RULES
FOR THE CLASSIFICATION AND CONSTRUCTION OF MOBILE OFFSHORE DRILLING UNITS

PART V
FIRE SAFETY

July
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GDAŃSK

RULES FOR CLASSIFICATION AND CONSTRUCTION OF MOBILE OFFSHORE DRILLING UNITS
developed and edited by Polski Rejestr Statków S.A., hereinafter referred to as PRS, consist of the following Parts:

Part I – Classification Regulations
Part II – Construction, Strength and Materials
Part III – Subdivision, Stability and Freeboard
Part IV – Machinery Installations
Part V – Fire Safety
Part VI – Electrical Installations
Part VII – Helicopter Facilities

whereas the materials and welding shall comply with the applicable requirements specified in *Part IX – Materials and Welding* of the *Rules for Classification and Construction of Sea-going Ships*.

This *Part V* was approved by the PRS Board on 12 July 2024 and enters into force on 15 July 2024.

This *Part V* is extended and supplemented by the following Publications:

Publication 51/P – Procedural Requirements for Service Suppliers.
Publication 29/I – Guidelines for Periodical Inspections of Fire-Extinguishing Systems and Appliances Used on Ships.

* *Polish Register of Shipping means Polski Rejestr Statków S.A., seated in Gdańsk, al. gen. Józefa Hallera 126, 80-416 Gdańsk, Poland,* registered in the Register of Entrepreneurs of the National Court Register, under entry number 0000019880. Polish Register of Shipping, its affiliates and subsidiaries, their respective officers, employees or agents are, individually and collectively, referred to as Polish Register of Shipping or as PRS for short.

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Where the machinery space and spaces containing fired processes are not entirely separate, or if fuel oil can drain from the latter spaces into the machinery space, the combined machinery space and fired process space shall be considered as one compartment;

.2 at least two approved type portable foam extinguishers or equivalent in each space containing a fired process and each space in which a part of the oil fuel installation is situated. In addition, at least one extinguisher of the same description with a capacity of 9 l for each burner, whereby the total capacity of the additional extinguisher or extinguishers need not exceed 45 l for any one space.

.3 a receptacle containing sand, sawdust impregnated with soda, or other approved dry material in such quantity as may be required by the Administration. An approved portable extinguisher may be provided as an alternative.

9.2 Spaces containing internal combustion machinery used either for main propulsion or for other purposes, when such machinery has a total power output of not less than 750 kW, shall be provided with the following arrangements:

.1 one of the fixed arrangements required by par. 9.1.1 (9.9.1.1 of *the Code*); and

.2 one approved foam-type extinguisher of not less than 45 l capacity or equivalent in every engine space and one approved portable foam extinguisher for each 750 kW of engine power output or part thereof. The total number of portable extinguishers so supplied shall be not less than two and need not exceed six.

9.3 The Administration shall give special consideration to the fire-extinguishing arrangements to be provided in spaces not fitted with fixed fire-extinguishing installations containing steam turbines which are separated from boiler rooms by watertight bulkheads.

9.4 Where, in the opinion of the Administration, a fire hazard exists in any machinery space for which no specific requirements for fire-extinguishing appliances are prescribed in par. 9.1 to 9.3 (9.9.1 to 9.9.3 of *the Code*), there shall be provided in, or adjacent to, that space a number of approved portable fire extinguishers or other means of fire extinction to the satisfaction of the Administration (*MODU Code*, 9.9).

10 PORTABLE FIRE EXTINGUISHERS IN ACCOMMODATION, SERVICE AND WORKING SPACES

10.1 Except for the supplemental arrangements provided in par. 10.2 (9.10.2 of *the Code*), portable fire extinguishers in accommodation spaces, service spaces, control stations, machinery spaces of category A, other machinery spaces, cargo spaces, weather deck and other spaces shall be provided in number and arrangement in accordance with the guidance provided by IMO* to the satisfaction of the Administration.

10.2 Table 9-3 contains supplemental recommendations for number and distribution of additional portable fire extinguishers on mobile offshore drilling units. Where the recommendations in table 9-3 differ from the guidance provided by IMO *, the recommendations of table 9-3 shall be followed. In all cases, the selection of the fire extinguishing medium shall be based on the fire hazard for the space protected. ** The classes of portable fire extinguishers in the table are only for reference (*MODU Code*, 9.10).

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* *Refer to the Unified Interpretation of SOLAS chapter II-2 on the Number and Arrangement of Portable Fire Extinguishers on Board Ships (MSC.1/Circ.1275).*

** *Refer to the Improved Guidelines for Marine Portable Fire Extinguishers, adopted by IMO by resolution A.951(23) .*

.1 cellar deck;
.2 drill floor;
.3 ventilation intake of positive pressure driller's cabin;
.4 mud pit area;
.5 shale shaker area;
.6 enclosed spaces containing the open components of mud circulation system from the bell nipple to the mud pits;
.7 ventilation intakes of accommodation spaces;
.8 ventilation intakes of enclosed machinery spaces contiguous to hazardous areas and containing internal combustion engines, boilers, or non-explosion proof electrical equipment;
.9 air intakes to all combustion engines or machinery, including internal combustion engines, boilers, compressors or turbines, located outside of an enclosed machinery space;
.10 at each access door to accommodation spaces;
.11 near other openings, including emergency egress, of accommodation spaces, regardless if these openings are fitted with self-closing and gastight closing appliances (IACS UR D11.7.1/ Rev.4/Corr.1).

12.2.2 Areas where protection is not required

Fixed automatic combustible gas detection and alarm systems are not required:
.1 near access doors to accommodation spaces where these form part of an air-lock which is provided with a gas detection and alarm system between the two doors of the air-lock;
.2 near emergency egress doors which are fitted with a mechanism to prevent use other than in an emergency (e.g. doors fitted with security seals acting as a deterrent but easily breakable in a real emergency);
.3 near other openings which are provided with closing appliances of non-opening type, e.g. bolted closed maintenance ways etc. (IACS UR D11.7.2/Rev.4/Corr.1).

12.2.3 Alarms

The gas detectors shall be connected to an audible and visual alarm system with indicators on the drill floor and in the main control station. The alarm system shall clearly indicate the location and concentration of the gas hazard. The combustible gas detectors shall alarm at not more than 25% and at 60% of the lower explosive limit (LEL) (IACS UR D11.7.3/Rev.4/Corr.1).

12.2.4 Portable combustible gas detectors

In addition to the fixed automatic gas detection system, two portable combustible gas detectors shall be provided on the unit (IACS UR D11.7.4/Rev.4/Corr.1).

13 HYDROGEN SULPHIDE DETECTION AND ALARM SYSTEM

13.1 Areas for protection

A fixed automatic hydrogen sulphide gas detection and alarm system shall be provided to the satisfaction of the Administration so arranged as to monitor continuously:
.1 drilling area;
.2 mud processing area; and
.3 well fluid test area,
of the unit and capable of giving audible and visual alarm at the main control room. If the alarm at the main control point is unanswered within 2 min, the toxic gas (hydrogen sulphide) alarm and

the helideck status light under par. 13.5.26 of the *MODU Code* shall be automatically activated (*MODU Code*, 9.13) (IACS UR D11.8.1/Rev.4/Corr.1).

13.2 Alarms

The detectors shall be connected to an audible and visual alarm system with indicators in main control room. The system shall clearly indicate where gas has been detected.

Low level alarm set at 10 ppm and high level alarm set not higher than 300 ppm shall be designed. The high level alarm shall activate an evacuation alarm.

If the alarm at the main control point is unanswered within 2 min, the toxic gas (hydrogen sulphide) alarm and the helideck status light shall be automatically activated (IACS UR D11.8.2/ Rev.4/Corr.1).

13.3 Portable hydrogen sulphide gas detectors

At least two portable hydrogen sulphide gas monitoring devices shall be provided on the unit (IACS UR D11.8.3/Rev.4/Corr.1).

13.4 Respiratory protection equipment for hydrogen sulphide

.1 A self-contained breathing apparatus (SCBA) positive-pressure/pressure-demand breathing equipment with full-face piece and rated for a minimum of 30 minutes shall be provided for each person in working areas where hydrogen sulphide may be encountered, and each person in other areas shall be provided with a SCBA rated for a minimum of 15 minutes; or

.2 A positive-pressure/pressure-demand air line breathing equipment coupled with a SCBA equipped low pressure warning alarm and rated for a minimum of 15 minutes shall be provided for each person on board the unit.

Breathing air supply line stations shall be provided at least in the following areas:

.2.1 living quarter;
.2.2 muster/evacuation area;
.2.3 drilling areas;
.2.4 mud processing areas; and
.2.5 other working areas. (IACS UR D11.9/Rev.4/Corr.1)

14 FIRE-FIGHTERS' OUTFITS

14.1 At least two fire-fighters' outfits complying with the relevant requirements of the *FSS Code* shall be provided, each with portable instruments for measuring oxygen and flammable vapour concentrations acceptable to the Administration.

14.2 Two spare charges shall be provided for each required breathing apparatus. Units that are equipped with suitably located means for fully recharging the air cylinders free from contamination need carry only one spare charge for each required apparatus.

14.3 The fire-fighters' outfits shall be kept ready for use in an easily accessible location that is permanently and clearly marked. They shall be stored in two or more widely separated locations (*MODU Code*, 9.14).

15 RECHARGING OF AIR CYLINDERS (FOR BREATHING)

15.1 The apparatus for recharging air cylinders, if provided, shall have its power supplied from the emergency supply or be independently diesel-powered, or be so constructed or equipped that the air cylinders may be used immediately after recharging.

15.2 The apparatus shall be suitably located in a sheltered space above main deck level on the unit.

15.3 Intakes for air compressors shall draw from a source of clean air.

15.4 The air shall be filtered after compression to eliminate compressor oil contamination.

15.5 The recharging capacity shall meet the requirements of *SOLAS* regulation II-2/10.10.2.6.

15.6 The equipment and its installation shall be to the satisfaction of the Administration (*MODU Code*, 9.15).

16 ARRANGEMENTS IN MACHINERY AND WORKING SPACES

16.1 Means shall be provided for stopping ventilating fans serving machinery and working spaces and for closing all doorways, ventilators, annular spaces around funnels and other openings to such spaces. These means shall be capable of being operated from outside such spaces in case of fire.

16.2 Machinery driving forced and induced draught fans, electric motor pressurization fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.

16.3 Every oil fuel suction pipe from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve capable of being closed from outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel, valves on the tanks shall be fitted but control in the event of fire may be effected by means of an additional valve on the pipeline or lines outside the tunnel or tunnels. (MODU Code, 9.16)

17 PROVISIONS FOR HELICOPTER FACILITIES

17.1 This section provides additional measures in order to address the fire safety objectives for units fitted with facilities for helicopters and meets the following functional requirements:

- **.1** helideck structure shall be adequate to protect the unit from the fire hazards associated with helicopter operations;
- **.2** fire-fighting appliances shall be provided to adequately protect the unit from the fire hazards associated with helicopter operations;
- **.3** refuelling facilities and operations shall provide the necessary measures to protect the unit from the fire hazards associated with helicopter operations; and
- **.4** helicopter facility operation manuals, which may be included in the operation manual under chapter 14 of *MODU Code*, and training shall be provided.

17.2 The construction of the helidecks shall be of steel or other equivalent materials. If the helideck forms the deckhead of a deckhouse or superstructure, it shall be insulated to "A-60" class standard. If the Administration permits aluminium or other low melting point metal construction that is not made equivalent to steel, the following requirements shall be satisfied:

.1 if the helideck is cantilevered over the side of the unit, after each fire that may have an effect on the structural integrity of the helideck or its supporting structures, the helideck shall undergo a structural analysis to determine its suitability for further use; and

.2 if the helideck is located above the unit's deckhouse or similar structure, the following conditions shall be satisfied:

.2.1 the deckhouse top and bulkheads under the helideck shall have no openings;

.2.2 windows under the helideck shall be provided with steel shutters; and

.2.3 after each fire on the helideck or supporting structure the helideck shall undergo a structural analysis to determine its suitability for further use.

17.3 A helideck shall be provided with both a main and an emergency means of escape and access for fire-fighting and rescue personnel. These shall be located as far apart from each other as is practicable and preferably on opposite sides of the helideck.

17.4 In close proximity to the helideck, the following fire-fighting appliances shall be provided and stored near the means of access to that helideck:

.1 at least two dry powder extinguishers having a total capacity of not less than 45 kg but not less than 9 kg each;

.2 carbon dioxide extinguishers of a total capacity of not less than 18 kg or equivalent;

.3 a foam application system* consisting of monitors or foam-making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which the helideck is intended to be available for helicopter operations. The minimum capacity of the foam production system will depend upon the size of the area to be protected, the foam application rate, the discharge rates of installed equipment and the expected duration of application:

.3.1 a minimum application rate of 6 l/m^2 within a circle having a diameter equal to the *D*-value;

.3.2 a minimum of 5 min discharge capability shall be provided;

.3.3 foam delivery at the minimum application rate shall start within 30 s of system activation;

* *See MSC.1/Circ.1431 - Guidelines for the approval of helicopter facility foam fire-fighting appliances.*

.4 the principal agent shall be suitable for use with salt water and conform to performance standards not inferior to those acceptable to the IMO; *

* *Refer to the International Civil Aviation Organization Airport Services Manual, part 1, Rescue and Fire Fighting, chapter 8, Extinguishing Agent Characteristics, paragraph 8.1.5, Foam Specifications table 8-1, level 'B'.*

.5 at least two nozzles of an approved dual-purpose type (jet/spray) and hoses sufficient to reach any part of the helideck;

.6 in lieu of the requirements of par. 17.4.3 to 17.4.5 (9.17.4.3 to 9.17.4.5 of the *MODU Code*), on units constructed on or after 1 January 2020, foam fire-fighting appliances complying with the provisions of the *FSS Code*;

.7 in addition to the provisions of chapter 14 (sec. 9.14 of the *MODU Code*), two fire-fighter's outfits; and

.8 at least the following equipment shall be stored in a manner that provides for immediate use and protection from the elements:

.8.1 adjustable wrench;

.8.2 blanket, fire-resistant;

.8.3 cutters, bolt, 600 mm;

.8.4 hook, grab or salving;
.8.5 hacksaw, heavy duty complete with six spare blades;
.8.6 ladder;
.8.7 lift line 5 mm diameter and 30 m in length;
.8.8 pliers, side-cutting;
.8.9 set of assorted screwdrivers;
.8.10 harness knife complete with sheath; and
.8.11 crowbar.

17.5 Drainage facilities in way of helidecks shall be:
.1 constructed of steel or other arrangements providing equivalent fire safety;
.2 lead directly overboard independent of any other system; and
.3 designed so that drainage does not fall onto any part of the unit.

17.6 Where the unit has helicopter refuelling, the following requirements shall be complied with:
.1 a designated area shall be provided for the storage of fuel tanks which shall be:
.1.1 as remote as is practicable from accommodation spaces, escape routes and embarkation stations; and
.1.2 isolated from areas containing a source of vapour ignition;
.2 the fuel storage area shall be provided with arrangements whereby fuel spillage may be collected and drained to a safe location;
.3 tanks and associated equipment shall be protected against physical damage and from a fire in an adjacent space or area;
.4 where portable fuel storage tanks are used, special attention shall be given to:
.4.1 design of the tank for its intended purpose;
.4.2 mounting and securing arrangements;
.4.3 electric bonding; and
.4.4 inspection procedures;
.5 storage tank fuel pumps shall be provided with means which permit shutdown from a safe remote location in the event of a fire. Where a gravity-fuelling system is installed, equivalent closing arrangements shall be provided to isolate the fuel source;
.6 the fuel pumping unit shall be connected to one tank at a time. The piping between the tank and the pumping unit shall be of steel or equivalent material, as short as possible, and protected against damage;
.7 electrical fuel pumping units and associated control equipment shall be of a type suitable for the location and potential hazards;
.8 fuel pumping units shall incorporate a device which will prevent over-pressurization of the delivery or filling hose;
.9 the equipment used in refuelling operations shall be electrically bonded; and
.10 "NO SMOKING" signs shall be displayed at appropriate locations. (MODU Code, 9.17)

17.7 Equivalent requirements for fire-fighting equipment

Where areas of a unit are designated for helicopter facilities, the fire-fighting equipment as given in par.17.7.1 and 17.7.2 (D11.4.2 and D11.4.3) shall be provided and so arranged as to adequately protect both the helicopter deck and fuel storage areas (IACS UR D11.4.1/Rev.4/Corr.1).

17.7.1 Portable fire extinguishers

.1 Primary extinguishers: dry powder extinguishers of a total capacity of not less than 45 kg.
.2 Back-up extinguishers: CO_2 extinguishers of a total capacity of not less than 18 kg or equivalent, one of these extinguishers being so equipped as to enable it to reach the engine area of any helicopter using the deck. The back-up extinguishers shall be located so that

they would not be vulnerable to the same damage as the primary extinguishers (IACS UR D11.4.2/ Rev.4/ Corr.1).

17.7.2 Fixed fire- fighting systems

.1 Fire water system: at least two approved nozzles of jet/spray type and hoses sufficient in length to reach any part of the helicopter deck.

.2 Fixed foam system: a suitable foam application system consisting of monitors or hose streams or both shall be installed. The system shall be capable of delivering foam solution at a rate of not less than 6 l/min·m^2 (4.1 l/min·m^2 for Aqueous Film Forming Foam or Film-Forming Fluoroprotein Foam) for at least 5 minutes (IACS UR D11.4.3/Rev.4/Corr.1).

18 STORAGE OF GAS CYLINDERS (FOR WELDING)

18.1 Where a welding gas system consisting of more than one cylinder of oxygen and more than one cylinder of acetylene is to be installed on a unit, the system and cylinders shall be arranged in accordance with the following:

.1 permanent piping systems for oxyacetylene systems shall be designed having due regard to standards and codes of practice to the satisfaction of the Administration.

.2 where two or more cylinders of each gas are intended to be carried in enclosed spaces, separate dedicated storage rooms shall be provided for each gas.

.3 storage rooms shall be constructed of steel, and be well ventilated and accessible from the open deck.

.4 provision shall be made for the expeditious removal of cylinders in the event of fire.

.5 "NO SMOKING" signs shall be displayed at the gas cylinder storage rooms.

.6 where cylinders are stowed in open locations means shall be provided to:

.6.1 protect cylinders and associated piping from physical damage;

.6.2 minimize exposure to hydrocarbons; and

.6.3 ensure suitable drainage.

18.2 Fire-extinguishing arrangements for the protection of areas or spaces where oxygen and acetylene cylinders are stored shall be to the satisfaction of the Administration (MODU Code, 9.18).

19 FIRE CONTROL PLAN

19.1 A fire control plan complying with SOLAS regulation II-2/15.2.4 shall be permanently exhibited on the unit (MODU Code, 9.19).

19.2 Fire control plans are to be submitted for acceptance/ approval by Administration, on which the following, as a minimum, shall be clearly shown:

.1 locations of fire control stations;

.2 various fire sections enclosed by various classes of fire divisions;

.3 arrangement of fire detectors and manual fire alarm stations;

.4 arrangement of combustible gas detectors;

.5 arrangement of hydrogen sulphide gas detectors;

.6 locations of respiratory protection equipment for hydrogen sulphide;

.7 general alarm actuating positions;

.8 arrangement of various fire-extinguishing appliances;

.9 locations of fighter's outfits;

.10 location of helicopter crash kit;

.11 arrangement of water spray nozzles and sprinklers (if fitted);

.12 locations of emergency shutdown (such as oil fuel source shutdown, engine shutdown, etc.) stations;
.13 the ventilating system including fire dampers positions, ventilating fans control positions with indication of identification numbers of ventilating fans serving each section;
.14 arrangement of fire/watertight doors and their remote control positions;
.15 blowout preventer control positions;
.16 escape route and means of access to different compartments, decks, etc.;
.17 locations of Emergency Escape Breathing Devices (EEBD); and
.18 arrangement of emergency muster stations and life-saving appliances (IACS UR D11.1.2/ Rev.4/Corr.1).

19.3 The graphic symbols used on the Fire Control Plan shall be in accordance with the symbols given in resolution A.952(23) and resolution A.1116(30), used on ships, and all inscriptions shall be in the official language of the Administration.

20 OPERATIONAL READINESS AND MAINTENANCE

20.1 The following functional requirements shall be met during the operation of the unit:
.1 gas detection systems, fire protection systems and fire-fighting systems and appliances shall be maintained ready for use; and
.2 gas detection systems, fire protection systems and fire-fighting systems and appliances shall be properly tested and inspected.

20.2 At all times while the unit is in service, the requirements of par. 20.1 (9.20.1 of the Code) shall be complied with. A unit is not in service when:
.1 it is in for repairs or lay up (either at anchor or in port) or in dry-dock;
.2 it is declared not in service by the owner or the owner's representative.

20.3 Operational readiness

.1 The following gas detection and fire protection systems shall be kept in good order so as to ensure their intended performance if a fire occurs:
.1.1 structural fire protection including fire-resisting divisions and protection of openings and penetrations in these divisions;
.1.2 fire detection and fire alarm systems;
.1.3 gas detection and alarm systems; and
.1.4 means of escape systems and appliances.
.2 Fire-fighting systems and appliances and portable gas detection systems shall be kept in good working order and readily available for immediate use. Portable extinguishers which have been discharged shall be immediately recharged or replaced with an equivalent unit.

20.4 Maintenance, testing and inspections

.1 Maintenance, testing and inspections shall be carried out based on the guidelines developed by IMO* and in a manner having due regard to ensuring the reliability of fire-fighting systems and appliances.

* *Refer to the Publication 29/I, prepared on the basis of IMO Circulars.*

.2 The maintenance plan shall be kept on board the unit and be available for inspection whenever required by the Administration.

.3 The maintenance plan shall include at least the following fire protection systems and fire-fighting systems and appliances, where installed:
- **.3.1** fire mains, fire pumps and hydrants including hoses, nozzles and international shore connections;
- **.3.2** fixed fire detection and fire alarm systems;
- **.3.3** fixed fire-extinguishing systems and other fire-extinguishing appliances;
- **.3.4** automatic sprinkler, fire detection and fire alarm systems;
- **.3.5** ventilation systems including fire and smoke dampers, fans and their controls;
- **.3.6** emergency shut down of fuel supply;
- **.3.7** fire doors including their controls;
- **.3.8** general emergency alarm systems;
- **.3.9** emergency escape breathing devices (EEBD);
- **.3.10** portable fire extinguishers including spare charges or spare extinguishers;
- **.3.11** portable hydrogen sulphide gas detection monitoring devices;
- **.3.12** portable flammable gas and oxygen monitoring devices;
- **.3.13** gas detection and alarm systems; and
- **.3.14** fire-fighter's outfits.

.4 The maintenance programme may be computer-based (*MODU Code*, 9.20).

21 SPECIAL MEASURES TO ENHANCE SAFETY

21.1 Atmosphere testing instrument for enclosed spaces

21.1.1 Each unit shall carry an appropriate portable atmosphere testing instrument or instruments *. As a minimum, these shall be capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide and carbon monoxide prior to entry into enclosed spaces **. Instruments carried under other requirements may satisfy this regulation. Suitable means shall be provided for the calibration of all such instruments.

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* *Refer to the Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7(MSC.1/Circ.1477).*

** *Refer to the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27)).*

21.1.2 Such instruments shall be in addition to those provided with the unit's firemen's outfits (*MODU Code*, 15).

22 ALARMS AND PUBLIC ADDRESS

22.1 General alarms

22.1.1 A general alarm system is to be provided and so installed as to be clearly perceptible in all parts of the unit. Alarm signal devices are to be provided which will produce a distinctive and strong note.

The signals used should be limited to: general emergency, toxic gas (hydrogen sulphide), combustible gas, fire alarm and abandon unit signals.

The signals given over the general alarm system should be supplemented by instructions over the public address system.

22.1.2 At least in the following spaces general alarm is to be capable of being operated:
- **.1** Main control station;
- **.2** Drilling console;

.3 Navigating bridge (if any); and
.4 Fire control station (if any) (IACS UR D11.5.1/Rev.4/Corr.1).

22.2 Mud system level alarms

A suitable audible and visual alarm to indicate significant increase or decrease in the level of the contents of the mud pit is to be provided at the control station for drilling operations and at the mud pit. Equivalent means to indicate possible abnormal conditions in the drilling system may be considered by the Society (IACS UR D11.5.2/Rev.4/Corr.1).

22.3 Ventilation system alarm

Alarms shall be provided for abnormal conditions of ventilation in hazardous areas, as specified in sub-chapter 3.3 of *Part VI* (See D8.2.4) (IACS UR D11.5.3/Rev.4/Corr.1).

22.4 Public address

22.4.1 The public address system is to be a loudspeaker installation enabling the broadcast of messages into all spaces where personnel are normally present and muster stations. It is to allow for the broadcast of messages from navigation bridge, central control room, emergency response centre, engine control room, ballast control station, jacking control station and drilling console. It is to be installed with regard to acoustically marginal conditions and not require any action from the addressee. It is to be protected against unauthorized use.

22.4.2 The minimum sound pressure levels for broadcasting emergency announcements are to be:

.1 in interior spaces 75dB(A) and at least 20dB(A) above the speech interference level; and
.2 in exterior spaces 80dB(A) and at least 15dB(A) above the speech interference level (IACS UR D11.5.4/Rev.4/Corr.1).

23 PERIODICALLY UNATTENDED MACHINERY SPACES

Requirements on fire safety for periodically unattended machinery spaces – see Chapter 4 of *Part IV,* of the *Rules*.

List of reference IMO documents in this *Part V*

IMO Assembly Resolutions

1. A.951(23): Improved Guidelines for Marine Portable Fire Extinguishers.
2. A.952(23): Graphical Symbols for Shipboard Fire Control Plans.
3. A.1021(26): Code on Alerts and Indicators.
4. A.1050(27): Revised recommendations for entering enclosed spaces aboard ships.
5. A.1116(30): Escape Route Signs and Equipment Location Markings.

MSC Circulars

1. MSC.1/Circ.1275: Unified Interpretation of SOLAS chapter II-2 on the Number and Arrangement of Portable Fire Extinguishers on Board Ships.
2. MSC.1/Circ.1431: Guidelines for the approval of helicopter facility foam fire-fighting appliances.
3. MSC.1/Circ.1477: Guidelines to facilitate the selection of portable atmosphere testing instruments for enclosed spaces as required by SOLAS regulation XI-1/7.

List of IACS resolutions implemented to this *Part V*

Unified Requirements (UR)

D11/Rev.4/Corr.1 Safety features