



# RUSSIAN MARITIME REGISTER OF SHIPPING

**CIRCULAR LETTER**

**No. 313-14-1502c**

dated 25.01.2021

Re:

amendments to the Rules for the Classification, Construction and Equipment of Floating Offshore Oil-and-Gas Production Units, 2021, ND No. 2-020201-018-E

Item(s) of supervision:

ships under construction

Entry-into-force date:

**01.04.2021**

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Parts VI "Fire and Explosion Protection" and XVI "General Requirements and Safety Principles"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that due to implementation of the jet fire test procedure for "J" class divisions in compliance with ISO 22899-1 "Determination of the resistance to jet fires of passive fire protection materials – Part 1: General requirements", the Rules for the Classification, Construction and Equipment of Floating Offshore Oil and Gas Production Units shall be amended as specified in the Appendices to the Circular Letter.

It is necessary to do the following:

1. Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity.
2. Apply the provisions of the Circular Letter during review and approval of the technical documentation on ships contracted for construction or conversion on or after 01.04.2021, in the absence of a contract, on ships, which commence conversion on or after 01.04.2021.

List of the amended and/or introduced paras/chapters/sections:

Part VI: paras 1.2.2, 1.5.4, 2.1.5, 2.3.2, 2.3.3, 3.5.16 – 3.5.20 and 5.1.4

Part XVI: para 3.5

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**Information on amendments introduced by the Circular Letter  
(for inclusion in the Revision History to the RS Publication)**

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
1	Part VI, para 1.2.2	The definitions "Pool fire" and "Jet fire" have been specified in connection with implementation of ISO 22899-1. New definitions "Critical temperature", "Passive fire protection material", "Passive fire protection (PFP)", "Fire barrier" and "Passive fire protection system" have been introduced in connection with implementation of ISO 22899-1	313-13-1502c of 25.01.2021	01.04.2021
2	Part VI, para 1.5.4	Requirement to application of symbols in fire plans has been specified considering amendments introduced by IMO resolution A.1116(30)	313-13-1502c of 25.01.2021	01.04.2021
3	Part VI, para 2.1.5	Requirements have been specified to fire integrity of the fire-fighting divisions located in the vicinity of potential sources of jet fires in connection with implementation of ISO 22899-1	313-13-1502c of 25.01.2021	01.04.2021
4	Part VI, para 2.3.2	Requirements have been specified to the critical temperature values for the FPU load-bearing structures	313-13-1502c of 25.01.2021	01.04.2021
5	Part VI, para 2.3.3	Requirements have been specified to the jet fire integrity of structures located between the wellhead (WH) or process area (PA) and other areas	313-13-1502c of 25.01.2021	01.04.2021

6	Part VI, para 3.5.16	Requirements have been specified to the fixed foam fire extinguishing system of the FPU helideck	313-13-1502c of 25.01.2021	01.04.2021
7	Part VI, paras 3.5.17 – 3.5.20	Paras 3.5.17 – 3.5.19 have been deleted. Para 3.5.20 has been renumbered 3.5.17	313-13-1502c of 25.01.2021	01.04.2021
8	Part VI, para 5.1.4	Requirements have been specified to the fire-fighting outfit of the FPU helideck	313-13-1502c of 25.01.2021	01.04.2021
9	Part XVI, para 3.5	Requirements have been specified to the fire integrity of the temporary refuge fire-resisting structures facing the drilling and process units according to Table 2.3.3, Part VI "Fire and Explosion Protection"	313-13-1502c of 25.01.2021	01.04.2021

**RULES FOR THE CLASSIFICATION, CONSTRUCTION AND EQUIPMENT  
OF FLOATING OFFSHORE OIL-AND-GAS PRODUCTION  
UNITS, 2021,**

**ND No. 2-020201-018-E**

**PART VI. FIRE AND EXPLOSION PROTECTION**

**1 GENERAL**

1 **Para 1.2.2.** After the definition "Integrated installation", new definitions "Critical temperature" and "Passive fire protection material" are introduced reading as follows:

"Critical temperature is the maximum temperature that the equipment, assembly or structure to be protected may be allowed to reach.

Passive fire protection material is coating or cladding that, in the event of a fire, will provide thermal protection to restrict the rate at which heat is transmitted to the object or area being protected."

After the definition "Hazard assessment", a new definition "Passive fire protection (PFP)" is introduced reading as follows:

"Passive fire protection (PFP) is coating or cladding arrangement or free-standing system which, in the event of fire, will provide thermal protection to restrict the rate at which heat is transmitted to the object or area being protected."

The definition "Pool fire" is replaced by the following text:

"Pool fire is turbulent diffusion combustion of vaporizing hydrocarbon fuel spilled and retained on a surface above a horizontal body of the fuel that has zero or low initial momentum."

After the definition "Prevention (of a hazardous event)", a new definition "Fire barrier" is introduced reading as follows:

"Fire barrier is a separating element that resists the passage of flame and/or heat and/or effluents for a period of time under specified conditions."

After the definition "Risk", a new definition "Passive fire protection system" is introduced reading as follows:

"Passive fire protection system is a removable jacket or inspection panel, cable transit system, pipe penetration seal or other such system that, in the event of a fire, will provide thermal protection to restrict the rate at which heat is transmitted to the object or area being protected."

The definition "Jet fire" is replaced by the following text:

"Jet fire is turbulent diffusion flame resulting from the combustion of a fuel continuously released (with some significant momentum) in a particular direction."

2 **Para 1.5.4** is replaced by the following text:

**"1.5.4** Plans and booklets referred to in this Chapter shall be in compliance with 1.3.4, Part VI "Fire Protection" of the MODU/FOP Rules. The symbols for items listed in 1.3.1, Part VI "Fire Protection" of the MODU/FOP Rules shall be in compliance with IMO resolution A.952(23) "Graphical Symbols for Shipboard Fire Control Plans" as amended by IMO resolution A.1116(30).".

## 2 STRUCTURAL FIRE PROTECTION

3 **Para 2.1.5** is replaced by the following text:

**"2.1.5** Fire-resisting and fire-retarding divisions shall meet the requirements of 2.1.2, Part VI "Fire Protection" of the RS Rules and 2.1.4, Part VI "Fire Protection" of the MODU/FOP Rules.

The fire-fighting divisions located in the vicinity of potential sources of jet fires shall be additionally "J" class rated and subject to fire test procedure specified in ISO 22899-1 "Determination of the resistance to jet fires of passive fire protection materials – Part 1: General requirements".

These fire-fighting divisions shall have combined fire integrity that may be defined as fire integrity to resist two-phase fire – initial jet fire followed by a hydrocarbon pool fire. Potential sources of jet fires are considered to be valves, flange and other detachable joints, etc. in the process system that are maintained under pressure during fuel extraction and could release a jet of flammable liquid or gas.

The combined fire integrity (H/J) shall only apply for "H" class divisions.

For example, "H-60/J-30" class division" means:

"H" class fire integrity defined according to the requirements specified in the definition "H class divisions", Part VI "Fire Protection" of the MODU/FOP Rules;

additional "J-30" class fire integrity defined according to the requirements of ISO 22899-1; thus, the maximum temperature (at any point) of the unexposed side shall not rise more than 180 °C above the initial temperature identified in Part 3, Annex 1 of the FTP Code.

Thickness of the "J" class bulkhead or deck specimen subject to jet fire test according to 6.6 of ISO 22899-1 shall correspond to the thickness of the "H" class bulkhead or deck specimen tested.

Additional "J" class fire integrity is characterized by the additional PFP thickness to withstand the effects of the jet fire added to the thickness calculated during the "H" class division testing. The additional thickness shall be indicated in H/J Type Approval Certificate.".

4 **Para 2.3.2** is replaced by the following text:

**"2.3.2** Table 2.3.2 contains provisions on standard application of structural fire protection on FPU.

Table 2.3.2

Fire area	Accommodation spaces/Temporary refuge (AS/TR)	Non-hazardous service areas (SA)	Wellhead areas (WH)	Process areas (PA) including gas compression areas	Control stations (CS)
AS/TR	1/CF/400	1/CF/400	N/A	N/A	1/CF/400
SA	1/CF/400	1/CF/400	1/CF/400	1/CF/400	1/CF/400
WH	1/JF1/400	1/JF1/400	1/JF1/400	1/JF1/400	1/JF1/400
PA	1/JF1/400	1/JF1/400	1/JF1/400	1/JF1/400	1/JF1/400
CS	1/CF/400	1/CF/400	N/A	N/A	1/CF/400

<sup>1</sup> "PF" type of fire may be considered as appropriate if the evaluation of fires in the area proves that "JF" is not a credible basis for the calculation of structural fire protection.

Notes: 1. Rating is specified as: period of resistance (hours)/type of fire/critical temperature (°C).

2. Type of fire: PF – pool fire, CF – cellulosic fire, JF – jet fire.

Temperature 400 °C stated in Table 2.3.2 is the critical temperature for load-bearing steel structures. The corresponding value for load-bearing aluminium structures is 200 °C.

The values given in Table 2.3.2 are read as follows:

where load-bearing structures for accommodation spaces are connected with structures in a process area, then the load-bearing structures shall be protected against jet fire for 1 h at the ultimate temperature of the steel structure equal to 400 °C;

where several different fires are possible in the area, the type of fire, for which the most strict requirements for structural fire protection are established, shall be selected."

5 **Para 2.3.3** is replaced by the following text:

"**2.3.3** Table 2.3.3 specifies standard requirements for integrity and continuity of fire barriers between areas.

Table 2.3.3

Fire area	Accommodation spaces (AS)	Non-hazardous service areas (SA)	Wellhead areas (WH)	Process areas including gas compression areas (PA)	Control stations (CS)
AS	1/CF-60	1/CF-60	Not to be adjacent	1/CF-60	1/CF-60
SA WH	1/CF-60 Not to be adjacent	1/CF-0 1/JF <sup>1</sup> J-0	1/CF-0 1/JF <sup>1</sup> J-0	1/CF-0 1/JF <sup>1</sup> J-0	1/CF-60 1/JF <sup>1</sup> J-60
PA CS	2/JF <sup>1</sup> J-120 1/CF-60	1/JF <sup>1</sup> J-60 1/CF-60	1/JF <sup>1</sup> J-0 1/CF-60	1/JF <sup>1</sup> J-0 1/CF-60	1/JF <sup>1</sup> J-60 1/CF-60

<sup>1</sup> Refer to Footnote to Table 2.3.2.

The functional requirements for fire barriers can be divided into three categories: preservation of bearing capacity (permissible loads) of a structural member or a fire barrier; integrity, i.e. to prevent flame, smoke, transmission; insulation, i.e. to maintain a definite temperature of the unexposed side of a barrier.

The data given in Table 2.3.3 is read as follows:

time period of the structure fire integrity (hours), type of fire, time period (minutes), during which the average temperature on the unexposed side shall not rise more than 140 °C above the initial temperature, and the temperature at any point, including any joint, shall not rise more than 180 °C above the initial temperature. For example, "2/JF<sup>1</sup>/J-120" means the requirement to prevent a passage of smoke and flames through the system during 2 h standard fire test of the "H" class division and additional "J" class fire integrity, providing the above mentioned temperature changes during 120 min."

### 3 FIRE-FIGHTING EQUIPMENT AND SYSTEMS

6 **Para 3.5.16** is replaced by the following text:

"**3.5.16** The fixed foam fire extinguishing system of the FPU helideck shall meet the requirements in 6.4.1, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" of the RS Rules."

7 **Paras 3.5.17 – 3.5.19** are deleted.

8 **Para 3.5.20** is renumbered 3.5.17.

## **5 FIRE-FIGHTING OUTFIT, SPARE PARTS AND TOOLS**

9 **Para 5.1.4** is replaced by the following text:

**"5.1.4** Additionally, FPU equipped with helidecks shall be provided with fire-fighting outfit in compliance with 6.4.1.15, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" of the RS Rules."

## **PART XVI. GENERAL REQUIREMENTS AND SAFETY PRINCIPLES**

### **3 TEMPORARY REFUGE**

10 **Para 3.5** is replaced by the following text:

**"3.5** Bulkheads, deck, ceiling, as well as doors, hatches, hatchways of the temporary refuge facing the drilling and process units shall have a fire resistance limit not less than H-120/J-120."