RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part P Mobile Offshore Drilling Units and Special Purpose Barges

Rules for the Survey and Construction of Steel Ships
Part P 2012 AMENDMENT NO.1
Guidance for the Survey and Construction of Steel Ships
Part P 2012 AMENDMENT NO.2

Rule No.53 / Notice No.82 15th November 2012
Resolved by Technical Committee on 27th July 2012
Approved by Board of Directors on 25th September 2012

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NIPPON KAIJI KYOKAI

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part P Mobile Offshore Drilling Units and Special Purpose Barges

2012 AMENDMENT NO.1

Rule No.53 15th November 2012
Resolved by Technical Committee on 27th July 2012
Approved by Board of Directors on 25th September 2012

Rule No.53 15th November 2012
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part P MOBILE OFFSHORE DRILLING UNITS AND SPECIAL PURPOSE BARGES

Chapter 3 DESIGN LOADS

Table P3.2 has been amended as follows.

Table P3.2 Shape Coefficient C_s

Structural members	C_s
Spherical structures	0.40
Cylindrical structures	0.50
Main Hulls	1.00
Deckhouses	1.00
Clustered deckhouses or similar structures	1.10
Small parts	1.40
Independent structural members (cranes, shapes, beams, etc.)	1.50
Under-deck parts (smooth surface)	1.00
Under-deck parts (exposed beams, girders, etc.)	1.30
Drilling derricks (each surface)	1.25
Wires	1.2

Chapter 4 STABILITY

4.1 General

4.1.4 Damage Stability

Sub-paragraphs -1 and -2 have been amended as follows.

1 All units are to have sufficient freeboard and be subdivided by means of watertight decks and bulkheads to provide sufficient buoyancy and stability to withstand the flooding of any ~~one~~ single compartment or any combination of compartments consistent with the damage assumption set out in **4.3** in any operating or transit condition.

2 All units are to have sufficient stability in flooding any ~~one~~ single compartment or any combination of compartments consistent with the damage assumption set out in **4.3** to withstand heeling moment induced to a wind based on a horizontal wind velocity superimposed from any direction and units' motions due to waves.

Paragraph 4.1.5 has been amended as follows.

4.1.5 Wind ~~Overturning~~ Heeling Moment

1 Wind loads are to be obtained from in accordance with the requirements in **3.2.2**. For damage stability calculation, however, wind loads are be obtained from wind velocity which may be 25.8*m/sec*.

2 The lever for the ~~overturning~~ heeling force is to be taken vertically from the centre of lateral resistance or, if available, the centre of hydrodynamic pressure, of the underwater body to the centre of pressure of the areas subject to wind loading.

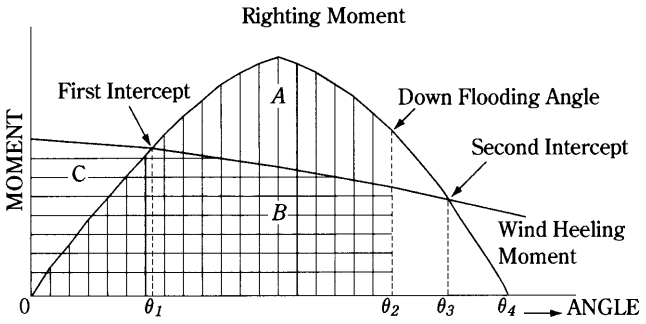
3 The wind ~~overturning~~ heeling moment is to be calculated at several angles of inclination for each mode of operation.

4 In calculating wind heeling moments for ship-shaped and barge-shaped hulls, the curve may be assumed to vary as the cosine function of the unit's heel.

5 Wind ~~overturning~~ heeling moments derived from authoritative wind tunnel tests on a representative model of the unit may be considered as alternatives to the method given in **-2** to **-4**. Such ~~overturning~~ heeling moment determination is to include lift effects at various applicable heel angles, as well as drag effects.

Title of Fig.P4.1 has been amended as follows.

Fig. P4.1 Righting Moments and ~~Wind~~ Heeling Moment~~s~~ Curves



4.4 Damage Stability Criteria

4.4.1 Self-Elevating Unit

Sub-paragraph -2 has been amended as follows.

2 ~~For mobile offshore drilling units, in~~ In operating or transit condition, the flooding of any single compartment with the assumption of no wind while meeting the following criterion (see **Fig. P4.2**):

$R_O S \geq 7° + (1.5\theta_s)$

Where:

$R_O S \geq 10°$

$R_O S$: range of stability, in degrees, is to be given by the following formula

$R_O S = \theta_m - \theta_S$

Where:

θ_m : Maximum angle of positive stability, in degrees

θ_S : Static angle of inclination after damage, in degrees

The range of stability is determined without reference to the angle of downflooding.

4.4.2 Column-Stabilized Unit

Sub-paragraphs -3 and -4 have been amended as follows.

3 The units are to have sufficient buoyancy and stability to withstand a wind heeling moment in any operating or transit condition, and are to be in accordance with following condition.

(1) The angle of inclination after the damage set out in **4.3.1** and **4.3.3** are not to be greater than 17 *degrees*.

(2) Any openings below the final waterline are to be made watertight, and openings within 4*m* above the final waterline are to be made weathertight.

(3) The righting moment curve, after the damage set out above, are to have a range of at least 7 *degrees*~~, from the~~ beyond its first intercept with the wind heeling moment curve to ~~a lesser of the extent of watertight integrity and the~~ its second intercept or downflooding angle, whichever is less~~ angle, a range of at least 7 *degree*~~. Within this range, the righting moment are to reach a value of at least twice the wind heeling moment curve, both being measured at the same angle.

4 The units are to provide sufficient buoyancy and stability in any operating or transit condition to withstand the flooding of any watertight compartment wholly or partially below the waterline in question, which is a pump room, a room containing machinery with a salt water cooling system or a compartment adjacent to the sea, and are to be in accordance with the following requirements.

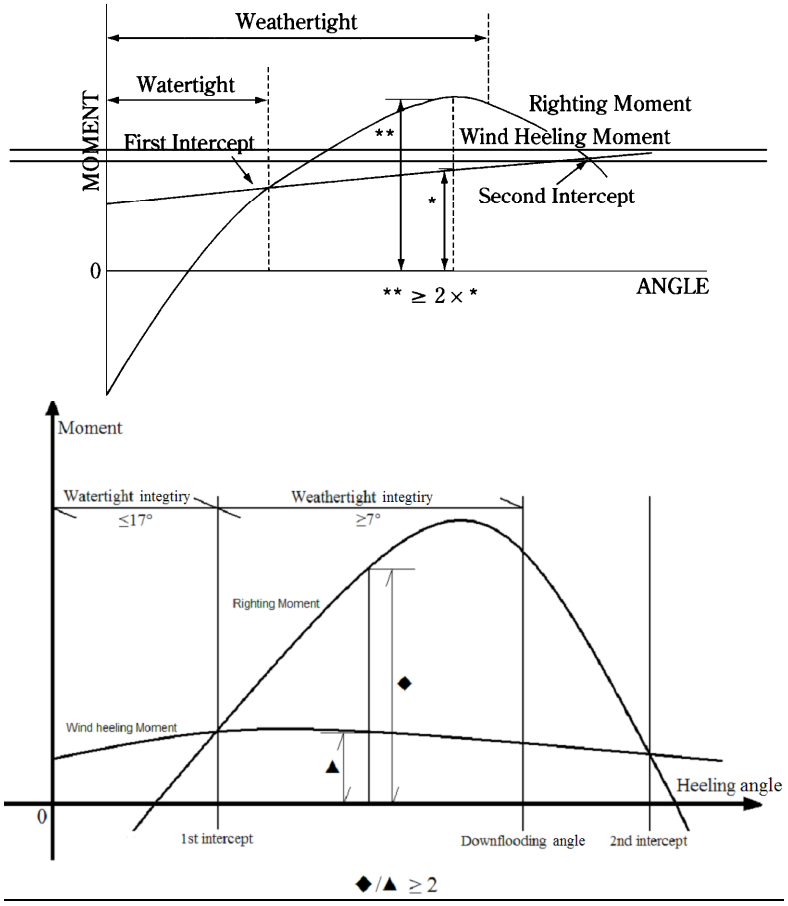
(1) The angle of inclination after flooding ~~are~~ is not to be greater than 25 *degrees*.

(2) Any opening below the final waterline ~~are~~ is not to be made watertight.

(3) A range of positive stability of at least 7 *degrees* ~~are~~ is to be provided, beyond the first intercept of the righting moment curve and horizontal coordinate axis of the static stability curve to the second intercept of the two curves or the downflooding angle, whichever is less~~calculated angle of inclination in these conditions, of at least 7 *degree*~~.

Fig. P4.3 has been amended as follows.

Fig. P4.3 ~~Righting Moment and Wind Heeling Moment Curve~~ Residual Damage Stability Requirements for Column-Stabilized Units



Chapter 5 WATERTIGHT BULKHEADS

5.2 Closing Appliances

Paragraph 5.2.2 has been amended as follows.

5.2.2 Internal Openings used during Operation

Internal openings fitted with appliances to ensure watertight integrity~~, which are used during operation of the unit while afloat,~~ are to comply with the following **(1)** to **(4~~3~~)**:

(1) Internal openings which are used while the unit is afloat during operations are to comply with the following **(a)** and **(b)**:

(~~1~~a) Doors and hatch covers are to be remotely controlled from the central ballast control station and also to be operable locally from each side. Open/shut indicators are to be provided at the control station.

(~~2~~b) Doors are to comply with the following~~s~~ **i) to iv)** in addition to the requirements in **(~~1~~a)** above.

~~(a)~~i) Doors are to be sliding watertight doors.

~~(b)~~ii) Doors are to be provided with an individual hand-operated mechanism. It is to be possible to open and close the door by hand at the door itself from both sides.

~~(c)~~iii) An audible alarm is to be provided at the door closure

~~(d)~~iv) The power, control and indicators are to be operable in the event of main power failure. Particular attention is to be paid to minimize the effect of control system failure.

(2) Doors or hatch covers in self-elevating units, or doors placed above the deepest load line draft in columun-stabilized, ship-type and barge-type units, which are normally closed while the unit is afloat may be of the quick acting type. However, they are to comply with the following **(a)** and **(b)**:

(a) Alarm systems (e.g., light signals) showing whether the doors or hatch covers in question are open or closed are to be provided locally and at central ballast control stations.

(b) Notices are to be affixed to each such door or hatch cover stating that it is not to be left open while the unit is afloat.

~~(3) A signboard to the effect that the closing appliance is to be closed while afloat and is only to be used temporarily, is to be fitted locally.~~

(~~4~~3) The closing appliances are to have strength, packing and means for securing which are sufficient to maintain watertightness under the design water pressure of the watertight boundary under consideration.

Paragraph 5.2.3 has been amended as follows.

5.2.3 External Openings ~~used during Operation~~

External openings ~~fitted with appliances to ensure watertight integrity, which are used during operation of the units while afloat,~~ are to comply with the following **(1)** to **(~~6~~3)**:

(1) The waterline in the final condition of equilibrium after flooding, taking into account the effect of wind, is to be below the lower edge of any opening through which progressive flooding may take place.

(2) External openings which are used during operation of the units while afloat, are to comply with the following **(a)** to **(c)**.

(~~2~~a) External openings,~~Openings under (1) include~~ such as air pipes (regardless of closing appliances), ventilators, ventilation intakes and outlets, non-watertight hatches and weathertight doors are not to submerge when the unit is inclined to the first intercept of the righting moment and wind heeling moment curves in any intact or damaged condition.

(b) With regard to the requirements specified in **(a)**, openings, such as side scuttles of the non-opening type, manholes and small hatches, which are fitted with appliances to ensure watertight integrity, may be submerged. However, such openings are not to be regarded as the "means of escape" defined in **Chapter 14**.

(c) Where flooding of chain lockers or other buoyant volumes may occur, openings to these spaces are to be considered as downflooding points.

(3) External openings for column-stabilized unit are to be weathertight within the range necessary to comply with the requirement of damage stability criteria and within a zone measured 4.0*m* or 7 *degrees* perpendicularly above the final waterline shown in **Fig. P5.1**.

~~(4) Openings, fitted with appliances to ensure watertight integrity, such as non-opening side scuttles, manholes and small hatches, may be submerged.~~

~~(5) Small hatches above (4) are those which are normally used for access by personnel. Such openings, which may be submerged in case of damage, are to comply with the following:~~

~~(a) Openings are to be closed by approved quick-acting watertight covers of steel or equivalent material.~~

~~(b) An alarm system (e.g. light signals) is to be arranged showing personnel, both locally and at a control position, whether the hatch covers in question are open or closed.~~

~~(c) A signboard to the effect that the closing appliance is to be closed while the unit is afloat, and is only to be used temporarily, is to be fitted locally.~~

~~(d) Such hatches are not to be regarded as emergency exits prescribed in **Chapter 13**.~~

~~(6) Where flooding of chain lockers or other buoyant volume may occur, the openings to these spaces are to be considered as downflooding points.~~

Paragraph 5.2.4 has been amended as follows.

5.2.4 Internal and External Openings kept permanently closed while Afloat

Internal and external openings fitted with appliances to ensure watertight integrity, which are to be kept permanently closed while afloat, are to comply with the following **(1)** to **(3)**:

(1) A signboard to the effect that the opening is always to be kept closed while afloat is to be fitted on the closing appliances in question.

(2) Manholes fitted with bolted covers need not e dealt with as under **(1)**.

(3) The closing appliances are to have strength, packing and means for securing which are sufficient to maintain watertightness under the design water pressure of the watertight boundary under consideration.

~~(4) Doors or hatch covers in self-elevating units, or doors placed above the deepest load line draft in column-stabilized, ship-type and barge-type units may be of the quick acting type and are to be provided with an alarm system (e.g., light signals) showing personnel both locally and at the central ballast control station whether the doors or hatch covers in question are open or closed.~~

Chapter 11 MACHINERY INSTALLATIONS

11.1 General

11.1.9 Ballast Piping of Column-Stabilized Units

Sub-paragraph -8 has been amended as follows.

8 A central ballast control station equipped with the following **(1)** to **(7)** control systems, indicating systems~~,~~ and indicators ~~and a communication system~~ which activate audible and visual alarms if an abnormal condition is detected, is to be provided. It is to be located above the worst damage waterline and in a space not within the assumed extent of damage referred to in **Chapter 4** and adequately protected from weather.

(1) A ballast pump control system (including a ballast pump status-indicating system)

(2) A ballast valve control system for ballasting and deballasting (including a ballast valve

position-indicating system)
(3) A ballast tank level indicating system
(4) A draught indicating system
(5) A heel and trim indicator
(6) A power availability indicating system (main and emergency)
(7) A ballast system hydraulic or pneumatic pressure-indicating system

11.1.14 Jacking Systems

Sub-paragraph -4 has been amended as follows.

4 The elevating system is to be designed and constructed for the maximum lowering and lifting loads of the unit as specified in the unit's operation manual in accordance with **18~~7~~.2.2-1(8)**.

11.2 Mobile Offshore Drilling Units

Paragraph 11.2.3 has been amended as follows.

11.2.3 Safety Devices

1 In view of exceptional conditions in which the explosion hazard may extend outside the hazardous areas, special arrangements are to be provided to facilitate the selective disconnection of shut-down of the facilities listed in the following **(1)** to **(5)**.
(1) Ventilation systems (excluding fans necessary for supplying combustion air to prime movers for generators)
(2) All electrical equipment (excluding that of a certified safe type for hazardous areas zone 1) installed in hazardous areas zone 2 and in non-hazardous areas
(3) Prime movers for main generators and their ventilating systems
(4) Emergency electrical equipment except that which is necessary to operate after an emergency shutdown according to the requirement in **-2**
(5) Prime movers for emergency generators

2 At least the facilities listed in the following **(1)** to **(5)** are to be operable after an emergency shut-down specified in **-1**. Equipment which is located in spaces other than enclosed spaces is to be suitable for installation in hazardous areas zone 2. Such equipment, when located in enclosed spaces, is to be suitable for its intended application to the satisfaction of the Society.
(1) Emergency lighting required by **12.2.3-3(1)** to **(4)** for 30 *minutes*
(2) Blow-out preventer control system
(3) General alarm system
(4) Public address system
(5) Battery supplied radio communication installations

3 Emergency shut-down facilities stipulated in **-1** ~~and the systems specified in the following **(1)** and **(2)**~~ are to be provided near the drilling console and at a suitable attended location outside the hazardous areas.
~~(1) Manually operated switches for actuating the general alarm system~~
~~(2) An efficient means of communication between these places and all locations vital to the safety of the unit~~
(Sub-paragraphs -4 and -5 are omitted.)

Chapter 15 FIRE EXTINGUISHING SYSTEMS

15.2 Mobile Offshore Drilling Units

15.2.1 General

Sub-paragraph -4 has been amended as follows.

4 Fire safety systems are to be in accordance with **Chapters 22** to **36~~5~~, Part R**, as applicable.

Title of 15.2.2 has been amended as follows.

15.2.2 Fire Pumps and Water Supply

Sub-paragraph -5 has been amended as follows.

5 Each pump is to be capable of delivering at least one jet simultaneously from each of any two fire hydrants, hoses and 19*mm* nozzles while maintaining a minimum pressure of 0.35*MPa* at any hydrant. In addition, where a foam system is provided for protection of the helicopter deck, the water consumption used for foam system is to be added to the pump capacity and the pump are to be capable of maintaining a pressure of 0.7*MPa* at the foam installation. If the water consumption for any other fire protection or fire-fighting purpose are to exceed the rate of the helicopter deck foam installation, this consumption is to be the determining factor in calculating the required capacity of the fire pump.

Sub-paragraphs -10 and -11 have been added as follows.

10 At least two water supply sources (sea chests, valves, strainers and pipes) are to be provided and so arranged that one supply source failure will not put all supply sources out of action.

11 For self-elevating units, the following additional fire water supply measures are to be provided:

(1) water is to be supplied from sea water mains filled by at least two submersible pumping systems. One system failure will not put the other system(s) out of function; and

(2) water is to be supplied from drill water systems while unit lifting or lowering. Water stored in the drill water tank(s) is not be less than 40 m^3 plus engine cooling water consumption before unit lifting or lowering. Alternatively, water may be supplied from buffer tank(s) in which sea water stored is not less the quantity as the above mentioned.

Title of 15.2.6 has been amended as follows.

15.2.6 ~~Portable~~ Fire Extinguishing~~ers~~ Systems in Accommodation, Service and Working Spaces

Paragraph 15.2.6 has been amended as follows.

1 Portable fire extinguishers

~~**1**~~(1) The accommodation spaces, service spaces, control stations, machinery spaces of category *A*, cargo spaces, weather deck and other spaces are to be provided with approved portable fire extinguishers accepted by the Society in accordance with **Table P15.1**.

~~**2**~~(2) In addition to the preceding ~~**1**~~**(1)**, fire extinguishers are to be provided with in accordance with **Table P15.2**. However, other fire extinguishers, differing from those in accordance with **Table P15.2** may be required by the Society taking into account the levels of the fire hazards.

2 Fixed fire-extinguishing systems

(1) Drilling and well test areas are to be fitted with fixed fire-extinguishing systems in accordance with the following **(a)** or **(b)**:

(a) a fixed water spray system is to be provided to protect drilling areas. The minimum water application rate is not to be less than 20.4 $l/min \cdot m^2$; or

(b) at least two dual-purpose (jet/spray) fire monitors are to be installed to cover drilling and well test areas. The minimum capacity of each monitor is not to be less than 100 m^3/h. The monitors may be operated either remotely or locally. Monitors arranged for local operation are to be sited on an accessible protected positions.

(2) A suitable fixed foam system is to be installed on mud processing areas. The system is to be capable of delivering foam solution at a rate of not less than 6.5 $l/min \cdot m^2$ (4.1 $l/min \cdot m^2$ for Aqueous Film Forming Foam or Film-Forming Fluoroprotein Foam) for 15 *minutes*. Alternatively, a gas fixed fire extinguishing system may be used for enclosed mud processing spaces.

Paragraph 15.2.10 has been amended as follows.

15.2.10 Fire Detection and Alarm System

1 An automatic fire detection and alarm system complying with the requirements in **Chapter 29, Part R**, are to be provided in spaces having a fire risk, all accommodation and service spaces. ~~Accommodation spaces are to be fitted with smoke detectors.~~

~~**2** A sufficient number of manual fire alarm stations is to be installed at suitable locations throughout the unit.~~

2 In selecting the type of detector, the following features are to be taken into account:

(1) capability to detect fire at the incipient stage

(2) ability to avoid spurious alarms and trips; and

(3) suitability to the located environment.

3 The fire detection main indicator board is to be at a manned control station and is to be clearly to indicate where fire has been detected.

4 Accommodation spaces are to be fitted with smoke detectors.

5 Thermal detectors are to be fitted in galleys.

6 Smoke detectors are to be provided in all electrical rooms and control stations.

7 Flame or thermal detectors are to be installed in drilling and mud processing areas. Smoke detectors may be used in enclosed mud processing areas.

~~**3**~~**8** A fixed fire detection and fire alarm system is to be installed in the following spaces. Detection systems using only thermal detectors, in general, are not to be permitted.

(1) periodically unattended machinery spaces;

(2) machinery spaces where the installation of automatic and remote control systems and equipment has been approved in lieu of continuous manning of the spaces; and

(3) machinery spaces where the main propulsion and associated machinery, including the main sources of electrical power, are provided with various degrees of automatic or remote control and are under continuous manned supervision from a control room.

9 A sufficient number of manual fire alarm stations is to be installed at suitable locations, including accommodation spaces, service spaces and control stations, throughout the unit. One manually operated call point is to be located at each exit. Manually operated call points are to be readily accessible in the corridors of each deck such that no part of the corridor is more than 20 *m* from a manually operated call point. Measures are to be taken to prevent inadvertent operation of the manual call alarm system.

Paragraph 15.2.11 has been amended as follows.

15.2.11 Gas Detection and Alarm System

1 Flammable gas detection and alarm system

(1) A fixed automatic gas detection and alarm system are to be provided to the satisfaction of the Society so arranged as to monitor continuously all enclosed areas of the units in which an accumulation of flammable gas may be expected to occur~~ and~~. The fixed automatic combustible gas detection and alarm systems are, as a minimum, to be provided for the following areas:
   (a) cellar decks;
   (b) drill floors;
   (c) mud pit areas;
   (d) shale shaker areas;
   (e) enclosed spaces containing the open components of mud circulation systems from the bell nipple to the mud pits;
   (f) ventilation intakes of enclosed machinery spaces contiguous to hazardous areas and containing internal combustion engines and boilers; and
   (g) ventilation intakes and near other openings of accommodation spaces.

(2) The specifications of the fixed automatic gas detection and alarm systems are to be in accordance with the following **(a)** to **(c)**:
   (a) the gas detectors are to be connected to an audible and visual alarm system with indicators on the drill floor and in the main control station;
   (b) the alarm system is to be capable of clearly indicating at the main control point by aural and visual means the ~~presence~~concentration and locations of ~~an accumulation~~the gas hazard;~~.~~
   (c) the combustible gas detectors are to alarm at not more than 25% and at 60% of the lower explosive limit (*LEL*).

(~~2~~3) On the unit, ~~A~~at least two portable combustible gas monitoring devices are to be provided, each capable of accurately measuring a concentration of flammable gas.

2 Hydrogen sulphide detection and alarm system

(1) A fixed automatic hydrogen sulphide gas detection and alarm system is to be provided to the satisfaction of the Society so arranged as to monitor continuously the drilling area, mud processing area and well fluid test area of the unit and capable of giving audible and visual alarms at the main control points. The specifications of the fixed automatic hydrogen sulphide gas detection and alarm systems are to be in accordance with the following **(a)** to **(d)**:
   (a) the detectors are to be connected to an audible and visual alarm system with indicators in main control room;
   (b) the system is to clearly indicate where gas has been detected;

(c) ~~I~~if the alarm at the main control point is unanswered within 2 *minutes*, the toxic gas (hydrogen sulphide) alarm and the helideck status light specified in **Chapter 17~~6~~, Part P** ~~are~~is to be automatically activated~~.~~; and

(d) low level alarm set at 10 *ppm* and high level alarm set not higher than 300 *ppm* are to be provided. The high level alarm is to activate an evacuation alarm.

(2) At least two portable hydrogen sulphide gas monitoring devices are to be provided on the unit.

Paragraph 15.2.12 has been deleted.

~~**15.2.12 Intermediate Tanks**~~

~~Where the intermediate tanks are provided in the units for an adequate and readily available water supply for fire-fighting purposes, following requirements of **(1)** to **(6)** are to be complied with:~~

~~(1) The intermediate tanks are to be of such size and so operated that the lowest water level permitted will ensure that the supply of water is adequate for two hoses at a minimum of 0.35*MPa* nozzle pressure at the uppermost hydrant for at least 15 *minutes*. Minimum tank capacity is to be 10m^3.~~

~~(2) The inlet is to be designed as to allow for sufficient time bringing a replenishment pump into service.~~

~~(3) Valves and pumps serving the intermediate tank which are not readily accessible are to be provided with means for remote operation.~~

~~(4) A low water level alarm is to be provided.~~

~~(5) Two reliable and adequate means to replenish water in the intermediate tank are to be provided. These pumps are to be arranged in accordance with **15.2.2**. At least one of the replenishment pump is to be arranged for automatic operation.~~

~~(6) If the unit is intended to operate in cold weather, the entire fire-fighting system is to be protected from freezing. This is to include tanks used as water reservoirs.~~

Paragraph 15.2.12 has been added as follows.

15.2.12 Respiratory Protection Equipment for Hydrogen Sulphide

Breathing devices in accordance with the following **(1)** or **(2)** are to be provided on the unit for each person:

(1) a self-contained breathing apparatus (SCBA) positive-pressure/pressure-demand breathing equipment with full-face piece. The self-contained breathing apparatus is to be rated for the following:

(a) a minimum of 30 *minutes* in working areas where hydrogen sulphide may be encountered; and

(b) a minimum of 15 *minutes* in other working areas; or

(2) a positive-pressure/pressure-demand air line breathing equipment coupled with a SCBA equipped low pressure warning alarm. The self-contained breathing apparatus is to be rated for a minimum of 15 *minutes*. Breathing air supply line stations are to be provided at least in the following areas:

(a) living quarters;

(b) muster/evacuation areas;

(c) drilling areas;

(d) mud processing areas; and

(e) other working areas.

15.2.13 Fire Extinguishing System for Helicopter Facilities

Sub-paragraph -2 has been amended as follows.

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

(1) primary extinguishers:
at least two dry powder extinguishers having a total capacity of not less than 45*kg* but not less than 9 *kg* each;

(2) back-up extinguishers:
carbon dioxide 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 are to be located so that they would not be vulnerable to the same damage as the primary extinguishers;

(3) a suitable 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 capacity and other specifications of the foam production system are to comply with the following **(a)** to **(c)**:
   (a) a minimum application rate of 6 l/m^2 (4.1 $l/min \cdot m^2$ for Aqueous Film Forming Foam or Film-Forming Fluoroprotein Foam) within a circle having a diameter equal to D_H;
   (b) a minimum of 5 *minutes* discharge capability is to be provided; and
   (c) foam delivery at the minimum application specified in the preceding **(a)** is to start within 30 *sec* of system activation;

(4) (omitted)

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

((6) and (7) are omitted.)

Paragraph 15.2.15 has been amended as follows.

15.2.15 Fire Control Plan

The fire control plan specified in **15.2.2, Part R**, is to be permanently exhibited. The following **(1)** to **(18)** are to be clearly indicated on the fire control plan:

(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 breathing devices;
(7) general alarm actuating positions;
(8) arrangement of various fire-extinguishing appliances;
(9) locations of fire-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 routes 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.

Chapters 16 and 17 have been renumbered to Chapters 17 and 18 respectively, and Chapter 16 has been added as follows.

Chapter 16 SAFETY EQUIPMENT

16.1 General

16.1.1 Application

1 The safety equipment provided for units fixed on the seabed or positioned for long periods of time are to apply the requirements given in this Chapter.

2 The safety equipment of units, except for units listed in **-1** above, is to be at the discretion of the Society.

3 The safety equipment of units is to be according to this **Part**. In addition, attention is to be paid to complying with the National Regulations of the flag state.

16.2 Mobile Offshore Drilling Units

16.2.1 General Alarm Systems

1 A general alarm system is to be provided and so installed as to be clearly perceptible in all parts of the unit.

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

3 At least in the following spaces, general alarms are to be capable of being operated:
(1) Main control station;
(2) Drilling console;
(3) Navigation bridge (if any); and
(4) Fire control station (if any).

16.2.2 Public Address Systems

A public address system is to allow for the broadcast of messages from the navigation bridge, central control room, emergency response center, engine control room, ballast control station, jacking control station and drilling console.

(Chapter 17 and 18 are omitted.)

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2013.

2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships for which the date of contract for construction* is before the effective date.
*"contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
(1) such alterations do not affect matters related to classification, or
(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.
The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part P Mobile Offshore Drilling Units and Special Purpose Barges

2012 AMENDMENT NO.2

Notice No.82 15th November 2012
Resolved by Technical Committee on 27th July 2012

Notice No.82 15th November 2012
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Guidance for the survey and construction of steel ships" has been partly amended as follows:

Part P MOBILE OFFSHORE DRILLING UNITS AND SPECIAL PURPOSE BARGES

P8 LOAD LINES

P8.2 Load Lines

P8.2.2 Self-Elevating Units

Sub-paragraph -1 has been amended as follows.

1 In the application of the regulations of *ILLC*, where moonpools are arranged within the hull in open communication with the sea, the volume of the moonpool is not to be included in ~~the~~ calculation of any hydrostatic properties. An addition is to be made to the geometric freeboard, if the moonpool has a larger cross-sectional area~~ that is larger~~ above the waterline at ~~0.85~~ 85% of ~~freeboard~~ the depth for freeboard than below, corresponding to the lost buoyancy. This addition for the excess portion above ~~0.85~~85% of the ~~freeboard~~ depth for freeboard use is to be made as follows, as prescribed for recesses in regulation 32-1. If an enclosed superstructure contains part of the moonpool, a deduction should be made from the effective length of the superstructure.

(1) Where open wells or recesses are arranged in the freeboard deck, a correction equal to the volume of the well or recess to the freeboard deck divided by the waterplane area at ~~0.85*D*~~ 85% of the depth for freeboard use are to be ~~made~~added to the freeboard obtained after all other corrections have been applied, except bow height correction~~ have been made~~.

(2) In stability calculation, free surface effects of the flooded well or recess are to be taken into ~~consideration~~account.

P8.2.4 Ship-Type Units and Barge-Type Units

Sub-paragraph -2 has been amended as follows.

2 In the application of the regulations of *ILLC*, where moonpools are arranged within the hull in open communication with the sea, the volume of the moonpool is not to be included in the calculation of any hydrostatic properties. An addition is to be made to the geometric freeboard, if the moonpool has a larger cross-sectional area~~ that is larger~~ above the waterline at ~~0.85~~ 85% of ~~freeboard~~ the depth for freeboard use than below, corresponding to the lost buoyancy. This addition for the excess portion above ~~0.85~~85% of the ~~freeboard~~ depth for freeboard use is to be made as follows, as prescribed for recesses in regulation 32-1. If an enclosed superstructure contains part of

the moonpool, a deduction should be made from the effective length of the superstructure.

(1) Where open wells or recesses are arranged in the freeboard deck, a correction equal to the volume of the well or recess to the freeboard deck divided by the waterplane area at ~~0.85*D*~~ 85% of the depth for freeboard use are to be ~~made~~added to the freeboard obtained after all other corrections have been applied, except bow height correction~~ have been made~~.

(2) In stability calculation, free surface effects of the flooded well or recess are to be taken into ~~consideration~~account.

Chapters P16 and P17 have been renumbered to Chapters P17 and P18 respectively.

(P17 and P18 are omitted.)

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2013.

2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships for which the date of contract for construction* is before the effective date.
*"contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
(1) such alterations do not affect matters related to classification, or
(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.
The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.