved automatic fire detection and alarm system is to be installed in all accommodation areas (i.e., accommodation spaces, public spaces and service spaces within or directly adjacent to accommodation or public spaces).

1.3 Design, Arrangements and Installation

The design, arrangements and installation of the automatic fire detection and alarm system are to comply with Chapter 9 of the *IMO FSS Code* as well as any additional or more stringent requirements in 4-7-3/11 of the *ABS Steel Vessel Rules* or in 5-2-5/1.1 of the *ABS MODU Rules*.

1.5 Fire Detectors

Unless specifically approved otherwise, smoke detectors incorporating both photoelectric and ionization smoke detection sensors are to be utilized. However, heat detectors may be used where the above smoke detectors are determined not to be effective or would result in nuisance alarms.

1.7 Addressable Type

The fire detection system is to be of the type and design that is capable of identifying the current state or condition of each detector as well as the ability to identify the precise location of an activated detector.

1.9 Cables

All cables associated with the fire detection and alarm systems are to be of the fire-resistant type and are to comply with 4-8-3/9.7 of the *Steel Vessel Rules*.



CHAPTER 2 Accommodations

SECTION 4 Fire Main System

1 General

1.1 System

In addition to complying with all applicable Rules and Regulations, the fire main and hydrant arrangements serving accommodation areas are to also comply with the following requirements.

1.3 Fire-fighting Water Supply Arrangements

The fire-fighting water supply arrangements within the accommodation areas are to comply with one of the two arrangements identified below.

1.3.1 Pressurized Fire Main System

The fire main and hydrants in the accommodation areas are to comply with all applicable Rules and Regulations as well as the following.

- i) Be arranged so that at least one effective jet of water is immediately available from any hydrant in an interior location
- ii) Be arranged so as to ensure the continuation of the output of water by the automatic starting of one of the required fire pumps

1.3.2 Secondary Fresh Water Hose Reel System

In addition to having a conventional non-pressurized fire main and hydrants installed in the accommodation areas that comply with all applicable Rules and Regulations, a separate, independent hose reel system complying with the following is to be provided.

- i) The hose reel system is to be pressurized at all times with fresh water and ready for immediate use.
- ii) The system is to be capable of discharging a jet of water from the most hydraulically remote nozzle in the system at a pressure of not less than 3 bar (3.1 kgf/cm², 43.5 psi) for a period of not less than ten (10) minutes.
- iii) Hose reels containing semi-rigid hoses are to be located so that any point in the accommodation areas can be reached with a jet of water from at least one hose from a hose reel.
- iv) The semi-rigid hoses are to not be more than 20 m (66 ft) and are to be of at least 19 mm (0.75 in.) internal diameter. The hoses are to be fitted a dual purpose (i.e., combination jet or spray) nozzle.
- v) The hose reel stations are to be capable of operating when the hose is on the reel.
- vi) Audible and visual alarms are to be provided on the navigation bridge and at a normally manned control station to indicate low pressure in the hose reel system.
- vii) Arrangements are to be provided on the navigation bridge and at a normally manned control station to remotely start at least one of the main fire pumps and align (i.e., open or close) the valving necessary to supply the fire main with the required quantity and pressure.