

**Technical Specifications for Construction of Pavilions  
and Outdoor Venues at the  
SPIEF 2017 Main Venue (ExpoForum Convention and Exhibition  
Centre)**

St. Petersburg  
2016

## **1. General provisions.**

The objective of the work performed by contractors to assemble, maintain, and dismantle temporary facilities in pavilions and at outdoor venues at the SPIEF 2017 Main Venue is to support SPIEF 2017 events in full and within the specified deadlines.

Contractors certified for compliance with the ISO 9000 (ISO 9001-2008) series of international standards may be permitted to perform work at the SPIEF 2017 Main Venue.

In order to perform work regulated by Russian Ministry of Regional Development Order No. 624 dated December 30, 2009, contractors must demonstrate that they hold a permit for types of work that impact the safety of capital construction projects issued by a self-regulatory organization (SRO).

### **Technical documentation for issuance of a work permit for assembly, maintenance, and dismantling of temporary facilities in pavilions and at outdoor venues of the SPIEF 2017 Main Venue performed by contractors in support of SPIEF 2017 events**

Pursuant to the Regulations on Work Permits for Contractors Performing Assembly, Dismantling, and Maintenance of Temporary Facilities at Pavilions and Outdoor Venues of the SPIEF 2017 Main Venue, to obtain a work permit for assembly, dismantling, and maintenance of SPIEF 2017 temporary facilities, including electricity supply and utility lines, at pavilions and outdoor venues of the SPIEF 2017 Main Venue, contractors shall submit the following documentation to the SPIEF 2017 Technical Directorate:

1. A detailed design approved by the client and the SPIEF 2017 Organizing Committee, including:

- Title page
- Statement of work
- Summary
- Working drawings and electrical diagrams (including datasheets indicating maximum heat dissipation for each type of electrical equipment)
  - Design project
  - Specifications for materials, parts, assemblies, and equipment
  - Fire safety measures (including technical and organizational)
  - Technical specifications for all types of work to be carried out

The detailed design, including the design project, shall be approved by the client and submitted to the Roscongress Foundation by the deadlines indicated in the Regulations on Work Permits for Contractors Performing Assembly, Dismantling and Maintenance of Temporary Facilities at Pavilions and Outdoor Venues of the SPIEF 2017 Main Venue.

2. Package of documents required to obtain work permit.

3. An electronic copy of the detailed design in PDF format.

**All technical documentation shall be approved by the client and executed in accordance with the Unified System of Engineering Documentation.**

## **2. Requirements for performance of work by contractors**

2.1. Contractors shall perform assembly/dismantling work on a 24-hour work schedule in compliance with the Work Schedule for Temporary Construction at Pavilions and Outdoor Venues at the ExpoForum Convention and Exhibition Centre for the St. Petersburg International Economic Forum 2017 (SPIEF 2017 Main Venue).

2.2. Vehicles belonging to contractors must obtain an entrance pass from the Accreditation Centre to enter the SPIEF 2017 Main Venue to perform assembly work. When leaving the SPIEF 2017 Main Venue, vehicles used by contractors to perform dismantling work must obtain permission to remove property (equipment) belonging to the contractor, in accordance with a completed consignment note.

Vehicles must obey the Traffic Regulations. Within the SPIEF 2017 Main Venue, there is a speed limit for all vehicles of 20 km/h. The single axle-weight limit for vehicles must not exceed 10 tonnes.

### **Movement of vehicles within pavilions is prohibited.**

Specialist vehicles for performing work within pavilions (hoists, loaders) must not exceed a speed of 5 km/h. Specialist vehicles shall only be allowed to enter pavilions for loading and unloading purposes and for lifting equipment, according to the Work Schedule for Temporary Construction at Pavilions and Outdoor Venues at the ExpoForum Convention and Exhibition Centre for the St. Petersburg International Economic Forum 2017 (SPIEF 2017 Main Venue), and with the permission of the pavilion administrator.

### **Parking of vehicles in exhibition pavilions is prohibited.**

Vehicle engines must be shut off while loading and unloading.

### **Parking of vehicles within the SPIEF 2017 Main Venue is prohibited.**

2.3. All assembly work shall be performed in accordance with the current Safety Regulations (PTB), Regulations for the Operation of Consumer Electrical Installations (PTEEP), Regulations for the Design of Electrical Installations (PUE), Russian Federation Fire Safety Regulations (PPR), Technical Regulations on Fire Safety (FZ-123), Building Codes (SNiP), Model Occupational Safety Guidelines for Workers Performing Climbing Work (TOI RO-055-2003), Occupational Safety Regulations (POT) (Russian Ministry of Labour Order No. 328n dated July 24, 2013), Occupational Safety Guidelines for Workers Performing Work at Height, and the requirements of the designs and working drawings set out in the detailed designs (plans).

2.4. Temporary facilities shall only be constructed after the construction site layout has been staked for construction on the basis of the assembly plans and inspected with representatives of the SPIEF 2017 Technical Directorate.

2.5. Temporary facilities shall only be constructed after acceptance of the construction site for construction by the contractor, documented by a certificate on the required form with attached photographs of any deficiencies identified. Handover of the construction site shall be

performed and managed by the following representatives of the SPIEF 2017 Technical Directorate:

- administrator
- technical and engineering oversight specialist (technical administrator)

2.6. Following completion of dismantling work, the contractor must hand over the construction site to the SPIEF 2017 Technical Directorate. Acceptance of the construction site shall be performed by means of a certificate of acceptance, and shall involve representatives of the SPIEF 2017 Technical Directorate, ExpoForum Convention and Exhibition Centre, and the contractor. In the event that problems are identified, they shall be corrected by the contractor itself, or the cost of repair (material damage) shall be paid to ExpoForum Convention and Exhibition Centre.

2.7. The construction site shall be deemed handed over, provided that:

- any deficiencies identified have been corrected by the contractor itself, or the cost of repair (material damage) has been paid to ExpoForum Convention and Exhibition Centre
- the payment documents have been attached to the certificate of acceptance of the construction site
- the certificate of acceptance of the construction site has been signed by all parties

2.8. Before work begins, a representative of the contractor designated by the manager of said company responsible for performing the work shall be obliged to verify that the construction plan conforms to the master development plan, together with representatives of the SPIEF 2017 Technical Directorate (the administrator and technical and engineering oversight specialist (technical administrator)). In the event that discrepancies that might lead to an interruption of work are identified, these shall be immediately referred to the SPIEF 2017 Technical Directorate for a decision.

2.9. Temporary facilities shall only be constructed within the marked construction site, and the passageways between construction sites shall be kept clear.

**Storage of containers, construction materials, construction debris, tools, and equipment in passageways is prohibited.** Where discrepancies in the location of structures in relation to the general layout line are identified, the contractor shall be obliged to dismantle and reassemble the structures at its own expense.

**No parts of structures shall be allowed to extend beyond the boundaries of the allocated construction site accepted by the contractor for construction.**

2.10. As a mandatory requirement, the entire construction area in an ExpoForum Convention and Exhibition Centre pavilion shall be covered with a floor covering. The use of adhesive tape to secure floor coverings shall be permitted. The adhesive tapes used must not leave marks on the floor after removal.

2.11. The height of temporary facilities and rooms in SPIEF 2017 Main Venue outdoor venues shall conform to the designs accepted in the detailed design for construction. The

maximum possible height of temporary facilities erected within pavilions at the SPIEF 2017 Main Venue shall be:

- *Pavilion F (1) – 4.5 metres*
- *Pavilion G (2) – 4.5 metres*
- *Pavilion H (3) – 4.5 metres*
- *Congress Centre – 4.5 metres*
- *Large and Small passage – 4.5 metres*

**By decision of the Forum Organizing Committee, the construction of two-storey temporary facilities in the pavilions at the SPIEF 2017 Main Venue is PROHIBITED.**

2.12. In cases where the design of the temporary construction includes rooms with a continuous ceiling, the rooms must be equipped with supply and exhaust ventilation and air conditioning systems with warm air discharged outside the building envelope (walls) of the existing pavilions to ensure a comfortable environment for visitors. A calculation of the heat generated by the equipment used in the temporary structure must be included when drawing up the heating and ventilation plans.

2.13. Where any continuous ceilings or other structural elements are installed which result in the creation of separate new, temporary spaces (rooms, halls, areas, exhibit spaces, etc.) inside the ExpoForum Convention and Exhibition Centre pavilions, or the overhead automatic fire protection systems are blocked, the spaces under such ceilings and structural elements must be protected by additional automatic fire protection systems according to the requirements of the codes (including: automatic fire alarms and (or) fire extinguishers (including modular type), respectively). Additional automatic fire protection systems do not need to be installed if the ceiling and other structural elements have a regularly perforated structure with perforations over an area of not less than 40% of the area of the ceiling and other structural elements, while the minimum size of each perforation must be no less than 10 mm in any direction, and the thickness of the ceiling or other construction must not be more than three times the minimum cell size of the perforations.

2.14. Only the use of tempered glass shall be permitted, and at a height of more than 1.8 m from floor level to the top edge of a facility, only the use of Triplex safety glass shall be permitted.

2.15. Walls constructed for temporary facilities, and any advertising devices must be stable and shall not pose a hazard to third party life or health. Frames and parts of walls and other structural elements constructed using combustible materials shall be treated with fire retardant. Frame structures for suspended ceilings shall be made of noncombustible materials only. The contractor shall be responsible for the safe installation of any structural elements and must be able to prove this as required. Temporary facilities constructed by the contractor shall not be secured using adjacent temporary facilities. If the distance from the ceiling to the top of temporary constructed walls, partitions, display, and other structural elements is 0.6 m or less, additional fire alarm notification appliances for the automatic fire protection systems shall be installed.

**2.16. The securing of temporary facilities and structural elements to fixed walls or the floor of pavilions at the ExpoForum Convention and Exhibition Centre shall not be permitted.**

2.17. Construction work inside pavilions at the SPIEF 2017 Main Venue shall be performed using prefabricated assemblies and elements that have been pre-assembled and painted at processing sites belonging to the contracting company. Only fireproofing and work to join prefabricated elements and finish and paint joints may be performed within ExpoForum Convention and Exhibition Centre pavilions. Floors of passageways must be covered with protective film.

**The use of bench circular saws, sanders not equipped with dust collectors, open flame, or welding units shall be prohibited.**

2.18. The use of combustible construction and finishing materials is not permitted. Where warranted, when materials with properties different from noncombustible materials are used, the fire retardant treatment requirements indicated below should be met (while in any event the fire hazard class of materials for finishing rooms and paths of egress travel must not exceed the ratings set in tables 28 and 29 of FZ-123 (depending on the type of paths of egress travel and the purpose of the rooms)):

Contracting companies shall not use building materials for construction of walls, ceilings, or suspended ceiling panels in temporary facilities with a fire hazard class higher than G1, V1, D2, T2, RP1 (or materials which have not undergone fire-retardant treatment to this class). Frame structures for suspended ceilings shall be made of noncombustible materials only. Only noncombustible materials (from group NG) when not isolated from combustible materials may be used for soundproofing and heat insulation.

Contractors shall not use building materials for floor coverings in temporary facilities with a fire hazard class higher than: G1, V1, D2, T2, RP1 or V1, D2, T2, RP1 (for carpeting), or materials which have not undergone fire-retardant treatment to this class.

Where there is a need to use fabric finishings (drapes), the fabrics shall be subject to fire-retardant treatment to ensure that they match the characteristics of flame-resistant fabrics (in accordance with GOST R 50810-95), fabrics with moderate smoke-generating capacity D2 (in accordance with GOST 12.1.044-89), fabrics which generate moderate quantities of toxic substances T2 (in accordance with GOST 12.1.044-89), and fabrics which are not considered to be highly flammable (in accordance with GOST R 53294-2009). The use of Kendal fabrics or fabrics made from Trevira CS fibres (or their equivalent) is permitted.

Fire certificates and certificates of fire-retardant treatment confirming the classification of the structural materials and their permitted use shall be posted in each facility constructed. As confirmation of fire-retardant treatment, the contractors must provide to the SPIEF 2017 Technical Directorate certificates for the completed fire-retardant treatment, while the use of materials subjected to fire-retardant treatment earlier and previously used at other events is not permitted (since during storage there are many factors which may affect fire-retardant qualities, including humidity, temperature, mechanical, or other effects and other storage conditions).

Only live deciduous and coniferous trees may be used. Bamboo, reeds, thatch, sod, and similar materials shall only be used after special treatment.

2.19. The designs of stairs, ramps, steps, and walkways shall conform to safety requirements. All stairs and elevated platforms and areas shall have railings. The railings shall be at least 1.2 m above floor level and have, as a minimum, top, middle, and bottom handrails. Stair enclosures and railings shall be continuous, equipped with handrails, and designed to bear a load of not less than 0.3 kN/m. Platforms shall be designed for a load of not less than 2.0 kN/m<sup>2</sup> and shall pass static tests. The height of single-level platforms shall not exceed 0.22 m. The slope of stairs shall be not greater than 1:1; step width shall be not less than 25 cm, and step height shall be not more than 22 cm. The width of flights of stairs and stair landings shall be not less than 1.2 m, where warranted this may be reduced to a width of 0.9 m. **Construction of spiral, curved, etc. staircases shall be prohibited.** Floor level changes on paths shall be via not less than three steps or via a ramp with a slope of not more than 1:6. The width of doors (or door openings) shall be not less than 0.8 m (and not less than 1.2 m for rooms with occupancy of 50 or more persons), while their height shall be not less than 1.9 m. The height of the passageway along paths of egress travel, including where additional structural elements are installed, shall be not less than 2.2 m.

Paths of egress travel shall be equipped with luminescent emergency egress systems in accordance with the provisions of GOST R 12.2.143-2009 Occupational Safety Standards System. Luminescent Emergency Egress Systems. Requirements and Test Methods.

Fire risk analyses shall be performed on the basis of the provisions of Article 6 and Article 53 of FZ-123 Technical Regulation on Fire Safety Requirements to confirm that occupants can be evacuated safely, to ensure the fire safety of a facility, and to verify that the measurements of paths of egress travel for the structural elements are correct.

2.20. When constructing facilities, the contractor shall ensure that the exterior surfaces of walls and partitions adjoining passageways where SPIEF 2017 participants may be present are attractive, by using decorative finishes, displays, etc. Partitions and facilities that adjoin adjacent rooms shall be neutral in appearance and fit with the designs of adjacent facilities.

2.21. The interior rooms, pavilion buildings, and equipment of ExpoForum Convention and Exhibition Centre outdoor venues shall not be damaged, soiled, or altered in any manner. **Painting, wallpapering, or posting material on the surfaces of walls and equipment at the ExpoForum Convention and Exhibition Centre shall be prohibited.** Pillars and columns located on construction sites may be covered to the permitted height provided that they are not damaged.

2.22. **Where it is necessary to construct bases and podiums, they shall be constructed above floor level. Excavation shall be prohibited. Painting of pavilion floors and outdoor venue pavements shall be prohibited.**

2.23. Where mortar must be used, it shall be mixed and applied using metal or plastic sheets or tarpaulins.

**Application of mortar to pavilion floors or pavements shall be prohibited.**

2.24. In the event that oil and similar substances are spilled on floor surfaces or pavements, they must be immediately removed. Rugs and carpeting shall be installed in compliance with

safety regulations and shall not extend beyond the borders of the construction site. Only adhesive polyethylene or polypropylene tape may be used to attach carpeting to a floor or pavement. Such materials must not leave marks.

2.25. Where loose materials (soil, sand, etc.) are used, process hatches or openings in ExpoForum Convention and Exhibition Centre outdoor venues shall be covered and protected against soiling. If there is dust, it must be removed by suitable means.

2.26. A limited number of structures and equipment may be suspended from roof beams in ExpoForum Convention and Exhibition Centre pavilions. The maximum allowable load on roof beams (trusses) of pavilions shall not exceed:

- **F (1) – 100 kg at the suspension point**
- **G (2) – 100 kg at the suspension point**
- **H (3) – 100 kg at the suspension point**

**The maximum allowable height of suspended temporary structures (excluding hoists and cables/chains) from the highest point of the suspended structure to the finished floor level of the pavilion must not exceed 8 m.**

Suspension of structures and equipment must not obstruct the coverage of the automatic fire protection systems.

**Loading plan in pavilions F(1), G(2), and H(3) at the ExpoForum Convention and Exhibition Centre**



2.27. When developing the detailed designs as they apply to decoration and design of facilities, the contractor shall ensure compliance with the requirement that all lettering on walls of temporary facilities, company names, and logos shall not extend beyond the permitted height of the structures and must be attractive from all points of view.

2.28. **The use of audio equipment in temporary facilities is prohibited.**

2.29. When designing temporary facilities at outdoor venues of the ExpoForum Convention and Exhibition Centre, the temporary facility must be able to withstand wind loads of air flow of not less than 30 m/s.

**Drilling into the asphalt coverings at the outdoor venues of the ExpoForum Convention and Exhibition Centre is PROHIBITED.**

The securing of temporary facilities erected at outdoor venues of the SPIEF 2017 Main Venue **must be done with the aid of weights.**

2.30. When developing the detailed design for and assembling facilities at the ExpoForum Convention and Exhibition Centre pavilions, the contractor shall not exceed the following maximum allowable distributed load on the floor:

- **Pavilion F (1) – 2,500 kg/m<sup>2</sup>**
- **Pavilion G (2) – 2,500 kg/m<sup>2</sup>**
- **Pavilion H (3) – 2,500 kg/m<sup>2</sup>**
- **Congress Centre Passage, Small Passage, Hall – 2,500 kg/m<sup>2</sup>**
- **Congress Centre: Congress Halls E1–E6 – distributed load of 2,500 kg/m<sup>2</sup>, concentrated load of 1,000 kg**
- **Congress Centre: Restaurant for Participants E7–E12 – distributed load of 2,500 kg/m<sup>2</sup>, concentrated load of 1,000 kg**
- **Congress Centre: Conference Halls D1–D4 – distributed load of 500 kg/m<sup>2</sup>, concentrated load of 200 kg**

2.31. Energy efficient, cool lighting fixtures shall be used when developing the detailed designs for temporary facilities at SPIEF 2017 Main Venue pavilions and outdoor venues (light-emitting diodes or fluorescent fixtures). **The use of halogen and incandescent lights is prohibited.**

Lighted Exit signs shall be installed above the emergency exits in all auditoria (regardless of the number of occupants), as well as in rooms normally occupied by 50 or more persons, and above emergency exits from the floor of a building leading directly to a public way or to a safe area. Exit signs indicating the direction of movement must be installed (at a height of not less than 2 m) in corridors more than 50 m in length. In this case, fire safety emergency exit signs shall be installed along the length of the corridor at a distance of not more than 25 m apart, as well as at turns in corridors.

2.32. Facilities in SPIEF 2017 Main Venue pavilions and outdoor venues shall be equipped with air conditioning systems based on portable air conditioners and wall-mounted or cassette type split systems. The effectiveness of the air conditioning systems installed shall be

confirmed by the appropriate calculations in the summary of the detailed design. Air ducts for air conditioning systems shall be located at a distance of not less than 100 mm from cables and electrical wiring, and air ducts shall not be permitted to cross such utility lines.

### **3. Requirements for electrical wiring work**

3.1. Electrical wiring work shall be performed in accordance with the requirements of the PUE, PTEEP, and the Inter-Industry Occupational Health and Safety Regulations (POTRM). The contractor must hold a permit for electrical wiring work issued by an SRO in order to perform electrical wiring work during the assembly, dismantling, and maintenance of SPIEF 2017 rooms and facilities.

3.2. The contractor's electricians must hold a group three electrical safety permit or higher. The individual who is responsible for electrical equipment (for installation of electrical equipment) must hold a group four electrical safety permit or higher. All electricians shall carry documents confirming their qualifications while working.

3.3. Measures to minimize the possibility of electric shock trauma shall be implemented to ensure electrical safety. A TN-S earthing system shall be used during electrical wiring work to ensure this (the neutral protective and neutral supply conductor shall be separated over the entire length of the electrical circuit).

3.4. Electrical diagrams indicating the cross section of the input cable and the lines leading from the electrical panel, the complete list of electrical and lighting equipment, and the voltages and powers of the loads connected shall be developed for each facility. **All installed electrical equipment shall have technical datasheets (or other documents which include a datasheet indicating the maximum heating of each type of electrical equipment).**

3.5. Each room, facility, and area containing electrical equipment shall be equipped with an electrical panel with GFCI (30 mA ground fault current).

3.6. Circuit breakers for lighting and other electrical equipment in rooms and facilities shall be located outside the rooms protected. Unimpeded access to input electrical distribution equipment and other electrical equipment shall be ensured.

3.7. Cables and electrical wiring shall be made of copper strands. Only the use of cables and electrical wiring of ng-LS, FRLS, and HRLS class (fire resistant, low smoke and gas emissions) with a cross-sectional area of not less than 0.75 mm<sup>2</sup> shall be permitted.

Electrical wiring located at a height of less than 2.5 m above floor level shall be enclosed in conduits or cable ducts. Where conductors are routed along the floors of pavilions and pavements of outdoor venues, the conductors and cables shall be covered by plastic or rubber covers and rubber crossing supports (ramps) that do not interfere with the movement of people and vehicles, but at the same time prevent damage to the insulation. The laying of cable lines in pavilions along and across the main aisles between construction footprints is prohibited.

3.8. It shall be prohibited to perform electrical wiring work using exposed splices and terminal blocks (exposed connections). All electrical wiring connections shall be performed using electrical connectors. All wired plugs shall conform to the German standard (Eurostandard).

3.9. All electrical circuits shall be protected by circuit breakers or fuses in case the allowable current is exceeded.

3.10. The fixed working sockets available in the SPIEF 2017 Main Venue pavilions and outdoor venues shall be used for temporary connection of power tools during assembly work. The use of these sockets during Forum events shall be prohibited.

3.11. **A power limit of 0.16 kW per 1 m<sup>2</sup> of structure has been set on the electrical power output for temporary structures in pavilions F (1), G (2), and H (3) and the outdoor venues at the ExpoForum Convention and Exhibition Centre.**

3.12. Types of power outputs for the smaller utility lines (floor spaces) of ExpoForum Convention and Exhibition Centre pavilions F (1), G (2), and H (3):

- Power sockets. Number of poles 3P+PE+N. Ampere rating 32 A. Rated voltage 380 V.
- Power sockets. Number of poles 3P+PE+N. Ampere rating for power outlet 125 A. Actual current 100 A. Rated voltage 380 V.

3.13. To connect equipment for the temporary facilities, power outlets shall be brought within the construction footprint via smaller utility lines. Each room, facility, and area containing electrical equipment shall be equipped with an electrical panel with a GFCI (ground fault circuit interrupter). The quantity of power distribution panels per temporary facility will depend upon the technical specifications of the power connectors (see Section 3.12.) in the smaller utility lines required to connect the exhibit area to the electrical circuit for ExpoForum Convention and Exhibition Centre pavilions F (1), G (2), and H (3).

3.14. Before voltage is applied to the power supply system for the temporary facility, representatives of the SPIEF 2017 Technical Directorate, an ExpoForum Convention and Exhibition Centre electrician, and the electrician for the temporary facility shall check that the temporary electrical supply system is ready and complies with the detailed design for the electrical loads connected to it (equipment, tools, panels, etc.). The following shall be verified here:

- the conformity of the parameters of the electrical equipment of a facility with the parameters previously indicated in the detailed design for construction
- the presence of a record of test measurements of the parameters of the temporary electrical circuit by specialists from an electrical laboratory licensed for this type of work

A decision on whether or not to connect the electrical equipment of a facility to the working electrical circuit of the ExpoForum Convention and Exhibition Centre shall be made based on the results of this check. A **Certificate of Delimitation of Responsibility for the Networks and Operational Responsibility of the Parties** shall be signed prior to connection.

3.15. In the event that electricians employed by the contractor do not comply with the PTEEP, PUE, PTB, and POT (Russian Ministry of Labour Order No. 328n dated July 24, 2013) in force during electrical wiring work, representatives of the SPIEF 2017 Technical

Directorate shall have the right to prohibit electrical wiring work, with issuance of a Notice on the required form.

**3.16. It shall not be permitted to connect additional electrical equipment not indicated in the electrical wiring diagrams of the detailed design for the temporary construction to the input device without the consent of the SPIEF 2017 Technical Directorate.**

3.17. Free access to the connection point must be provided at the point of connection to the existing utility lines to enable use of temporary electrical circuits in the utility areas of a temporary facility.

#### **4. Requirements for low current systems**

4.1. When designing low current systems for temporary facilities at the SPIEF 2017 Main Venue, the contractor shall provide the power supply for its low current system equipment for the temporary facilities from its own electrical panels connected to a connection point for the working source of the electrical circuit. The connection points for temporary electrical circuits from the working electrical circuit must be shown in the plans for the temporary electrical circuit for the temporary facility agreed with the SPIEF 2017 Technical Directorate and the technical services for the use of the ExpoForum Convention and Exhibition Centre indicating the total active power consumption of the equipment for the temporary facilities connected to the working electrical circuits. The boundary for operational responsibility between the working electrical circuits and the temporary electrical circuits is at the point of connection (outlet, terminal, etc.). Operational responsibility for the functioning of temporary electrical circuits is borne by the company appointed by the client for that temporary facility based on the terms of the Contract to construct the temporary facilities and in accordance with the Requirements for Electrical Installations (PUE).

The reliability rating for the electric power supply to the electrical loads of the temporary facilities shall be specified by the client for that temporary facility and must indicate the allowable duration of interruption of the electric power supply in case of emergency. If interruptions of the electric power supply are impermissible (even during automatic load switching), the power supply for this electrical equipment must be provided by a class 1 power supply (uninterruptible power supply).

For electrical equipment in the temporary facilities at the SPIEF 2017 Main Venue, the following designs must be provided:

- 1) two independent electrical feeds
- 2) an automatic load transfer panel allowing remote monitoring of the incoming feeds
- 3) use of 'true-on-line' type uninterruptible power supplies working in parallel N+1 with battery operating times at maximum active power drawn for the loads of the temporary facilities of not less than 30 minutes

For the critical loads in a temporary facility indicated by the client for that temporary facility (the list of loads must be agreed upon with the client for that temporary facility) it is recommended to use 'true-on-line' or 'line-interactive' type uninterruptible power supplies with battery operating times at maximum active power drawn for the loads of the temporary

facilities of not less than 30 minutes and mandatory use of an overvoltage protector capable of being remotely monitored.

For electrical equipment not listed by the client for that temporary facility, the use of ‘line-interactive’ uninterruptible power supplies with battery operating times at maximum active power drawn for the loads of the temporary facilities of not less than 30 minutes is recommended.

4.2. The design, installation, and operation of low current systems must be performed by companies having a permit for the type of work indicated above issued by an SRO.

The work must be performed in strict accordance with the plans agreed upon with the SPIEF 2017 Technical Directorate and technical services for the use of the ExpoForum Convention and Exhibition Centre and confirmed by the client.

4.3. The plans for the low current systems for the SPIEF 2017 Main Venue temporary facilities must be combined into a single plan by the IT Department of the Roscongress Foundation, agreed upon with the SPIEF 2017 Technical Directorate and the technical services for the use of the ExpoForum Convention and Exhibition Centre.

4.4. For operation of temporary local area networks, unimpeded access to the connection point must be provided in the existing utility ducts.

## **5. Requirements for the water supply and sewer systems**

5.1. When planning the design of temporary water supply and sewer systems for the temporary facilities, the contractor shall provide for a connection of these temporary systems to the existing ExpoForum Convention and Exhibition Centre system. Connection to the existing systems shall be made in the utility lines.

Specifications of the connection points to the existing systems:

- Water supply – DN 15, internal thread
- Sewer – DN 50

5.2. Documentation for installation of water supply and sewer systems shall be a mandatory component of the detailed design of the temporary facilities and must include:

- general information
- equipment specifications
- key indicators (water consumption and discharge volumes)
- plan of the temporary water supply and sewer systems

**5.3. It shall not be permitted to connect additional equipment not indicated in the diagrams to the water supply and sewer system without the consent of the SPIEF 2017 Technical Directorate.**

5.4. Before connecting the water supply and sewer systems for temporary facilities, representatives of the SPIEF 2017 Technical Directorate and the technical services for use of the ExpoForum Convention and Exhibition Centre shall verify that the system as a whole and its equipment are ready for connection.

The conformity of the parameters of the equipment of a facility with the parameters previously indicated in the detailed design for the temporary construction shall be verified. A **Certificate of Delimitation of Responsibility for the Networks and Operational Responsibility of the Parties** shall be signed prior to connection.

The task of connecting the water supply and sewer systems is to be performed by the technical staff of the ExpoForum Convention and Exhibition Centre.

5.5. Access must be provided at the point of connection to the existing utility lines to enable operation of water supply and sewer systems in the utility areas of the temporary facilities.

**6. Guidelines on fire safety measures during assembly, maintenance, and dismantling of temporary facilities in pavilions and at the outdoor venues of the SPIEF 2017 Main Venue**

1.	<p>These guidelines have been drawn up on the basis of Federal Law No. 69-FZ On Fire Safety (dated December 21, 1994) and Federal Law No. 123-FZ Technical Regulations for Fire Safety (dated July 22, 2008), and in accordance with the Russian Federation Fire Safety Regulations (PPR) and taking into account the package of measures to ensure fire safety during the preparations for and holding of the St. Petersburg International Economic Forum 2017 in the pavilions and outdoor venues at the ExpoForum Convention and Exhibition Centre located at 64/1 Peterburgskoye Shosse, St. Petersburg.</p> <p>These guidelines establish the basic provisions for fire safety in pavilions and outdoor venues of the SPIEF 2017 Main Venue.</p>								
2.	<p>Responsibility and oversight of compliance with fire codes during the assembly, maintenance, and dismantling of temporary facilities in pavilions and outdoor venues of the SPIEF 2017 Main Venue shall rest with the managers and authorized representatives of the contractors.</p> <p>All employees of contractors shall be obliged to understand and comply with the requirements of these guidelines and the Russian Federation Fire Safety Regulations.</p>								
3.	<p>Officials responsible for fire safety during work shall be designated by order of the contractor management from employees who have undergone basic fire safety training and must:</p> <table border="1" data-bbox="165 1137 1474 1780"> <tr> <td data-bbox="165 1137 1235 1294">3.1. ensure compliance with the fire safety regulations and the prohibition of smoking in the pavilions and outdoor venues and also in temporary rooms and structures at the SPIEF 2017 Main Venue.</td> <td data-bbox="1235 1137 1474 1294"></td> </tr> <tr> <td data-bbox="165 1294 1235 1451">3.2. If faults are discovered in the operation of utility lines that may lead to a fire (combustion), take immediate steps to shut off utility lines, installations, and equipment, and promptly advise the SPIEF 2017 Technical Directorate.</td> <td data-bbox="1235 1294 1474 1451"></td> </tr> <tr> <td data-bbox="165 1451 1235 1675">3.3. Manage and oversee the continuous cleanup of construction sites and passageways between construction sites, and the disconnection of lighting circuits, computers, and copiers at the end of work.</td> <td data-bbox="1235 1451 1474 1675"></td> </tr> <tr> <td data-bbox="165 1675 1235 1780">3.4. Not permit the use of emergency fire fighting equipment or fire fighting appliances for any application not related to fire suppression.</td> <td data-bbox="1235 1675 1474 1780"></td> </tr> </table>	3.1. ensure compliance with the fire safety regulations and the prohibition of smoking in the pavilions and outdoor venues and also in temporary rooms and structures at the SPIEF 2017 Main Venue.		3.2. If faults are discovered in the operation of utility lines that may lead to a fire (combustion), take immediate steps to shut off utility lines, installations, and equipment, and promptly advise the SPIEF 2017 Technical Directorate.		3.3. Manage and oversee the continuous cleanup of construction sites and passageways between construction sites, and the disconnection of lighting circuits, computers, and copiers at the end of work.		3.4. Not permit the use of emergency fire fighting equipment or fire fighting appliances for any application not related to fire suppression.	
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	3.5. Promptly perform all fire prevention measures when requested by authorized employees responsible for ensuring fire safety at the ExpoForum Convention and Exhibition Centre and Roscongress Foundation (including the SpasInvest fire prevention team).								
	3.6. Before commencing work, conduct fire prevention training (with signed acknowledgement) on fire safety measures when located on or performing work (services) on the territory of the								

	ExpoForum Convention and Exhibition Centre.	
	<p>3.7. Copies of the orders appointing persons responsible for ensuring fire safety, training records, and the certificate confirming basic fire safety training of those responsible for ensuring fire safety and providing the training must be supplied to the SPIEF 2017 Technical Directorate.</p> <p>In the absence of basic fire safety training, it will be necessary to undergo training with a company which has a permit to offer education issued by the Education Committee of the government of any Russian constituent entity.</p>	
4.	Contracting company employees must understand the fire safety regulations and comply with the specific fire safety conditions in SPIEF 2017 Main Venue pavilions and outdoor venues.	
5.	<p>The site of any fire-hazardous work must be cleared of combustible materials to a distance of 10 m and be supplied with emergency fire fighting equipment.</p> <p>The presence of a person responsible for fire safety is mandatory.</p> <p>Before commencement of fire-hazardous work, all other work must be halted.</p>	
6.	<p>When electrical equipment and power tools are connected, the permissible load for electrical wiring must be taken into account. The maximum power value for electrical equipment must be used when calculating the load. Connection may only be by plug connectors in good condition with multi-stranded electric cables; connecting the strands of electrical cables directly to the sockets is not permitted.</p>	
7.	<p>Homemade portable lamps may not be used to illuminate workplaces, and the use of portable lamps without protective diffusers is not allowed.</p> <p>Only bulbs with low heat emission may be used in portable lamps.</p>	
8.	<p>Electrical circuits in exhibits must be installed in accordance with the requirements of the PUE, PTEEP, and the Russian Federation Fire Safety Regulations.</p> <p>Damage to the insulation of electrical wiring and cables may lead to short circuits or a ground fault current <b>(FIRE MAY</b></p>	



	<p><b>OCCUR!)</b>.</p> <p>A break in a strand of a conductor can lead to increased resistance to the transmission of an electric current and as a consequence to local overheating with subsequent melting and fire.</p> <p>Passage of a current greater than indicated can lead to overheating of the electrical extension cord, and as a consequence, to possible melting of the insulation and even FIRE.</p> <p>There may be no external signs of damage to indicate that electrical equipment is operating unsafely, but because of the properties of electrical conductors and contacts after increased heating, increased resistance of flow to the electrical current may occur, which in turn will lead to even greater overheating.</p> <p>The majority of power tools emit heat when in operation, and if heat removal is difficult or not possible overheating will occur with subsequent abnormal operation, which may lead to FIRE.</p> <p><b>To prevent fires:</b></p> <ul style="list-style-type: none"> <li>✓ Check the condition of cables and extension cords no less than once per hour</li> <li>✓ Do not permit items and equipment to be stored on top of electrical wiring</li> <li>✓ When connecting equipment, consider the permitted load for the extension cord, not the number of connections plugged in</li> <li>✓ Do not permit electrical equipment that has evident damage to the housing, power cord, or plugs to be used</li> <li>✓ When placing electrical equipment, follow the manufacturer's instructions</li> <li>✓ Leave air gaps between the housings of electrical equipment, etc.</li> <li>✓ Do not use malfunctioning electrical equipment</li> <li>✓ Perform periodic thermal imaging surveys of electrical equipment</li> </ul>	
9.	<p>When installing electrical equipment, electrical wiring, and cables, it is essential to ensure that there is unimpeded access for the fire department to the equipment, wiring, and cables for monitoring of any concealed abnormal heating.</p>	
10.	<p>After installation of the electrical equipment is complete it is essential to perform a thermal imaging check of the electrical circuits and electrical equipment for permissible heat levels in</p>	

	accordance with the technical documentation from the manufacturer in order to prevent concealed abnormal heating, employing a company which has a permit to perform energy inspections from an SRO.	
11.	<p>If electrical wiring and electric cables for temporary structures cross, additional protection from mechanical damage, including against damage to the insulation, must be provided. Electrical fixtures must be secured. It is not permitted to suspend them from wires or cables. Winding electrical wires in coils is not allowed during installation in order to prevent induction heating.</p> <p>Air ducts for air conditioning systems shall be located at a distance of not less than 100 mm from cables and electrical wiring, and air ducts shall not be permitted to cross such utility lines.</p> <p>Electrical wiring located at a height of less than 2.5 m above floor level shall be enclosed in insulating conduits or cable ducts. Where conductors are routed along the floors of pavilions and pavements of outdoor venues, the conductors and cables shall be covered by plastic or rubber covers and rubber crossing supports (ramps) that do not interfere with the movement of people and vehicles, but at the same time prevent damage to the insulation.</p>	
12.	Cool lamps must be used predominantly for lighting.	
13.	Every contractor installing electrical equipment and other equipment must prepare detailed instructions containing the properties of the electrical equipment and the regulations for disconnecting it in the event of signs of fire, smoke, or overheating, and the operational telephone number for the employee of the contractor; such instructions must be studied with the persons responsible for the relevant rooms and given to them under signature.	
14.	<p>Contractor employees who violate fire safety regulations, depending on the nature of the violations and their consequences, shall be held liable under the Russian Federation legislation in force. If construction work is carried out in violation of Russian Federation Fire Safety Regulations and fire codes, as well as these guidelines, the representatives of the SPIEF 2017 Technical Directorate may order a halt to construction and demand disassembly.</p> <p>At present, and in particular since the revisions to the Code of Administrative Offences became effective as of June 17, 2011, the total fines for violation of fire safety requirements have increased significantly, and as a result the total fine for a company has increased from RUB 150,000 to RUB 1,000,000 (or suspension of the operations of a company), and the total fine for an official has increased from RUB 6,000 to RUB 50,000; the amounts indicated are for one violation only; a separate, additional fine is imposed for each type of violation.</p>	
15.	All equipment, building materials, decorations, draperies, finishing materials, etc. used in the	

	<p>construction and finishing of facilities shall be certified according to fire safety regulations for compliance with Russian Federation Law No. 5151-1 of June 10, 1993, Certification of Products and Services, by specially authorized authorities with jurisdiction in the sphere of certification (certification must indicate the fire hazard rating of the materials).</p>
16.	<p>The use of equipment, devices, and building materials for construction work and to finish displays shall only be permitted after submission of:</p> <ul style="list-style-type: none"> <li>• fire safety certificates (certificates of conformity) for the materials and equipment used</li> <li>• certificates relating to the fire-retardant treatment of combustible materials used to finish exhibits (displays) made of fire-hazardous materials</li> <li>• Copies of the Ministry of Emergency Situations of Russia State Fire Service licences held by the entities performing the fire-retardant treatment, copies of work permits for preparation of design documentation that impacts the safety of facilities.</li> </ul>
17.	<p><b>When preparing for SPIEF 2017, the use of combustible construction and finishing materials is not allowed; where warranted, when materials with properties different from noncombustible materials are used, they should be subjected to fire-retardant treatment to meet the requirements shown below (<i>in any event, the fire hazard class of materials for finishing rooms and paths of egress travel must not exceed the ratings set in tables 28 and 29 of FZ-123 (depending on the type of paths of egress travels and the purpose of the rooms)</i>).</b></p>
18.	<p>Building materials for construction of walls, ceilings, or suspended ceiling panels in temporary facilities with a fire hazard class higher than G1, V1, D2, T2, RP1 (or materials which have not undergone fire-retardant treatment to this class) should not be used.</p> <p>Frame structures for suspended ceilings shall be made of noncombustible materials only.</p> <p>Only noncombustible materials (from group NG) may be used for soundproofing and thermal insulation; insulation made of combustible materials may not be used.</p>
19.	<p>Contractors shall not use building materials for floor coverings in temporary facilities with a fire hazard class higher than: G1, V1, D2, T2, RP1 or V1, D2, T2, RP1 (for carpeting), or materials which have not undergone fire-retardant treatment to this class.</p>
20.	<p>Where there is a need to use fabric finishings (drapes), the fabrics shall be subject to fire-retardant treatment to ensure that they match the characteristics of flame-resistant fabrics (in accordance with GOST R 50810-95), fabrics with moderate smoke-generating capacity D2 (in accordance with GOST 12.1.044-89), fabrics which generate moderate quantities of toxic substances T2 (in accordance with GOST 12.1.044-89), and fabrics which are not considered to be highly flammable (in accordance with GOST R 53294-2009). The use of Kendal fabrics or fabrics made from Trevira CS fibres (or their equivalent) is permitted.</p>

21.	Exhibits, decorations, and exhibition equipment shall be assembled in such a way that they are not installed right up against columns where they may impede free access to fire valve cabinets, emergency fire fighting equipment, and exits from auditoria and pavilions.	
22.	<p>Changes in space planning that might degrade occupant emergency egress conditions, limit access to fire extinguishers, fire hydrants, and other fire fighting equipment, or reduce the operational zone of automatic fire protection systems (automatic fire alarms, fixed automatic fire extinguishers, smoke control systems, and notification and egress management systems) shall not be permitted during the construction and installation of temporary facilities and the suspension of temporary structural elements.</p> <p>Where any continuous ceilings or other structural elements which result in the creation of separate new, temporary spaces (rooms, halls, areas, exhibit spaces, etc.) inside the ExpoForum Convention and Exhibition Centre pavilions are installed, or the overhead automatic fire protection systems are blocked, <u>the spaces under such ceilings and structural elements must be protected by additional automatic fire protection systems according to the requirements of the codes (including: automatic fire alarms and (or) fire extinguishers (including modular type), as appropriate).</u></p> <p><u>Additional automatic fire protection systems do not need to be installed if the ceiling and other structural elements have a regularly perforated structure with perforations over an area of not less than 40% of the area of the ceiling and other structural elements, while the minimum size of each perforation must be no less than 10 mm in any direction, and the thickness of the ceiling or other construction must not be more than three times the minimum cell size of the perforations.</u></p> <p>If the distance from the ceiling to the top of temporary walls, partitions, displays and other structural elements is 0.6 m or less, <u>additional fire alarm notification appliances for the automatic fire protection systems shall be installed.</u></p> <p>Suspension of structures and equipment must not obstruct the coverage of the automatic fire protection systems.</p> <p>All questions relating to consultation on the matter of fire safety and the installation of fire protection systems (units) shall be resolved with the direct involvement of the organization set up to ensure fire safety.</p>	
23.	<p>When performing work, construction companies must ensure:</p> <ul style="list-style-type: none"> <li>• Passageway width of not less than 3 m</li> <li>• A free distance from building structural elements (walls, columns, partitions, etc.) of not less than 1 m</li> <li>• A distance from electrical panels, electrical equipment, sewer and storm sewer pipes, fire valve cabinets, and fire fighting equipment of not less than 1 m</li> </ul>	
24.	<p>The designs of stairs, ramps, steps, and walkways shall conform to safety requirements. All stairs and elevated platforms and areas shall have railings. The railings shall be at least 1.2 m above floor level and have, as a minimum, top, middle, and bottom handrails.</p>	

	<p>Stair enclosures and railings shall be continuous, equipped with handrails, and designed to bear a load of not less than 0.3 kN/m.</p> <p>The slope of stairs shall be not greater than 1:1; step width shall be not less than 25 cm, and step height shall be not more than 22 cm. The width of flights of stairs and stair landings shall be not less than 1.2 m, where warranted this may be reduced to a width of 0.9 m.</p> <p>Construction of spiral, curved, etc. staircases shall be prohibited.</p> <p>Floor level changes on paths shall be via not less than three steps or via a ramp with a slope of not more than 1:6.</p> <p>The width of doors (or door openings) shall be not less than 0.8 m (and not less than 1.2 m for rooms with occupancy of 50 or more persons), while their height shall be not less than 1.9 m.</p> <p>The height of the passageway along paths of egress travel, including where additional structural elements are installed, shall be not less than 2.2 m.</p> <p>Fire risk analyses shall be performed on the basis of the provisions of Article 6 and Article 53 of FZ-123 Technical Regulation on Fire Safety Requirements to confirm that occupants can be evacuated safely, to ensure the fire safety of a facility, and to verify that the measurements of paths of egress travel for the structural elements are correct.</p>
25.	<p>Paths of egress travel shall be equipped with luminescent emergency egress systems in accordance with the provisions of GOST R 12.2.143-2009 Occupational Safety Standards System. Luminescent Emergency Egress Systems. Requirements and Test Methods.</p>
26.	<p>Lighted Exit signs shall be installed above the emergency exits in all auditoria (regardless of the number of occupants), as well as in rooms normally occupied by 50 or more persons, and above emergency exits from the floor of a building leading directly to a public way or to a safe area.</p> <p>Exit signs indicating the direction of movement must be installed (at a height of not less than 2 m) in corridors more than 50 m in length. In this case, fire safety emergency exit signs shall be installed along the length of the corridor at a distance of not more than 25 m apart, as well as at turns in corridors.</p>
27.	<p>Carpeting shall be securely attached to the floor around the perimeter and at joints.</p>
28.	<p style="text-align: center;"><b>During all stages of work being performed and use of the facilities</b></p> <p style="text-align: center;"><b><u>IT IS PROHIBITED:</u></b></p> <ul style="list-style-type: none"> <li>• To permit work to be performed by persons who have not undergone fire safety training</li> <li>• To use gas equipment, including gas cylinders</li> <li>• To use open flame</li> <li>• To use power tools which do not have thermal protectors, and also in the absence or malfunction of thermal regulators intended for construction</li> <li>• To use electric hotplates, water heaters, electric kettles, microwave ovens, and other electrical appliances for food preparation and heating (or cooling) water</li> <li>• To use electric heaters</li> <li>• To use electric wiring and cables with visible damage to insulation</li> </ul>

	<ul style="list-style-type: none"> <li>• To use damaged sockets, switches, and other fixtures</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use diffusers made of Plexiglas, polystyrene, or other combustible materials in lighting fixtures</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use non-standard (homemade) power tools</li> </ul>	
	<ul style="list-style-type: none"> <li>• To store goods, articles, or equipment on electrical wiring (or cables)</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use malfunctioning electrical equipment</li> </ul>	
	<ul style="list-style-type: none"> <li>• To store building materials and debris in passageways and entrances</li> </ul>	
	<ul style="list-style-type: none"> <li>• To install equipment and use materials not covered by the detailed design documentation for the structure</li> </ul>	
	<ul style="list-style-type: none"> <li>• To bring in or install pressure vessels</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use draperies or hangings made of combustible materials that have not been treated with a fire retardant compound</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use combustible paints to paint exhibits</li> </ul>	
	<ul style="list-style-type: none"> <li>• To store materials in the fire breaks</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use ventilation chambers, electrical rooms, and other technical rooms for storage of equipment, products, and materials</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use the space between the building envelope and the temporary structure for storage of materials, products, and equipment</li> </ul>	
	<ul style="list-style-type: none"> <li>• To store or use highly flammable liquids, combustible liquids, and cylinders with combustible gas, as well as containers for them</li> </ul>	
	<ul style="list-style-type: none"> <li>• To store or use fire-hazardous substances or materials</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use fire suppression system supply pipelines to suspend or attach any other equipment</li> </ul>	
	<ul style="list-style-type: none"> <li>• To connect equipment and devices to fire suppression system supply pipelines</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use splices to connect the strands of electrical wiring</li> </ul>	
	<ul style="list-style-type: none"> <li>• To route electrical wiring and electric cables without cable ducts and other devices to protect them from mechanical effects</li> </ul>	
	<ul style="list-style-type: none"> <li>• To violate the integrity of fire suppression system sprinklers</li> </ul>	
	<ul style="list-style-type: none"> <li>• To use internal fire valves installed in the sprinkler network for any purposes other than fire suppression</li> </ul>	
	<ul style="list-style-type: none"> <li>• To obstruct (cover) fire hydrants and approaches to them with any equipment, displays, etc., or obstruct the operational zones of fire alarm notification appliances with suspended items, banners, placards, decorations, curtains, or other objects</li> </ul>	
	<ul style="list-style-type: none"> <li>• To install additional electrical loads not specified in the approved design documentation</li> </ul>	
	<ul style="list-style-type: none"> <li>• To leave equipment and devices connected to an electrical circuit unattended</li> </ul>	
	<ul style="list-style-type: none"> <li>• To install backlights, light banks, floodlights, and light bulbs less than 0.5 m from exhibit equipment, exhibits, decorations and hangings, and fire sprinklers and to cover light bulbs and lighting fixtures with paper, fabric, and other combustible materials, or to use lighting fixtures on which the covers (diffusers) required by the lighting fixture design have been removed</li> </ul>	
	<ul style="list-style-type: none"> <li>• To clean rooms using highly flammable and combustible liquids</li> </ul>	
	<ul style="list-style-type: none"> <li>• To restrict access to fire extinguishers, fire hydrants, and other fire fighting equipment, or</li> </ul>	

	<p>reduce the operational zone of automatic fire protection systems (automatic fire alarms, fixed automatic fire extinguishers, smoke control systems, and notification and egress management systems)</p>
	<ul style="list-style-type: none"> <li>• To fuel vehicles inside the SPIEF 2017 Main Venue</li> </ul>
	<ul style="list-style-type: none"> <li>• To charge batteries while they are installed in vehicles</li> </ul>
29.	<p><b>With regard to paths of egress travel and exits, it is prohibited:</b></p> <ul style="list-style-type: none"> <li>• to obstruct paths of egress travel and exits (passageways, corridors, stair landings, flights of stairs, doors, escape hatches, etc.), access to fire hydrant cabinets, emergency fire fighting equipment, alarms, and electrical panels with various materials, items, equipment, refuse, or other objects, as well as to obstruct the doors of emergency exits</li> <li>• to secure self-closing doors on stairwells, corridors, halls, or vestibules in the open position, as well as to remove them</li> </ul>
30.	<p style="text-align: center;"><b>Smoking in pavilions and on the premises of the ExpoForum Convention and Exhibition Centre is categorically prohibited and allowed only in specially designated places equipped with fire-resistant urns.</b></p>
31.	<p>Each day, at the end of work (including after the conclusion of each event during the day), the rooms, facilities, and exhibits shall be inspected by officials responsible for the given premises, and only closed after electrical devices, office equipment, and lighting have been switched off.</p>
32.	<p><b>Should a fire (ignition) or signs of fire (smoke, the smell of smoke, increased temperature, etc.) be discovered, the person discovering the fire must:</b></p> <ul style="list-style-type: none"> <li>• without panicking, assess the situation and act in accordance with the fire safety regulations (call the fire department on telephone number 112 from a mobile phone or 101 from a landline); at the same time everyone must understand the importance of quickly responding to a fire in its early stages (<i>which should not be difficult if there are fire extinguishers at all facilities</i>)</li> <li>• promptly notify the administrator, security services, organization ensuring fire safety, and SPIEF 2017 Technical Directorate about the location and nature of the fire, in so doing giving the exact address and location where the fire has started (premises, floor) and what is burning, and contribute wherever possible to ensuring the emergency egress of people and extinguishing the fire with the emergency fire extinguishers available</li> </ul> <p style="text-align: center;"><b>Managers and officials responsible for ensuring fire safety where the event is being held, upon arrival at the site of the fire, must:</b></p> <ul style="list-style-type: none"> <li>• take measures to evacuate people from the premises</li> <li>• cut off power to equipment which is (or seems to be) the source of the fire or smoke</li> </ul>

	<ul style="list-style-type: none"> <li>• begin to extinguish the fire with the emergency fire extinguishers available</li> </ul> <p>To avoid panic, it is recommended not to use open communications channels for communications relating to the fire.</p> <p>In order to coordinate the actions of those involved in the fire prevention team, every day before the start of the event the details (including mobile phone number) of the specific employee on the fire prevention team who is responsible for each pavilion or other facility must be noted. Before work starts and after it is over, including during the day, it is essential to demonstrate the condition of the relevant fixed objects and premises to the fire prevention team member.</p>
33.	Each temporary facility (room, any structure, or exhibit, including each room within an exhibit) must be supplied with emergency fire fighting equipment (extinguishers, fire blankets).



34.	How to use dry chemical extinguishers:

***It is easier to prevent fires than to put them out!***

**Detailed instructions on what to do in the event of a fire:**

The proper organization of actions to save people before the arrival of the fire department depends directly upon the quality of the practical and training exercises aimed at preventing panic and other negative consequences from the chaotic conduct of employees in any emergency situation.

At many sites, including those where a large number of people are present, any incident (whether fire, terrorist attack, accident etc.) is often accompanied by a loss of power. Unfortunately, many people lose their common sense in the darkness and the instinct for self-preservation gives rise to panic, which leads to crushes.

It is much darker during a fire than one would expect. Only at the very start of the fire do flames brightly light up the area. Almost immediately a thick black smoke appears and it becomes dark. Smoke is dangerous not only because of the toxic substances it contains, but because it reduces visibility. This makes it difficult, and at times practically impossible, to evacuate people from dangerous premises. With reduced visibility, organized movement is disrupted and becomes chaotic. People become overcome by fear, which overwhelms their awareness and will. In such conditions, people lose their ability to orient themselves and correctly assess a situation. At the same time, suggestibility sharply increases, instructions are accepted without proper analysis and evaluation, people's actions become automatic, and the tendency to mimic others becomes stronger.

Panic reactions are evident in the main either as a stupor (freezing), or flight (escape).

The first case is characterized by limpness, sluggish actions, generally slow responses, and, in extreme cases, a total freeze, where a person physically cannot perform a command. These reactions are most frequently encountered in children, teenagers, women, and the elderly. Therefore, during fires they often remain in the premises and during emergency egress they

have to be carried out.

Research has shown that reactions opposite to stupor are observed in 85–90% of people finding themselves in life-threatening situations, and their behaviour is characterized by chaotic milling about, trembling arms and body, and a shaking voice. Speech is rapid, and statements may be incoherent. Orientation in their surroundings is only superficial.

The panicked state of people if there is no leadership during emergency egress may lead to crushes of people in the paths of egress travel, people injuring each other, and disregard of available and emergency exits.

At the same time, studies of the structure of crowds which are seized by panic have shown that not more than 3% of the total number of persons in this affective state have evident psychological disorders and are incapable of correctly understanding speech and orders. Between 10% and 20% of people suffer from periodic lapses in awareness; stronger (sharper, shorter, louder) commands and signals are required to lead them.

The vast majority (up to 90%) are in the general run of people, capable of sensibly analysing the situation and taking reasonable actions but, when afraid and influencing each other, they create the most unfavourable conditions in which to organize emergency egress.

An analysis of fires and practical experience of studying the speed and nature of smoke penetration in multi-storey buildings if smoke control is not activated shows that smoke travels up a stairwell at a speed of 7–8 m/min. If a fire breaks out on one of the lower floors, just 5–6 minutes later smoke has spread the full height of the stairwell. The level of smoke penetration is such that it is not possible to remain in the stairwell without individual breathing apparatus. At the same time, smoke is penetrating the upper floors, particularly those downwind. Worsening visibility, panic, and the toxic effects of the products of combustion may lead to loss of life. Heated combustion gas entering the stairwell enclosure will raise the temperature of the air. It has been established that within five minutes of a fire starting, the air temperature in a stairwell adjacent to the site of the fire can reach 120–140 °C, which is significantly higher than people can tolerate. At the top of the stairwell, within two to three floors of the level on which the fire started, a sort of thermal cushion is formed with a temperature of 100–150 °C. It is impossible to overcome this without personal protective equipment. In the absence of horizontal barriers on the façade of a building, flames from the window openings may, within 15–20 minutes of the start of a fire, spread upwards to balconies, loggias, and window coverings, setting fire to combustible elements of the building and items and furniture in the rooms of the upper floors.

First of all, it is important to decide for oneself: should I leave or not.

If the fire is not in your space (or room), then before opening a door and going outside, you must make sure that there is not a large fire outside the door: place your hand against the door or carefully touch the metal lock or handle. If they are hot, then on no account should you open that door.

Do not go where there is a great concentration of smoke and visibility is less than 10 m: a few breaths are all that is needed for you to die, poisoned by the products of combustion. In calm circumstances, define on your floor or corridor how far 10 m is.

Maybe someone will decide to run through a smoky interior holding their breath, clearly

picturing to himself the way out. But it must be kept in mind that in the darkness clothes can get caught on something or you can bump into an unseen obstacle. Furthermore, the seat of the fire may be on a lower floor, and then the way to safety is only upwards, that is, your held breath may have to be sufficient to return to where you came from.

If the smoke and flames allow you to go outside, then

- move quickly away from the fire; do not look for or collect anything
- on no account should you use the lift: it may become a trap for you
- be aware that harmful products of combustion are discharged by a fire very quickly; you have very little time to evaluate the situation and save yourself (sometimes as little as 5–7 minutes)
- if possible, switch off the power at the electric service panel situated in the stairwell on your way
- smoke and harmful products of combustion may accumulate in a room at head height and above, so make your way to the exit on all fours or even crawling; the temperature is lower and there is more oxygen nearer to the floor
- as you go, firmly shut doors behind you in order to block the fire's progress (a door may delay the fire spreading by more than 10–15 minutes!). This will also make it possible for others to leave the danger area or even organize extinguishing the fire with the emergency fire fighting equipment until the arrival of the fire department (for example, setting up a hose line from the nearest fire hydrant and bringing water from the internal fire water supply)
- if there is a lot of smoke irritating your throat and making your eyes water, make your way out covering your airways firmly with some sort of multi-layered cotton fabric and breathe through the fabric. Dampen the exterior layer of this fabric if at all possible. This will save your bronchial tubes and lungs from the effects of irritants. But remember that it will not save you from carbon monoxide poisoning
- having left the danger area, do not decide to return for any reason; in the first place, the danger there will have significantly increased, and in the second place no one will look for you or save you because they have seen that you have already got out
- if you have come out unnoticed (for example via the roof and external fire escape on the wall of a structure), then it is essential that you notify your presence to those outside and to the person responsible for the facility in order to prevent unnecessary risks being taken in searching for you

If smoke and flames in neighbouring rooms prevent you from leaving:

- do not panic; remember that modern reinforced concrete structures are capable of withstanding high temperatures
- if you are cut off by fire and smoke from the main paths of egress travel in a multi-storey building, check whether it is possible to exit to the roof or descend via a smoke-free fire escape, or get onto a neighbouring balcony
- if there is no opportunity to get out, then try to seal up your room as well as possible to protect yourself from heat and smoke. Firmly close the entrance door, soak any fabric, scraps of clothing or curtains, with water and use them to firmly block up the cracks around the door from the inside of the room. To avoid draughts from the corridor and smoke entering from

outside, close the windows and casements, block up vents, and shut the transoms of ventilation grills

- if there is any water, constantly soak the doors, floor, and cloths

- if there is a telephone in the room, dial 112 or 01, even if you have already dialled those numbers before, and even if you can see that the fire department vehicles have arrived. Explain to the dispatcher exactly where you are and that you are cut off by fire and smoke

- if the room has filled with smoke, move around by crawling: it will be easier to breathe like that (the temperature is lower and there is more oxygen near the floor)

- wrap your face in bands of damp cloth and put on protective goggles

- move towards the window, remain by the window, and attract the attention of people outside

- unless it is absolutely necessary (due to feeling suffocated or lapses in consciousness), try not to open or break the window, as that would break the seal of your refuge and the room would quickly fill with smoke and there would soon be nothing to breathe even by the wide open window. Due to the draught, fire would quickly follow the smoke into the room. Remember this before you decide to break a window. Experienced fire fighters say: “Anyone who opens a window at a fire will have to jump out of it”

- to attract people's attention and give a sign to the rescuers, it is not essential to open a window and shout; you can for example, hang a big piece of brightly coloured cloth out of a window or casement (but don't open it wide!). If the window construction means you cannot do that, then you could use lipstick to write SOS on all the windows, or draw an enormous exclamation mark

- if you have enough strength and the situation is near critical, firmly tie the curtains together, having ripped them into strips first, fasten them to a heating radiator or other fixed object (but not the window frame) and lower yourself down. While descending, do not slide by your hands. When saving children from height, you must tie them in such a way that the rope does not catch on the way down. Put the child's arms up to the armpit through a cow hitch knot with the knot itself at their back. It is essential to test the strength of the rope, the loops, and the knot itself

#### **Actions on discovering the first signs of fire:**

Managers and organization officials, as well as those responsible for ensuring fire safety, upon arrival at the site of the fire must:

- notify the fire department that a fire has broken out, and also notify the management and the duty office at the facility

- if lives are threatened, promptly organize a rescue using the manpower and resources available

- check that the automatic fire protection systems (fire alarms, fire extinguishers, smoke control systems) have activated

- if necessary, switch off the electricity (apart from the fire protection systems), stop transporters, units, and devices, shut off the raw materials, gas, steam, and water supplies, turn off the ventilation systems in the danger area and adjoining areas, and perform other measures to prevent the fire from developing and smoke penetrating the rest of the building

- stop all work in the building (if the technological production processes permit this) apart from work connected with fire suppression
- remove all employees from the danger area except those involved in putting out the fire
- take over management of fire suppression (taking into account the specific nature of the facility) until the arrival of the fire department
- ensure that employees involved in suppressing the fire comply with safety requirements
- at the same time as suppressing the fire, organize emergency egress and protection of valuable property
- arrange to meet the fire department and offer help in identifying the shortest route to drive close to the source of the fire
- give the fire department which has been called out to extinguish the fire and perform the initial search-and-rescue work information about any dangerous (volatile), explosive, or highly toxic substances which are used or stored at the facility to ensure the safety of their personnel

Before the arrival of the fire department, the manager of the entity (or his deputy) should give the person in charge of extinguishing the fire information about the structural and technological characteristics of the facility, the adjoining buildings and structures, the quantity and hazardous nature of substances, materials, and products stored and used, and any other information necessary for suppressing the fire successfully, and also organize additional manpower and resources for the facility so that the necessary measures connected with fire suppression and preventing it from escalating further may be performed.

**How to give details of a fire over the telephone:**

Having dialled the telephone number to call out the fire department (**112 or 01**) and waited for the duty operator to respond, give the exact address of the facility, the place the fire has broken out, and your surname; additionally give any information requested by the duty operator (the shortest route for the fire department to use, reference points to find the location of the fire, whether there are people present at the facility, whether there is risk of explosion etc.).

**Actions by members of the voluntary fire fighting team:**

The voluntary fire fighting team for the facility is responsible for calling out the fire department in the event of a fire and taking prompt action to suppress it using the available fire extinguishing equipment. The responsibilities of voluntary fire fighting team operational crew members and their actions in the event of a fire are described in the operational crew table which is displayed in a visible location. Responsibilities to notify the fire department, operate hoses from the internal fire hydrants and fire extinguishers, activate the water curtain, the fixed fire extinguishing system, and mobile units, switch off the ventilation systems and cut off power to the electrical circuits, and meet the fire department units called out to the fire are shared between the operational crew members. The head of the operational crew should manage operations to suppress the fire, and he is responsible for organizing the emergency egress of people and property. Success in evacuating people and extinguishing the fire

sometimes depends on the determination, courage, and ability of each operational crew member to perform their obligations in just a few minutes, and particularly on the leader of the operational crew.

**Evacuating people and valuable property in the event of fire:**

Emergency egress and rescue work should be performed bearing in mind the nature of the fire, whether sufficient manpower and equipment are available, and the psychological state of the people involved.

Emergency egress of service personnel shall be performed according to the emergency egress plan drawn up, via the main and emergency paths of egress travel.

Work to rescue people whose lives are threatened should be started immediately and make use of the maximum possible manpower and resources.

Evacuating and rescuing people shall be organized and performed by the following means: leading (or carrying) people in the danger area out of the building, or into a building; evacuating people by stairwells and external fire escapes, and also via external exits (loggias, balconies) from section to section, via balcony stairs to lower or higher floors; rescuing people using individual rescue apparatus, rescue chutes, and ladders; rescuing people using automated ladders, articulated booms, mobile ladders, and escape lines.

Rescues shall be prioritized by the degree of risk to people's lives. People in the most dangerous locations should be saved first. If the degree of risk is the same, children, the ill, and the elderly shall be rescued first. In all cases when rescuing people, they must be calmed, and given confidence that help is near and they will definitely be rescued. If people are seized by panic, then you should quickly take the initiative to manage the rescue work into your own hands.

When people feel lost, they easily submit to a strong will and will perform instructions without thinking, and therefore it is essential to bring people under your control using a calm, confident, and loud voice. Anyone who has retained their composure should be involved in performing the general task of emergency egress, quickly and sharply suppressing any attempt at raising alarm.

The evacuation of valuable property to places identified earlier by a plan for the evacuation of valuable property must be performed at the same time as suppressing the fire. Storage sites for valuable property must have reliable security, and all valuable property is subject to strict accounting indicating the sequence and time of its removal. The security and the accounting shall be performed by members of the volunteer fire team and other officials involved.

**Organizing meeting the fire department and switching off equipment, communications, and electrical installations:**

With the manpower and resources available, it is essential to:

- 1) shut down or make safe process equipment to contain (or stop) the accident or fire, in accordance with the plan;
- 2) offer first aid to victims in the case of an accident or fire; remove all employees that are not involved in accident or fire response from the premises. Access to the location of the accident or fire before it is eliminated must be only with the permission of the leader of the emergency operations

3) if lives are threatened, promptly organize a rescue using all manpower and resources available

4) organize the meeting of the fire department and other external teams as they arrive, and inform them about the situation and offer assistance in accident response. People shall be located at the entrance to the premises to meet the fire department as it arrives, to show them the shortest route to the site of the fire, the location of the nearest sources of fire water supply, and the locations of any special equipment, and inform them of measures taken to suppress the fire, and the location of the head of the fire brigade

5) at the accident site and in adjacent areas, halt all work, including open flame work, not connected with accident or fire response

6) take all measures to respond to the accident or fire using protective and safety equipment

7) remove to the extent possible all highly flammable liquids and combustible liquids in the area of the accident, and reduce the power in apparatus

8) if necessary, switch on emergency ventilation and make efforts to increase natural ventilation of the premises

9) if there is a gas risk at the accident site and in adjoining sections, prohibit access to all types of vehicles except those of the emergency services until the consequences of the accident have been fully mitigated

10) if necessary, call for additional manpower and resources

11) ensure that people involved in fire suppression or accident response are protected from possible discharges of burning materials, structural collapse, electric shock, poisoning, and burns

Other accident or fire response measures in each specific case shall be decided by the accident response supervisor, according to the situation as it unfolds and in compliance with fire and industrial safety measures.