

RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF FIXED OFFSHORE PLATFORMS

PART I CLASSIFICATION

ND No. 2-020201-027-E



St. Petersburg

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF FIXED OFFSHORE PLATFORMS (PART I)

The present version of Part I "Classification" of the Rules for the Classification and Construction of Fixed Offshore Platforms (the FOP Rules) of Russian Maritime Register of Shipping (RS, the Register) has been approved in accordance with the established approval procedure and comes into force on 1 January 2024.

The present version is based on the version dated 1 September 2023 and Rule Change Notice No. 23-243800 taking into account the amendments and additions developed immediately before publication (refer to the Revision History).

REVISION HISTORY¹

For this version, there are no amendments to be included in the Revision History.

¹ With the exception of amendments and additions introduced by Rule Change Notices (RCN), as well as of misprints and omissions..

1 GENERAL

1.1 APPLICATION

1.1.1 The requirements of the FOP Rules cover floating offshore platforms made of steel, reinforced concrete and composite materials, including the ice resistant type, held on the bottom by gravity, piling or combined method and which are designed for the exploration/extraction of natural resources beneath the seabed and for other activities.

1.1.2 Technical requirements apply to all machinery, devices, apparatuses and equipment installed on board the FOP, whose normal operating conditions ensure the required safety of the platform as a whole in all modes of operation.

1.1.3 The drilling and production equipment (for recovery, refinement and transporting the products from the wells), as well as technological solutions related to the safety of drilling and well operation, shall be in conformity with the requirements of state bodies engaged in safety supervision in the oil and gas industry.

When performing technical supervision of drilling and process equipment by the Register, use may be made of the Rules for the Oil-and-Gas Equipment of Floating Offshore Oil-and-Gas Product Units, Mobile Offshore Drilling Units and Fixed Offshore Platforms¹ on a voluntary basis.

Compliance with the requirements of the OGE Rules does not waive fulfillment of the state supervisory body mandatory requirements for drilling and process equipment at the stage of its design, manufacture and operation.

¹ Hereinafter referred to as "the OGE Rules".

1.2 DEFINITIONS AND EXPLANATIONS

1.2.1 For the purpose of the FOP Rules, the following definitions have been adopted.

Module block is a functionally complete section of the topside, e.g. energy, accommodation, production, etc. module blocks.

Topside consists of superstructures, deckhouses and other similar structures used for accommodating personnel, equipment, systems and devices which ensure the structure operation in accordance with the purpose. A topside is generally formed from module blocks.

Sea depth is a vertical distance measured from the seabed to the average water level plus the total height of the astronomical and storm tides.

Deep-water leg platform is a platform on legs whose height is appreciably greater than their typical cross section. It consists of the following components: legs (one at least), lower substructure coming in contact with the bottom, and the upper bearing structure.

Additional requirements are those not contained in the FOP Rules, which are put forward by the Register during its classification activities.

Accommodation area is the area of a FOP used for attendants accommodation.

Drilling area is the area of a FOP in which equipment for the drilling of wells is installed.

Auxiliary equipment area is the area of a FOP in which auxiliary equipment is installed which is not directly associated with drilling and well operation and not intended for that purpose.

Clearance is a vertical distance measured from the average level of calm water plus the total height of the astronomical and storm tides to the lower section of the supporting deck or the topside of the platform.

Leg is a watertight, partially tight or vertical truss structure which takes up external loads and the weight of superimposed structures and equipment.

Helicopter facility is a FOP component used for helicopter landing and maintenance.

Artificial island (caisson) is a shallow-water platform on a solid metal foundation.

Ice resistance is a capability of a unit to withstand the ice load.

Shallow-water leg platform is a platform on legs whose height is comparable to their typical cross section. They consist of the same components as deep-water leg platforms.

Module is generally defined as a hull, supporting assembly, topside and/or parts thereof, being a transport unit whose state afloat may be considered as short-time and relating to their outfitting and/or transportation periods.

It is assumed that a possibility for the module to be exposed to extreme ambient conditions is obviously eliminated.

Monopod/monococone is a single-support shallow-water platform of the tower type with vertical or inclined walls respectively.

Fixed offshore platform (FOP) is an offshore oil and gas field structure consisting of a topside and a substructure, which is fixed on the seabed throughout its use and which forms a part of the offshore oil and gas field construction.

Gravity FOP is a construction whose stability on the seabed is mainly ensured due to its deadweight and the weight of ballast taken in.

Mast FOP is a deep-water fixed offshore platform whose stability is ensured either by guys or by a relevant volume of flotation.

Pile FOP (pile-supported fixed offshore platform) is a construction whose stability on the seabed is mainly ensured due to piles driven in the seabed.

Stability block is a watertight structure ensuring the buoyancy and stability of the construction, support of the topside and resistance to external effects when located on the seabed. It may consist of modules, supermodules, pontoons, columns, trusses and pile foundations.

FOP substructure is a part of a FOP consisting of one or several supporting members on the top of which the FOP topside is assembled.

Supporting deck or supporting girders are structures on which the topside is assembled.

Underwater pontoon is a flat-bottomed watertight structure with vertical sides.

Embarkation pad is a FOP component attached to the substructure and used for embarkation and ship mooring.

Mode of operation is a condition or manner in which a FOP may operate or function while on a drilling location/recovery site or in transit. The modes of operation of a FOP include the following.

Operating condition is a condition wherein a FOP is on location for the purpose of conducting drilling or other similar operations, and combined environmental and operational loadings are within appropriate design limits established for such operations.

Supermodule consists of two or more modules joined together and thus forming a transportable unit.

Production area is the area of a FOP in which equipment for the recovery of products from the wells, refinement and transportation from the FOP is installed.

Transportable unit is a structure or section thereof which is transported on inland waterways and/or on the sea.

2 CLASS OF FOP

2.1 GENERAL

2.1.1 FOP is covered by the requirements of 2.1 of Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships¹.

¹ Hereinafter referred to as "the RS Rules/C".

2.2 CLASS NOTATION

2.2.1 The class notation assigned by the Register to fixed offshore platforms consists of the character of classification and distinguishing marks and descriptive notations defining their structure and purpose.

2.2.2 The character of classification assigned by the Register to fixed offshore platforms consists of distinguishing marks:

KE ⊛, **KE** ★, **(KE)** ★: for FOP with total power output of prime movers above 100 kW.

2.2.3 Depending on the classification society under whose supervision and according to whose Rules the ship or floating facility was built, the character of classification is established as follows:

.1 FOP built according to the Rules and under the Register technical supervision are assigned a class notation with the character of classification: **KE** ⊛;

.2 FOP which were as a whole (or their hull, or machinery installation, or machinery, equipment) built and/or manufactured according to the Rules and under the supervision of another classification society recognized by the Register, when classed with the Register are assigned a class notation with the character of classification: **KE** ★;

.3 FOP which were as a whole (or their hull, or machinery installation, or machinery, equipment) built and/or manufactured without the supervision of a classification society recognized by the Register or without the supervision of any classification society at all, when classed with the Register, are assigned a class notation with the character of classification: **(KE)** ★.

2.3 DISTINGUISHING AUTOMATION MARKS

2.3.1 If the automation equipment of the electric power plant of FOP complies with the requirements of Part XIV "Automation" of the FOP Rules one of the following automation marks shall be added to the FOP character of classification depending on the extent of automated functions and features of automation facilities, namely:

.1 AUT1 — the extent of automation functions allows to ensure operation of electric power plant with unattended machinery spaces and main machinery control room;

.2 AUT2 — the extent of automation functions allows to ensure operation of electric power plant with one operator in the main machinery control room with unattended machinery spaces;

.3 AUT1-ICS, AUT2-ICS — automated functions, as specified for distinguishing automation marks **AUT1** or **AUT2**, respectively, are implemented with the use of integrated computerized monitoring and control system meeting the relevant requirements of Section 5 of Part XIV "Automation" of the FOP Rules. Along with that, the electronic information provided to the operating personnel and control functions at control stations are implemented with the use of the common redundant information network.

2.4 DESCRIPTIVE NOTATION IN THE CLASS NOTATION

2.4.1 If the design of a FOP is basically the same as one of those defined under [1.2](#) of this Part and if it complies with the relevant requirements of the FOP Rules, one of the following descriptive notations is added to the character of classification depending on the design:

FOP gravity;
FOP pile;
FOP mast;
Ice-resistant.

The descriptive notation in the class notation shall be in English. At the shipowner's discretion it may be written in two languages: English and Russian.

2.4.2 If drilling or process equipment of FOP meets the requirements of the OGE Rules the descriptive notations in accordance with 6.3.1 of Part I "General Regulations for Technical Supervision" of the OGE Rules may be added to the character of classification:

.1 in case of manufacture and mounting of oil-and-gas equipment under the Register technical supervision as well as under the Register technical supervision in service:

drilling (RS) — with a drilling rig fitted;

subsea system (RS) — with delivery of production from underwater production systems;

subsea pipeline (RS) — with delivery (offloading) of production via a subsea pipeline;

oil production/treatment (RS) — with an oil production and/or treatment system fitted;

gas production/treatment (RS) — with a gas and gas condensate production and/or treatment system fitted;

oil and gas production/treatment (RS) — with an oil and gas joint production and/or treatment system fitted;

.2 in case of manufacture and mounting of oil-and-gas equipment without the Register technical supervision, but at the Register technical supervision in service, the symbol **(RS)** is deleted from descriptive notations.

2.4.3 If subsea power cables meeting the relevant requirements of the FOP Rules are used as the main source of FOP electrical power, the descriptive notation **subsea power cable** is added to the character of classification.

2.5-DESIGNATION OF THE OPERATING AREA AND CONDITIONS

2.5.1 If a FOP is designed to operate in a particular area and the maximum loads due to wind, waves, ice and currents are considered for this area, the area, loads and ice strengthening shall be indicated in the Classification Certificate.

2.6 DISTINGUISHING MARKS IN THE CLASS NOTATION

2.6.1 Upon request of the party, applying for the classification and/or review of the technical documentation and upon agreement with the Register, FOP may be assigned distinguishing marks specified in 2.2 of Part I "Classification" of the RS Rules/C.

3 SURVEY PROCEDURE AND SCOPE

3.1 SURVEY SCHEDULE AND TYPES

3.1.1 Initial surveys.

The following types of initial surveys of FOP are performed by the Register:
surveys which are carried out during construction of FOP under the Register technical supervision;

surveys of FOP built under the supervision of another classification society or any other competent organization.

3.1.2 Survey of FOP in service.

3.1.2.1 The requirements for survey of FOP in service are specified in the appropriate sections of the Rules for the Classification Surveys of Ships in Service and the Guidelines on Technical Supervision of Ships in Service.

3.2 INITIAL SURVEYS DURING CONSTRUCTION

3.2.1 During construction, the FOP shall be surveyed by the Register in the scope prescribed by the FOP Rules and the Guidelines on Technical Supervision of Ships under Construction, according to the technical documentation (given in [Section 4](#) of this Part) approved by the Register.

3.2.2 The date of FOP survey upon completion of construction is the date of actual completion of survey and issue by the Register of a FOP Classification Certificate (as per form 3.1.2p) and other ship's documents (as applicable).

At the initial survey, fixed offshore platforms flying the flag of the Russian Federation are assigned the RS number (identification number).

4 TECHNICAL DOCUMENTATION

4.1 DESIGN DOCUMENTATION

4.1.1 General requirements.

The requirements of 3.1 of Part I "Classification" of the RS Rules/C apply to FOP.

Before commencement of construction, the technical documentation referred to in [4.1.2 — 4.1.11](#) of this Part of the FOP Rules, 3.2.11 and 3.3 of Part I "Classification" of the RS Rules/C, 1.4 of the Rules for the Cargo Handling Gear of Sea-Going Ships shall be submitted to the Register for review and approval.

4.1.2 Ship's general documentation.

Letter identification and abbreviations:

A — Approved;

AG — Agreed;

FI — For information;

TD — Technical design;

PAD — Plan approval documentation;

DD — Detailed (design) documentation.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Technical specification	FI	•		•	
.2	General arrangement plan with configuration of the platform	FI	•		•	
.3	List of suppliers of main equipment	FI		•	•	
.4	List of international, industry and national standards applied during design	FI	•		•	
.5	List of deviations from the RS rules (with references to the relevant RS letters of their approval, refer to 1.3.4 of the General Regulations for the Classification and Other Activity, if any)	AG	•	•	•	The possibility of deviations shall be agreed with the RS Head Office and approved by the RS Director General
.6	Engineering analysis of the alternative design and arrangements	AG	•		•	

4.1.3 Hull documentation.

Submitted drawings shall exactly define the scantlings, structure, types and sorts of material, as well as configuration of hull structures and particular features of welding. Where possible drawings shall contain the following information:

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Strength analysis of structure and separate elements for specification load conditions and environmental conditions	AG	•		•	
.2	Information on forces induced by wind, water, current, mooring and other loads from environment which are taken into account while performing the analysis of joint strength	AG	•		•	
.3	Analysis of working loads caused by the drilling derrick and its relevant appliances in the supporting structure, as well as other significant loads of the same type	AG	•		•	
.4	Results of relevant model tests which may be used for justification or refinement of calculations	FI	•		•	
.5	Transverse, longitudinal sections and types (with indication of main particulars and other necessary scantlings, position of the watertight bulkheads, spacing between members)	A	•		•	
.6	Drawings of longitudinal and transverse bulkheads, tank wash bulkheads (for tanks the heights of overflow and air pipes shall be indicated)	A	•		•	
.7	Shell expansion (with indication of positions and dimensions of openings in shell plating; edges of the ice belt)	A	•		•	
.8	Deck and platform plans, including helideck (with indication of design loads, positions and dimensions of openings, their strengthening)	A	•		•	
.9	Drawings of superstructures and deckhouses	A	•		•	
.10	Drawings of supports and stringers	A	•		•	
.11	Drawings of bracing members, similar structural elements	A	•		•	
.12	Hull typical structural details	A		•	•	Listed typical details shall comply with those shown on structural drawings specified in 4.1.3.6 — 4.1.3.15 of this Part. The remaining information shall comply with the shipbuilding quality standards for the hull structure

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Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
						during new construction agreed at the kick-off meeting with the shipyard (refer to 2.7 of the Guidelines on Technical Supervision of Ships under Construction) and shall be reviewed by the RS Branch Office for technical supervision during construction
.13	Drawings of sections and assemblies of substructure and topside (including decks, transverse and longitudinal bulkheads, sides, bottom (with table of positions of manholes and other openings))	A		•	•	
.14	Diagram of fixed and variable masses	FI	•		•	
.15	Hull blocks plan	AG		•		
.16	Table of FOP hull welding	A	•	•	•	If the information listed herein is stated to the full in the drawings of FOP hull, then submission of the table of welding is not required. For TD stage, general technical requirements for welding and choice of welding consumables grades are submitted
.17	Plans of weld control	A		•	•	
.18	Specification of protective coatings	A	•	•	•	At the TD stage, the designer specifies general requirements for protective coatings in the specification

4.1.4 Documentation on arrangements, equipment and outfit.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Arrangement plans of openings in hull, superstructures and deckhouses and their closing appliances	A	•	•	•	
.2	General layout of arrangements: mooring arrangement, boarding arrangement, masts and their rigging, offloading arrangement (if any)	A	•	•	•	
.3	Calculation of arrangements: mooring arrangement, boarding arrangement, masts and their rigging, offloading arrangement (if any)	AG	•		•	
.4	Arrangements and equipment test program	A		•	•	
.5	General arrangement plans with indication of main features of exits, doors, corridors, stairways and vertical ladders, means of access to cargo and other spaces as well as general arrangement plans with essential assemblies and parts of guard rails	A	•	•	•	
.6	List of emergency outfit	AG		•		

4.1.5 Documentation on fire protection.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Arrangement plan of fire-fighting divisions separating FOP on fire zones and other fire-resisting and fire-retarding divisions with indication of doors, closures, passages, ducts, etc.	A	•	•	•	
.2	FOP general arrangement plan with indication of routes of escape and emergency exits to the open deck	A	•	•	•	
.3	Arrangement plan of fire extinguishing systems on FOP, fire control stations, stations for separate operational conditions	A	•	•	•	
.4	Fire detection and fire alarm system and gas detection and alarm systems	A	•	•	•	
.5	Diagrams and calculations of fire extinguishing systems (pumps, foam installations, etc.)	A	•	•	•	
.6	Detailed description of fire protection of a platform with indication of applied insulation and finishing materials, places of their installation	A	•	•	•	

4.1.6 Documentation on machinery installation and boiler plants.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	General arrangement plans of machinery and equipment in the machinery spaces of category A, as well as in the emergency diesel generator spaces (refer to 1.2 of Part VII "Machinery Installations" of the FOP Rules) with indication of exits	A	•	•	•	

4.1.7 Documentation on automation equipment.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Technical documentation specified in 3.2.8.1 of Part I "Classification" of the RS Rules/C, as far as it may be applicable to FOP	A/AG	•	•	•	
.2	Technical documentation specified in 3.2.8.2 of Part I "Classification" of the RS Rules/C, as far as it may be applicable to FOP	A/AG	•	•	•	
.3	Diagrams and drawings of automation systems of submersible sea water pumps	A	•	•	•	
.4	Diagrams and drawings of automation systems of windlasses, winches and other deck machinery	A	•	•	•	
.5	Diagrams and drawings of other automation systems of essential machinery and arrangements (as required by the Register)	A	•	•	•	

4.1.8 Documentation on systems and piping.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Technical documentation specified in 3.2.9.1 of Part I "Classification" of the RS Rules/C as far as it may be applicable to FOP	A/AF	•	•	•	
.2	Technical documentation specified in 3.2.9.2 of Part I "Classification" of the RS Rules/C as far as it may be applicable to FOP	A/AG	•	•	•	
.3	Sea water supply system diagram	A	•	•	•	
.4	Diagram of fuelling and fuel transfer systems	A	•	•	•	
.5	Ventilation system diagram with indication of watertight and fire-fighting bulkheads, location of fire dampers, ventilation capacity and air changes per hour for some spaces and hazardous zones, as well as pressure in some rooms in these zones	A	•	•	•	
.6	Diagram of emergency mud dumping system	A	•	•	•	
.7	Layout diagram for systems of technological complex and drilling rig	A		•	•	

4.1.9 Documentation on electrical equipment.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Technical documentation specified in 3.2.10.1 and 3.2.10.2 of Part I "Classification" of the RS Rules/C as far as it may be applicable to FOP	A/AG	•	•	•	
.2	Diagrams and drawings of alarm systems specified in Section 7 of Part X "Electrical Equipment" of the FOP Rules	A	•	•	•	
.3	Plan of dividing the platform into hazardous zones with a register of electrical and mechanical equipment installed in each zone (including technological and drilling equipment) with indication of closures of some rooms	A	•		•	
.4	Diagram of emergency selective de-energizing of the electric drives	AG	•	•	•	
.5	Diagram of FOP power supply from shore-based source or another FOP (if applicable)	A	•	•	•	

4.1.10 Documentation on submarine cable lines.

Nos.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Equipment specifications	C	•	•	•	At the TD stage, the designer specifies general requirements for the equipment in the specification
.2	Calculation results of cross-sections of cables with indication of their types, currents and protection	C	•		•	
.3	Results of mechanical calculations of cable loads caused by all possible effects	C	•		•	
.4	Process and structural solutions	O	•	•	•	At the TD stage, the designer submits general decisions
.5	Plans and longitudinal profiles of cable lines routing	O	•	•	•	At the DD stage, the designer submits detailed route plan and profile
.6	Commissioning, operating, maintenance and decommissioning manual	C		•	•	

4.2 TECHNICAL DESIGN DOCUMENTATION FOR CONVERSION OR RECONSTRUCTION

4.2.1 Before conversion or reconstruction of FOP the documentation for those parts of FOP hull, machinery and equipment which are subject to conversion and reconstruction shall be submitted to the RS Head Office for review and approval.

4.2.2 If a new machinery and arrangements significantly varying from those initial ones and covered by the requirements of the FOP Rules are mounted on FOP which is in operation it is necessary to submit to the Register an additional technical documentation on these new machinery and installations for review and approval in the scope required for the FOP under construction (refer to [4.1](#)).

4.3 WORKING PLANS FOR FOP UNDER CONSTRUCTION

4.3.1 When specifying the scope of detailed documentation to be submitted for review to the RS Branch Office carrying out technical supervision during construction of FOP, the applicable requirements of Section 3 of Part I "Classification" of the RS Rules/C shall be met taking into account the FOP features specified in [4.1](#) of this Part. For those types of FOP for which the requirements are missing or partially available in the FOP Rules, additional documents or data may be required as deemed necessary by the Register.

Russian Maritime Register of Shipping

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