RULES

FOR THE OIL-AND-GAS EQUIPMENT OF FLOATING OFFSHORE OIL-AND-GAS PRODUCT UNITS, MOBILE OFFSHORE DRILLING UNITS AND FIXED OFFSHORE PLATFORMS

ND No. 2-090601-011-E

RULE CHANGE NOTICE

ENTERS INTO FORCE:

01.07.2025

St. Petersburg
2025

RULES FOR THE OIL-AND-GAS EQUIPMENT OF FPU, MODU AND FOP

The present Rule Change Notice to The Rules for the Oil-and-Gas Equipment of Floating Offshore Oil-and-Gas Product Units, Mobile Offshore Drilling Units and Fixed Offshore Platforms (OGE Rules) (hereinafter — RCN) has been approved in accordance with the established approval procedure and contains earlier approved amendments that came into force on 24.01.2025 and published by the Urgent Rule Change Notice after entering into force of the previous version of The Rules for the Oil-and-Gas Equipment of Floating Offshore Oil-and-Gas Product Units, Mobile Offshore Drilling Units and Fixed Offshore Platforms (OGE Rules) (these amendments are specified in the Revision History and highlighted in yellow).

REVISION HISTORY

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

Item	Applicability	Description	Remarks
Chapter 1.1	Oil-and-gas equipment Terms and definitions	New term "High integrity pressure protection system (HIPPS)" has been introduced	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)
Table 7.1	Oil-and-gas equipment Technical supervision	Introductory note to the Table and the name of Column 6 have been amended in terms of replacing operational testing by functional testing. The Table has been supplemented by new code 25090300 "High integrity pressure protection system (HIPPS)"	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)
Table 10.2.7	Oil-and-gas equipment Operation	The Table has been supplemented by a new item to be surveyed "High integrity pressure protection system (HIPPS)"	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)

PART III. SYSTEMS FOR PRODUCTION, TREATMENT, CATHERING AND TRANSPORTATION OF WELL FLUIDS

Item	Applicability	Description	Remarks
New Chapter 2.5	Oil-and-gas equipment Technical supervision	New Chapter 2.5 "High Integrity Pressure Protection System (HIPPS)" has been introduced. Existing Chapters 2.5 — 2.14 and references thereto have been renumbered 2.6 — 2.15, accordingly	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)

APPENDIX 1. ABBREVIATIONS USED IN INTERNATIONAL PRACTICE

Item	Applicability	Description	Remarks
Appendix 1	Oil-and-gas equipment Abbreviations used in international practice	New abbreviation "HIPPS" has been introduced	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)

APPENDIX 3. LIST OF NORMATIVE AND TECHNICAL DOCUMENTATION

Item	Applicability	Description	Remarks
Table, new items 82 — 84	Oil-and-gas equipment Normative and technical documentation	New items 82 — 84 specifying GOST R IEC 61511-2018 (Parts 1 — 3) have been introduced. Existing items 82 — 388 have been renumbered 85 — 391, accordingly	**Entry-into-force date: 24.01.2025** (Urgent Rule Change Notice № 323-05-2036 от 24.01.2025)

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

1 DEFINITIONS AND ABBREVIATIONS

1.1 TERMS AND DEFINITIONS

New term "High integrity pressure protection system (HIPPS)" is introduced reading as follows:

"High integrity pressure protection system (HIPPS) is a safety instrumented system intended to monitor various overpressure sources, which may cause increase of a pressure value above the maximum allowable operating pressure in the protected pipeline or equipment.".

7 NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION OF THE FPU/MODU/FOP OIL-AND-GAS EQUIPMENT

Table 7.1. **Introductory note**. The **last paragraph** is amended as follows:

"~~operational~~ functional testing — testing confirming ~~functionality and~~ serviceability of the items of technical supervision. When the scopes of ~~operational~~ functional and factory testing concur, only one testing may be conducted.".

The name of Column 6 "Operational testing" is replaced by **"Functional testing"**.

The Table is supplemented by **new code 25090300 "High integrity pressure protection system (HIPPS)"** reading as follows:

"

25090300	**High integrity pressure protection system (HIPPS)**	3	P	—	P

".

10 TECHICAL SUPERVISION OF OIL-AND-GAS EQUIPMENT IN SERVICE

10.2 SURVEY TYPES AND SCHEDULE

Table 10.2.7 is supplemented by **new item 7.2.4** containing a new item of technical supervision "High integrity pressure protection system (HIPPS)" reading as follows:

"

7.2.4	**High integrity pressure protection system (HIPPS)**	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP	MP

".

PART III. SYSTEMS FOR PRODUCTION, TREATMENT, GATHERING AND TRASPORTATION OF WELL FLUIDS

2 REQUIREMENTS FOR SYSTEMS FOR PRODUCTION, TREATMENT, GATHERING AND TRASPORTATION OF WELL FLUIDS

New Chapter 2.5 is introduced reading as follows:

"2.5 HIGH INTEGRITY PRESSURE PROTECTION SYSTEM (HIPPS)

2.5.1 High integrity pressure protection system (HIPPS) may be used to monitor various overpressure sources, which may cause increase of a pressure value above the maximum allowable operating pressure in the protected pipeline or equipment. HIPPS is a supplement to the automated system for emergency protection, the requirements for which are specified in 2.5 of Part IX "Special Requirements for Ensuring Explosion and Fire Safety".

2.5.2 The design documentation shall confirm that the use of HIPPS mitigates the risk caused by overpressure for protected equipment and pipelines to the allowable value.

2.5.3 The HIPPS elements that affect its performance shall be considered when assessing safety integrity level. Such elements, as a rule, include:

high pressure sensors (or initiators);

programmable electronic device that processes the input signal from sensors and outputs its signal to actuators;

isolation valves with actuating system (actuators).

2.5.4 In case the properties of the fluid being transported are subject to change during operation or any changes are made to design, a new flow analysis shall be conducted to confirm that the HIPPS is designed to cover the new configuration.

2.5.5 Selection of materials and welding procedure during the HIPPS manufacture shall be fully compatible with the fluid being transported. Requirements for materials and welding shall comply with the requirements of Part VIII "Materials and Welding", unless otherwise specified in the approved technical documentation.

2.5.6 Design solutions for the flowline downstream of the HIPPS shall consider the possibility of the HIPPS failure with mitigations to minimize each consequence.

2.5.7 Shut-in pressure of the HIPPS isolation valves shall be based on calculation considering water hammer effect and the transient pressure increase arising from the blockage. Transient pressure in various sections after the HIPPS actuation shall be determined for all stages under proposed operational changes.

2.5.8 A "fortified" section shall be located downstream of the HIPPS isolation valves to allow time to respond to the pressure pulse generated during the HIPPS actuation. The length of this section shall be determined by the hydraulic analysis under potential system transients. The response time to isolation valves closure affects the amplitude and duration of transient pressure wave and shall be determined with regard to the working medium characteristics. In case the "fortified" section is not used in the design, this shall be confirmed by hydrodynamic calculation.

2.5.9 When the potential for hydrate blockages is confirmed, the calculations of the transient pressure increase arising from the blockages shall be made. The results of these calculations shall be used to specify the requirements for shut-in time necessary for the HIPPS to avoid overpressure of the flowline between the HIPPS and the blockage.

2.5.10 Parts and piping of the HIPPS shall be manufactured taking into consideration corrosion allowance for internal corrosion and metal loss due to erosive effects of the working medium.

2.5.11 Regular testing shall be provided to demonstrate correct functions of the HIPPS and monitoring of the HIPPS operating status. The test frequency shall be consistent with the basis of the safety integrity level and manufacturer recommendations.

2.5.12 Testing of the HIPPS isolation valves may be carried out by a partial stroke testing. Thus, position of the shut-off device shall be indicated. Partial stroke testing of isolation valves is usually considered as a functional test, which allows to identify only a part of possible malfunctions.

2.5.13 Means shall be provided to reference pressure sensors against the test source or by other means to confirm that sensors are operating properly.

2.5.14 Safe pressure release arrangement shall be provided to ensure technical maintenance and repair of the HIPPS.

2.5.15 The programmable electronic device comprising the part of the HIPPS shall not permit bypassing of the HIPPS function and changing of the HIPPS trip set points.

2.5.16 During operation the following data shall be available:

pressure sensor outputs;

actuator status of isolation valves;

position status of isolation valves;

HIPPS alarm status.

2.5.17 The HIPPS local controller shall have self-diagnostic function.

2.5.18 The HIPPS control system shall provide:

.1 automatic closure of isolation valves at overpressure;

.2 possibility of isolation valves closure by an operator from the local control station;

.3 automatic start and stop of the actuator system equipment (where applicable);

.4 indication of the data listed in 2.5.16 in the main control station;

.5 interlock of the isolation valve in closed state until the pressure is reduced to a safe level.

2.5.19 The HIPPS trip pressure set point shall be defined at the system setup and cannot be changed by the operator.

2.5.20 The HIPPS monitoring system shall provide indication in the main control station:

when the pressure value exceeds the isolation valves shut-in pressure;

at closed position of isolation valves;

at faulty pressure sensors;

at actuator system malfunctions.

2.5.21 In addition to the requirements of this Section, the applicable requirements for the HIPPS of Section 2, Part V "Systems and Piping" shall be applied.".

Existing Chapters 2.5 — 2.14 and references thereto are renumbered **2.6 — 2.15**, accordingly.

APPENDIX 1

ABBREVIATIONS USED IN INTERNATIONAL PRACTICE

New abbreviation "HIPPS" is introduced reading as follows:

"HIPPS (High-integrity pressure protection system) is a high-level overpressure protection system.".

APPENDIX 3

LIST OF NORMATIVE AND TECHNICAL DOCUMENTATION

Table. **New items 82 — 84** are introduced reading as follows:

"

Nos.	Code name	Designation
82	GOST R IEC 61511-1-2018	Functional safety. Safety instrumented systems for the process industry sector. Part 1. Terms, definitions and technical requirements
83	GOST R IEC 61511-2- 2018	Functional safety. Safety instrumented systems for the process industry sector. Part 2. Guidelines for the application of IEC 61511-1
84	GOST R IEC 61511-3-2018	Functional safety. Safety instrumented systems for the process industry sector. Part 3. Guidelines for the determination of the required safety integrity levels

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Existing items 82 — 388 are renumbered **85 — 391**, accordingly.

Russian Maritime Register of Shipping

Rule Change Notice to the Rules for the Oil-and-Gas Equipment of Floating Offshore Oil-and-Gas Product Units, Mobile Offshore Drilling Units and Fixed Offshore Platforms

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