IV. DESIGN AND OPERATION. INDUSTRIAL SAFETY

Specific actions to prevent accidents while operating offshore oil and gas fields shall be taken starting from the stage of design and/or selection of appropriate equipment, through the selection of technology processes and production facilities with the task to provide for their proper performance.

Legal Framework and Key Concepts


- Industrial Safety at Hazardous Production Facilities implies: safety of vital interests of a person and society from accidents and their consequences at hazardous production facilities;
- Hazardous Production Facility (HPF) means enterprises or their shops, areas and sites as well as other production facilities featuring at least one of the following hazards:
  - they are designed for production, use, processing, generation, storage, transportation and disposal of hazardous substances;
  - they use pressurized equipment;
  - they use stationary hoisting machines.

Industrial safety activities include design, construction, operation, refurbishing, overhaul, technical upgrading, suspension and abandonment of HPF; fabrication, assembly, adjustment, maintenance and repair of technical devices used at HPF; industrial safety appraisal; HPF personnel training and re-training in non-educational organizations.

Design Documentation Requirements

The key requirements for assurance of appropriate subsoil use, environment protection and safe operations related to geological surveys and hydrocarbon exploration and production shall be specified in the design documents for the appropriate types of works. The documents should have the required approvals and expert opinions.

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1 Refer to Appendix 11.
2 Refer to Appendix 26.
3 Refer to Appendix 8.
The requirements for the structure and drafting/approval of documentation for hydrocarbon field development demand mandatory inclusion of the design of the pilot operation of the field (deposit), a process flow chart of the pilot development of the field, deposits or parts of deposits, as well as a process flow chart and a process design of the measures providing compliance with environmental protection and safety requirements in the course of subsoil development.

In addition to the above-mentioned, the following regulatory documents have to be rigidly observed during operations: Guidelines for Seismic Survey, Guidelines for Geological Exploration Design and Cost Estimate Drafting, Guidelines for Geological Exploration Design and Cost Estimate Drafting, Part II (Offshore Geological Exploration) and Code of Seismic Survey Procedures during work performance with minimal environmental impact.

Classification and Registration of Hazardous Production Facilities

Pursuant to the Federal Law # 116-FZ (1997) Hazardous Production Facilities shall be registered in the HPF State Register. Based on the information submitted by the company operating the HPF, a registration certificate is issued with Class indication.

Pursuant to the Federal Law # 116-FZ (revision of the Federal Law of 04.03.2013 # 22-FZ) HPF are divided into four Hazard Classes in accordance with the criteria specified in Appendix 2 to the Federal Law # 116-FZ:

- Class I: Very high level hazard facilities
- Class II: High level hazard facilities
- Class III: Medium level hazard facilities;
- Class IV: Low level hazard facilities.

When a hazardous facility certified as Hazard Class II, III or IV is located in a specially protected area, the continental shelf of the Russian Federation, the inland marine waters, the territorial seas or in the contiguous area of the Russian Federation, or in artificial land built within a water body owned by the federal government, the higher Hazard Class is selected for the hazardous production facility of this type.

Industrial Safety Requirements

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4 Appendix to Directive of Minprirody of Russian of July 8, 2010 # 254.
5 M., Mingeo of the USSR, 1986
6 M., Roskomnedra, 1993
7 M., MPR of Russia, 1996
8 M., Rosnedra, 2011
Pursuant to Article 3 of the Federal Law # 116-FZ (revision of the Federal Law of 04.03.2013 # 22-FZ), industrial safety requirements are conditions, prohibitions, restrictions and other mandatory requirements included into the Federal Law # 116-FZ, other federal laws, resulting regulatory documents adopted by the Government of the Russian Federation as well as federal standards and rules of industrial safety.

Industrial safety requirements have to meet the standards of human and territorial protection from emergency situations, to provide for the observance of sanitary and epidemiological standards, environmental, fire and labor safety, construction standards as well as mandatory requirements established in accordance with the laws of the Russian Federation for technical regulations.

When

- in the course of operation, overhaul, suspension or decommissioning of a hazardous production facility it is necessary to deviate from the industrial safety requirements specified in federal industrial safety standards and rules, or
- the applicable requirements are not sufficient and/or they have not been established,

a person preparing design documentation for the construction or reconstruction of a hazardous production facility may establish industrial safety requirements related to the above facility operation, overhaul, suspension and decommissioning for justification of safety for the hazardous industrial facility.

Safety justification for the hazardous production facility, as well as changes introduced to the safety justification is subject to an industrial safety expert appraisal. It is prohibited to apply safety justification for the hazardous production facility without a positive industrial safety expert appraisal conclusion on the above justification and its alterations (if any).

Safety justification for hazardous production facility shall be submitted by the operating company to an industrial safety federal executive authority in the process of hazardous safety facility registration in the state register: the Federal Service for Environmental, Technological and Nuclear Supervision (Rostekhnadzor). Changes in the safety justification for the hazardous production facility shall be submitted by the operating company to an industrial safety federal executive authority within ten working days from the date of receipt of a positive expert conclusion on the industrial safety appraisal.

*Functions and Powers of the Federal Service for Environmental, Technological and Nuclear Supervision*
Rostekhnadzor’s functioning as an industrial safety federal executive authority is based on the Decree of the Government of the Russian Federation of 30.07.2004 # 401. This organization is one of the key components of the governmental industrial safety supervision system.

Rostekhnadzor functions in accordance with the Regulations on the Federal Service for Environmental, Technological and Nuclear Supervision approved by the foregoing Decree of the Government of the Russian Federation of 30.07.2004 # 401, which also specified Rostekhnadzor’s powers including those in industrial safety.

In the area of industrial safety Rostekhnadzor is solely authorized to adopt regulatory documents specifying:

- requirements for the registration of the facilities in the state register of hazardous production facility and to maintain the register;
- execution procedures of Industrial Safety Declaration of Hazardous Production Facilities and of a list of data to be included in the document;
- procedures for technical investigations of accidents, incidents and events of loss of industrial explosive materials;
- procedures and requirements for industrial safety assessment;
- requirements related to other issues within the established jurisdiction.

The essential function of Rostekhnadzor and the key component of the system of industrial safety and governmental supervision is the supervisory function related to the implementation of the government industrial safety policy and the prevention of industrial accidents and injuries.

Its key task is to prevent, discover and eliminate violations of industrial safety requirements committed by the supervised entities.

It should be noted that provisions of Federal Law # 116-FZ are in force with regard to any company (irrespective of its organizational and legal form and forms of ownership), which is involved in the industrial safety of hazardous production facilities on the Russian Federation’s territory and on other territories under the jurisdiction of the Russian Federation. In these cases, the legislation of the Russian Federation and international laws apply. The functions of federal authorities regarding the continental shelf include federal governmental supervision of industrial safety.

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9 Refer to Appendix 18.
Key methods of exercising federal governmental supervision of industrial safety include scheduled and non-scheduled inspections (audits) in accordance with the applicable laws. In the course of such audits Rostekhnadzor inspectors check entities' and individual entrepreneurs' adherence to industrial safety requirements, as well as the compliance of buildings, premises, facilities, technical devices, equipment and materials, and applied technological processes with the above requirements.

<table>
<thead>
<tr>
<th>Method of Regulation</th>
<th>HPF hazard class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensing</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Federal governmental supervision:</td>
<td></td>
</tr>
<tr>
<td>• continuous supervision;</td>
<td>+</td>
</tr>
<tr>
<td>• scheduled audits (one per year, maximum);</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>• scheduled audits (one per three years, maximum);</td>
<td></td>
</tr>
<tr>
<td>• non-scheduled audits</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Data submission on industrial control in electronic form</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Development of industrial safety declaration</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Designing of industrial safety control systems</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Development of Accident Containment and Remediation Plan</td>
<td>+    +    +    +</td>
</tr>
<tr>
<td>Compulsory civil liability insurance</td>
<td>+    +    +    +</td>
</tr>
</tbody>
</table>

**Audits**

The reasons to include *scheduled* audits into an annual inspections schedule are the expiration of the classification of Class I and II facilities after one year and the classification of Class III facilities after three years from the date of the following events:

- a decision on the commissioning after construction, technical upgrading, modification and overhaul of a hazardous production facilities including buildings, premises, facilities, technical devices, equipment and materials used in the course of hazardous production facilities operation;
- registration of a hazardous production facility in the state register of hazardous production facilities;
- completion of the latest scheduled audit.

*Non-scheduled* audits shall be fulfilled after the following events:
expiration of a period for performance by the legal entity or individual entrepreneur of the instructions issued by the industrial safety federal executive authority for the elimination of a revealed violation of mandatory requirements;

receipt by the industrial safety federal executive authority of appeals and claims from citizens, including individual entrepreneurs, and legal entities, information from governmental executive bodies (officials of industrial safety federal executive authorities) and local administrations, or from mass media on violations of mandatory requirements, compliance with mandatory requirements for the operated buildings, premises, facilities, technical devices, equipment and materials, and technological processes, if these violations (a) endanger human life and health, animals, plants, environment, state security, property of physical or legal persons, state or municipal property and/or (b) threaten with or lead to the damages caused by accidents and/or industry emergencies;

order (command) for a non-scheduled audit issued by the manager (deputy manager) of an industrial safety federal executive authority in accordance with the instructions from the President of the Russian Federation or the Government of the Russian Federation, or based on a procurator's office request to perform a non-scheduled audit within the framework of supervision of legal compliance following the receipt by procurator's office of relevant materials and requests.

For individual hazardous production facilities, Article 16 of the Federal Law # 116-FZ provides for continuous governmental supervision.

Continuous governmental supervision, the list of operated hazardous production facilities subject to such supervision, and the procedures for its implementation are established by the Government of the Russian Federation.

Declaration of Industrial Safety

A Declaration of Industrial Safety of Hazardous Production Facilities shall be drafted as an integral part of the design documentation for the construction, expansion, modification, technical upgrading, suspension and decommissioning of HPF of the companies, where the list of hazardous substances used for production exceeds the level specified in Appendix 2 to the Federal Law # 116-FZ. Based on the assumption of an enterprise as a source zone of potential environmental impact, the declaration shall include:

- a comprehensive assessment of accident potential and of associated hazards;
• an analysis of the sufficiency of taken measures for accident prevention, organizations' preparedness to operate hazardous production facilities in accordance with industrial safety requirements, as well to contain and eliminate accident consequences at hazardous production facilities;
• measures for the mitigation of consequences and damage resulting from accidents at hazardous production facilities.