



STANDARD OF KAZAKHTELECOM JSC

**FIRE SAFETY RULES IN KAZAKHTELECOM JSC**

ST JSC 80429 – 1/038 – 2021

Nur-Sultan

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## **1 General regulations**

1. This Standard "Fire safety rules in Kazakhtelecom JSC (hereinafter - the Standard) establishes requirements for fire safety measures to reduce the risk of fire and provide safe and controlled conditions with regard to fire safety in Kazakhtelecom JSC (hereinafter - the Company).

2. This Standard also determines the basic regulations on fire safety in the territory of production, office, warehouse and repair areas.

3. This Standard applies to all employees of the Company and contracting organizations performing work at facilities or in the interests of the Company.

## **2 Purpose and objectives**

4. Purposes of the Standard:

- 1) establishes the procedure and rules of the fire safety process;
- 2) provides compliance of the process with the established requirements;
- 3) provides the definition of the areas of responsibility of the participants in the process;
- 4) prevents the occurrence and resolves controversial issues that arise during the execution of the process;
- 5) reduces the risk of erroneous actions;
- 6) provides personnel awareness;
- 7) provides an opportunity to monitor and analyze the effectiveness of the process for its subsequent improvement.

## **3 Regulatory references**

5. This Standard uses references to the following regulatory documents:

- 1) ISO 9001:2015 Quality Management System - Requirements;
- 2) ISO 14001:2015 Environmental Management System - Requirements and Guidance for Use;
- 3) OHSAS 18001:2007 Occupational Safety and Health Management System - Requirements;
- 4) ISO 50001:2012 "Energy Management Systems. Requirements and guidelines for use"; ISO/IEC 27001:2015 "Information technology. Security techniques and tools. Information security management systems. Requirements";
- 5) Decree of the Government of the Republic of Kazakhstan No. 1077 dated October 9, 2014 "On Approval of Fire Safety Rules";

6) Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated 23 June 2017 No. 439 "On Approval of the Technical Regulations "General Requirements for Fire Safety";

7) Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated 29 November 2016 No. 1111 "On approval of the Technical Regulations "Requirements for equipping buildings, premises and structures with automatic fire extinguishing systems and automatic fire alarms, notification and management of evacuation in case of fire";

8) Order of the Minister of Emergency Situations of the Republic of Kazakhstan dated June 9, 2014 No. 276 "On Approval of the Rules for Training Employees of Organisations and the Population in Fire Safety Measures and Requirements for the Content of Fire Safety Training Programmes";

9) BC RK 2.02-11-2002 "Norms of equipment of buildings, premises and constructions with automatic fire alarm systems, automatic fire extinguishing installations and notification of people about fire" (with amendments as of 05.10.2012);

10) ST RK 1487-2006 "Fire-fighting equipment. Fire extinguishers. Requirements for operation".

Note - When using these Rules, it is reasonable to check the validity of the reference regulatory acts and regulatory documents of Kazakhtelecom JSC as of the date (moment) of application. If the reference document is replaced (changed, updated), then when using these Rules, the replaced (changed, updated) document shall be guided.

#### 4 Terms and definitions

6. The following terms and definitions are used in this Standard:

<b>Company</b>	Kazakhtelecom Joint Stock Company;
<b>Person in charge of fire safety</b>	An employee appointed by order of a Company's branch or Service Factory, who has undergone fire-technical minimum training in training centers, off-the-job;
<b>Contracting organisation</b>	An organisation engaged by the Company as a contractor that performs a certain amount of work and is fully responsible for the results of its activities under a agreement of work or agreement for services;
<b>Fire safety</b>	The state of protection of persons, property, society and the state against fires;

<b>Fire-technical minimum</b>	Minimum required level of knowledge of fire safety requirements;
<b>Employee</b>	An individual who has an employment relationship with an employer and directly performs work under a agreement of employment;
<b>Service Factory</b>	A branch of Kazakhtelecom JSC responsible for the operation of buildings and structures. It is the entity that manages the real estate owned by the Company;
<b>Specialised organisation</b>	An organisation that conducts a fire safety system check;
<b>Company's branch</b>	Corporate Business Division (CBD); Telecommunications Facilities and Infrastructure Construction Directorate (TFICD); Southern Regional Telecommunications Directorate (SRTD); Western Regional Telecommunications Directorate (WRDT); Northern Regional Telecommunications Directorate (NRDT); Information Systems Directorate (ISD); Main Telecommunications Network Management Centre (MTNMC); Almatytelecom Regional Telecommunications Directorate (RTD Almatytelecom); Long distance communication association (LDCA); Directorate Telekomkomplekt (DTK); Directorate "Academy of Infocommunication Technologies" (DAICT); Eastern Regional Telecommunications Directorate (ERTD); Retail Business Division (RBD); Central Regional Telecommunications Directorate (CRTD).

## 5 Designations and abbreviations

7. The following designations and abbreviations shall apply in this Standard:

<b>FL</b>	Flammable liquids;
<b>FAL</b>	Fuel and lubricants;
<b>RK</b>	Republic of Kazakhstan;
<b>FF</b>	Flammable fluids;
<b>OSHFD</b>	Fire and Occupational Safety and Health Department of the Service Factory;
<b>Heat generator</b>	A set of devices and mechanisms for the production of thermal energy in the form of water steam, hot water or heated air, based on the conversion of various types of energy into thermal energy.

## **6 Defining the areas of responsibility of those involved in the process**

8. Irrespective of the area occupied, at all facilities of the Company's branches, the General Director of the Service Factory shall appoint persons in charge of fire safety.
9. The General Director of the Company's branch shall appoint persons in charge of fire safety in individual work areas according to the occupied area.
10. Instruction on fire safety measures shall be approved by the General Director of the Company's branch office and the Service Factory for each site according to its area of operation.
11. Fire safety instructions shall be conducted by those responsible for fire safety, according to the Model Fire Safety Instruction Program, according to Annex 1 to this Standard.
12. The person in charge of fire safety of the Company's branch shall give fire drills at the facility entrusted to him to the employees of the Company's branch.
13. The person in charge of fire safety at the Service Factory shall give fire drills at the facility entrusted to him to the employees of the Service Factory.
14. The Service Factory shall provide that fire extinguishing and fire alarm systems, fire warning and evacuation systems, smoke protection and fire water supply systems, fire doors, valves and hatches, openings in fire barriers, rooms, buildings and structures, protection and rescue equipment at the Company's facilities are always in good working order.
15. The Service Factory shall be responsible for the operation of fire protection systems, acquisition, repair, readiness of primary fire extinguishing equipment, timely and quality maintenance (recharging of hand-held fire extinguishers) and scheduled preventive maintenance at the Company's facilities.

The Company's branch is responsible for the safety and integrity of fire protection systems.

16. At facilities equipped with fire automation systems and installations, the Service Factory shall provide that the following documentation is available:

- 1) design and estimate documentation for fire automation systems and installations;
- 2) performance documentation, certificates of hidden works (if any), tests and measurements;
- 3) an acceptance certificate for the fire automation systems and installations;
- 4) passports for technical means included in fire automation systems and installations;
- 5) a list of installed devices and equipment of the fire automation systems and systems;
- 6) passports for charging cylinders of gas fire extinguishing installations (if any) with fire extinguishing compounds;
- 7) instructions for operating the fire extinguishing systems and systems;
- 8) regulations for maintenance work;
- 9) schedule of maintenance and preventive maintenance;
- 10) an operating log of the fire automation systems and installations;
- 11) copy of the agreement with the organization for maintenance and preventive maintenance (electronic version is acceptable);
- 12) acts of training of the facility's personnel in evacuation of people using the warning and evacuation control systems (if any) in any form.

### **6.1 Functions of the responsible Service Factory for providing fire safety**

17. The person in charge of fire safety at the Service Factory has the following functions:

- 1) proper functioning of fire protection systems;
- 2) acquisition, repair, readiness for operation of primary fire extinguishing means, timely and quality maintenance (recharging of manual fire extinguishers) and scheduled preventive maintenance;
- 3) keeping a register of registration of primary fire extinguishing means at the entrusted object (according to the occupied area) in accordance with the form specified in Annex 2 to this Standard;
- 4) control and acceptance of works on maintenance and scheduled preventive maintenance of fire-fighting equipment in accordance with the schedule and calendar of works under the agreement;
- 5) maintaining systems and installations of fire automation in operable condition by organizing timely maintenance and preventive maintenance;
- 6) development and maintenance of the necessary operational documentation for the systems and fire-fighting systems;
- 7) the timely submission of complaints:



to manufacturers - when incomplete technical devices and equipment of fire automation systems and installations are delivered, or do not comply with the technical documentation;

to installers - upon detection of poor quality installation of fire automation systems and installations;

to maintenance organisations - for untimely and poor quality maintenance and preventive maintenance of fire automation systems and installations;

- 8) provision in sufficient quantity of appropriate evacuation plans in case of fire at the entrusted facility;
- 9) provision of appropriate fire safety signs;
- 10) organization of inspections of the state of flame retardant treatment (impregnation) within the time specified in the technical documentation, or at least once a year with the preparation of a test report;
- 11) proper and timely sealing of holes and gaps formed at the intersection of fire barriers by various engineering and technological communications (including electrical wires and cables);
- 12) keeping the exterior fire escapes and fences on the roofs of buildings and structures in good condition, as well as organizing operational tests at least once every five years;
- 13) keeping lightning protection devices in good condition;
- 14) organization of testing of automatic fire alarm systems within the time limits specified in the technical documentation, or at least once a quarter;
- 15) organization of technical inspections of equipment of fire-fighting water supply systems (external fire hydrants, internal fire cranes, dry-tube systems of water and foam fire extinguishing, as well as water irrigation) before commissioning and at least twice a year (in spring and autumn) with registration of the act and test report according to the Forms specified in Annex 3 to this Standard;
- 16) organization of rewinding of fire hoses to a new roll at least once a half-year;
- 17) organization of insulation of external fire hydrants in order to prevent freezing in winter;
- 18) organization of training of the personnel of the facility for the evacuation of people using warning and evacuation management systems (if available) as well as the practical use of a portable fire extinguisher, at least once a half-year;
- 19) organization of testing of gas fire extinguishing systems and installations within the time limits specified in the technical documentation, or at least once every 5 years;
- 20) development of detailed instructions on the actions of the personnel on duty during the control, management of the operation of the gas fire extinguishing system;
- 21) conducting fire safety briefings for the employees of the Service Factory;

- 22) timely reporting of the occurrence of fire to the firefighting service and notifying (informing) the management and on-duty services of the facility;
- 23) implementation of general guidelines for fire extinguishing and evacuation of people (taking into account the specific features of the facility) before the arrival of fire service units;
- 24) organization of evacuation and protection of property assets of the object in case of fire;
- 25) reporting to fire-fighting service units, involved for fire extinguishing and related primary rescue works, information, necessary for safety of personnel, on hazardous (explosive), explosive substances being processed or stored at the facility;
- 26) provision of compliance with the requirements of this Standard at the entrusted facility;
- 27) keeping territories, buildings, structures and premises, including evacuation routes, clean (organize timely cleaning of facilities from combustible waste, rubbish, containers, fallen leaves and dry grass, etc.).

## **6.2 Functions of the person in charge of fire safety at the Company's branch.**

18. Person in charge of fire safety of the Company 's branch performs the following functions:
  - 1) conducting briefing with employees of the Company's branch and duty personnel on actions when fire automation systems and installations are triggered;
  - 2) safety and integrity of primary fire-fighting equipment;
  - 3) keeping a register of registration of primary fire-fighting means at the entrusted object in accordance with the form stated in Annex 2 to this Standard;
  - 4) timely submission to the OSHFD of a list of needs (applications) for the purchase of sufficient numbers of evacuation plans and fire safety signs;
  - 5) conducting fire safety briefings for the employees of the Company's branch;
  - 6) control over the proper and timely sealing of openings and gaps formed at the intersections of fire barriers by various engineering and technological communications (including electrical wires and cables);
  - 7) participation in the commission during testing of fire-fighting water supply systems (external fire hydrants, internal fire cranes, dry-tube systems of water and foam fire extinguishing, as well as water irrigation) and fire automation;

- 8) Upon written request, provide the OSHFD Chief with information about the operability of the systems and primary fire fighting equipment, their availability, replacement, the need for preventive and repair works;
- 9) timely report the occurrence of fire to the firefighting service and notify (inform) the management and duty services of the facility;
- 10) implementation of general guidelines for fire extinguishing and evacuation of people (taking into account the specific features of the facility) before the arrival of the fire service unit;
- 11) organization of evacuation and protection of property assets of the object in case of fire;
- 12) participate in practical technical exercises on fire safety.

### **6.3 OSHFD fire safety functions**

19. OSHFD performs the following fire safety functions

- 1) control of compliance with the requirements of this Standard in the Company;
- 2) control over compliance with state regulations in the field of fire safety in the Company;
- 3) conducting internal audits (inspections) of fire safety at the Company's facilities in accordance with the schedule approved by the General Director of the Service Factory;
- 4) issuance to those persons in charge of fire safety, mandatory instructions for the elimination of identified violations of fire safety;
- 5) control over the elimination of violations and inconsistencies in fire safety identified during internal audit or external audits (including by employees of state bodies);
- 6) organization of fire safety propaganda through lectures, talks, distribution of rules, instructions, leaflets, etc.
- 7) compilation of the consolidated annual budget requirements concerning fire safety;
- 8) provision of fire safety reporting;
- 9) organization and control over the implementation of measures aimed at creating safe conditions in terms of fire safety;
- 10) organization of development and implementation of more advanced structures, protective devices and other means of fire safety;
- 11) managing the development of new and revision of obsolete fire safety instructions and memos;
- 12) compilation of fire-fighting instruction programs;
- 13) participation in the investigation and analysis of the causes of fires;
- 14) implementation of control over the conduct of all types of fire safety briefings;

- 15) providing methodological assistance in the field of fire safety to heads of subdivisions of the Service Factory and responsible persons for providing fire safety.

## **7. General fire safety requirements**

20. Changes in the functional purpose, major repairs, technical upgrading, reconstruction and redevelopment of buildings and structures without duly developed and approved design and estimate documentation, as well as without agreement with OSHFD shall not be allowed.
21. Explosion and fire hazard categories shall be determined for all production and storage facilities, as well as outdoor technological installations in accordance with Annex 4 to this Standard. Safety signs shall be installed near the equipment with increased fire hazard.
22. The locations of primary fire extinguishing equipment, communication equipment, as well as fire automation systems shall be marked with appropriate fire safety signs, if the visual perception of these means is difficult.
23. Door self-closing devices are kept in good working order.
24. It is not allowed to install any devices that prevent the free closing of fire doors and smoke detectors.
25. It is not allowed to conduct work on equipment, installations and machines with malfunctions that can lead to a fire.
26. It is not permitted in buildings and structures:
  - 1) store and use FL and FF, gunpowder, explosives, pyrotechnic products, cylinders with combustible gases, goods in aerosol packaging, and other explosive substances in basements and ground floors;
  - 2) use attics, technical floors, ventilation chambers and other technical rooms for organizing production areas and workshops and for storing products, equipment, furniture and other items;
  - 3) to place and operate storerooms and other similar premises in elevator halls, as well as to store combustible materials;
  - 4) remove the doors of evacuation exits provided for by the project from floor corridors, halls, foyers, vestibules and stairwells, other doors that prevent the spread of fire hazards on evacuation routes;
  - 5) to make changes in the space-planning solutions, as a result of which the conditions for the safe evacuation of people are worsened, access to fire extinguishers, fire hydrants and other fire protection means are restricted or the area of operation of automatic fire protection systems (automatic fire alarms, fixed automatic fire extinguishing system, smoke exhaust system, warning and evacuation control system) is reduced;
  - 6) leave the oiled cleaning material untidy;

- 7) install grilles on the windows of all floors of the building and pits at the windows of basements (with the exception of warehouses, cash registers, secret parts);
- 8) glazing balconies, loggias and galleries leading to non-smokeable stairwells;
- 9) arrange storerooms (utility rooms) in stairwells and corridors, as well as store things, furniture and other combustible materials under staircases and on stairwells. Under the staircases in the first and basement floors, it is allowed to install only rooms for central heating control units, water metering units and electrical switchboards, fenced off with partitions made of non-combustible materials.
- 10) arrange in industrial and warehouse premises of buildings (except buildings of the V degree of fire resistance) mezzanines, partitions, cabins, storerooms, desks and other built-in rooms made of combustible materials;
- 11) clutter and close the passages to the places of installation of personal protective equipment and attachment of rescue devices.
27. In rooms designed for more than 50 people at a time, and in basement and ground floor rooms designed for more than 15 people at a time, at least two escape exits are provided.
28. In buildings and structures of fire resistance levels IV and V, the simultaneous stay of 50 people or more is only allowed in the premises of the ground floor.
29. Doors and hatches of attic rooms, as well as technical floors and basements, in which the technology does not require permanent residence of people, shall be locked. Information about the location of the keys shall be posted on the doors and hatches of the above rooms.
30. Doors on evacuation routes open in the direction of exit from the building, except for doors for which the opening direction is not regulated, namely:
  - 1) rooms in classes F1.3 and F1.4;
  - 2) rooms with no more than 15 people in them at the same time;
  - 3) storerooms with an area not exceeding 200 m<sup>2</sup>;
  - 4) sanitary units;
  - 5) exits to type 3 staircases.
31. Locks on emergency exit doors provide that they can be freely opened from the inside without a key.
32. Dimensional light fire safety signs "Exit", "Evacuation (emergency) exit", "Evacuation exit door" with self-contained power supply and from the mains, used on the escape routes, shall be kept in good condition with the light indication switched on.
33. The escape lighting shall be automatically switched on when the work lights are de-energised.
34. Evacuation routes and exits shall not be operated:

- 1) clutter evacuation routes and exits (including passageways, corridors, vestibules, galleries, lift halls, stairwells, flights of stairs, doors, escape hatches) with various materials, products, equipment, industrial waste, rubbish and other items and clog doors of evacuation exits;
  - 2) arrange dryers and hangers for clothes, wardrobes in the vestibules of exits (with the exception of apartments and individual residential buildings), as well as store (including temporarily) inventory and materials;
  - 3) arrange thresholds on evacuation routes (with the exception of thresholds in doorways), sliding and lifting-lowering doors and gates without the ability to manually open them from the inside and lock them in the open state, revolving doors and turnstiles, as well as other devices that prevent the free evacuation of people, in the absence of other (duplicate) evacuation routes or technical solutions, allowing you to manually open and lock the specified devices in the open state. In addition to the manual method, it is allowed to use an automatic or remote method of opening and locking devices.
  - 4) use combustible materials that do not comply with the fire hazard class for finishing, cladding and painting floors, walls and ceilings on escape routes, except for buildings of fire resistance class V;
  - 5) fix the self-closing doors of stairwells, corridors, halls and vestibules in the open position, as well as remove them;
  - 6) glazing or closing air blinds in non-smokeable stairwells;
35. Carpets, rugs and other floor coverings in rooms with mass occupancy shall be securely attached to the floor.
  36. Gas cylinders (working and spare) to supply gas to household gas appliances (including cooking cookers, hot water boilers, gas-fired boilers) are located outside buildings in annexes or cabinets made of non-combustible materials at a blind wall partition at least 5 meters from entrances to buildings, basement and basement floors.
  37. Buildings and cabinets for gas cylinders shall be locked and provided with shutters for ventilation and a warning sign: "Fire risk. Gas cylinders".
  38. Buildings and structures as well as outdoor equipment shall be equipped with functioning lightning protection devices as provided for in the draft.
  39. Employees who have not been instructed in fire safety shall not be allowed to perform their work (labor) duties.
  40. Smoking areas shall be designated in buildings and structures which are not classified as explosive and fire-hazardous and shall be marked with "Smoking Area" fire safety signs and equipped with a litter box made of non-combustible materials and fire extinguishers.

Colours and locations (installation) of fire safety signs are provided in accordance with the requirements of ST RK GOST R 12.4.026.

## 8. Maintenance of electrical installations of buildings and structures

41. All current-carrying parts, switchgear, device and measuring instruments, as well as rupture disks, switches and all other starting devices and appliances of electrical installations shall only be mounted on non-combustible surfaces (marble, textolite, laminated bakelite).
42. Connections, terminations and branch lines of wires and cables are made by crimping, welding, soldering or special clamps to avoid transient fire hazard.
43. Electrical installations and electrical devices in the premises shall be de-energised at the end of the working time (shift).
44. Emergency lighting, fire extinguishing and fire water supply systems, fire and fire alarm systems shall remain energised. Other electrical installations and electrical products (including in residential areas) may be left energised if this is due to their functional purpose and/ or is required by the operating instructions.
45. Electrical installations may not be operated:
  - 1) use electric networks and receivers of electric power with violation of safety requirements described in the manufacturer's instructions, electric receivers with faults that can cause fire (sparking, short-circuiting, excessive heating of insulation of cables and wires, failure of automatic control systems, emergency and fire protection), electrical equipment that has not been certified, and to use electric wires and cables with damaged or lost protection
  - 2) use damaged or loose sockets, switches and other electric installation and wiring devices
  - 3) use electric heaters if they have no thermoregulators provided for in the design or if they are faulty
  - 4) wrapping light bulbs and lamps with paper, fabric or other combustible materials, as well as using light fixtures with incandescent lamps with removed plafonds (diffusers) and protective grids as required by the design of the lamp
  - 5) use electric irons, electric stoves, electric kettles and other electric heaters without special supports (power supply bases, heating discs) that eliminate the risk of fire, if the manufacturer's instructions stipulate their availability;
  - 6) use electric heaters in all flammable and fire hazardous rooms;
  - 7) use non-standard (homemade) electric heaters, to use uncalibrated fusible links or other homemade overload and short-circuit protection devices;
  - 8) to place (store) near electric boards, electric motors and starting appliances combustible (including inflammable) substances and materials;
  - 9) leave uninsulated connections and ends of electric wires and cables.

- 10) connect electric wires to each other by twisting them together.
46. Checking the condition of fixed equipment, power and lighting network wiring, testing and measuring the insulation resistance of wires, cables and earthing devices are conducted at commissioning and subsequently according to the schedule, but at least once every three years. The results of the measurements shall be documented in a report (protocol).
47. Spotlights and soffits shall be placed at a distance of at least 0.5 m from combustible structures and materials, and lens draftors - at least 2 m.
48. Storage rooms and corridors of enclosed switchgear are not permitted, nor is it permitted to store electrical equipment or spare parts.
49. If faults are detected in electrical installations and household appliances (excessive heat or damage to the insulation of cables and wires, fumes, sparks), they shall be immediately de-energised. They may only be switched on again when the faults have been rectified.
50. Protective covers shall be provided in the junction boxes and junction boxes of the electric cables.
51. The installation and operation of timber power lines is not permitted.

## **9. Procedure for the maintenance of heating systems in buildings and structures**

52. In production and other rooms, cookers are fired by designated persons (stokers) who have been instructed in fire safety measures for the operation of heating appliances.
53. Chimneys, flues and other elements of heating furnaces and systems shall be cleaned from soot immediately before and at least during the heating season: once every three months - for heating cookers; once every two months - for cookers and hearths of continuous operation.
54. The following requirements shall be observed when operating the heat generators:
- 1) the volume, placement of the fuel tank and its supply to the air heater shall comply with the requirements of the passport data and technical specifications for the appliances in question;
  - 2) the burners shall operate steadily without flame breakaway or flashover within the required thermal load regulation of the unit;
  - 3) liquid fuel leakage or gas leakage from the fuel supply system is not allowed.
55. Do not operate the heat generating units:
- 1) work on the device with broken tightness of fuel lines and with a faulty shut-off valve on it, loose connections of the nozzle body with a heat generating apparatus, faulty chimneys, electric motors and protection devices, as well as in the absence of thermal protection of the electric motor and other malfunctions;



- 2) work on an apparatus with open fuel tanks;
  - 3) work with an unregulated nozzle (with a violation of the fuel supply);
  - 4) make guards of flammability groups GZ-G4 near the device and fuel tanks;
  - 5) heating up fuel lines with open flame;
  - 6) to ignite the fuel mixture through the sight-glass;
  - 7) adjust the gap between the electrodes of the plugs when the heat generating unit is in operation;
  - 8) operating the heater if the protective grid on the air intake manifolds is missing or defective;
  - 9) violate the conditions of use of the heat generating units, place them in rooms (places) not adapted for that purpose;
  - 10) operate heat generating equipment using various fuels without checking the condition of chimneys, ventilation ducts and the presence of draught in them.
56. Liquid fuel-fired appliances shall be installed in a metal pan containing the entire volume of fuel in the fuel tank in the event of an emergency spill. This pan shall be filled with sand or other non-combustible adsorbent.
57. The heat generating appliances running on liquid, solid and gaseous fuels shall be equipped with serviceable doors and fire separating sections (openings) from combustible structures.
58. It is not allowed to use the air ducts of the ventilation system as flue ducts.
59. At least two valves shall be installed on the fuel duct near every nozzle of heating boilers and heat generators: one near the furnace, the other near the fuel tank.
60. When operating central boiler plants intended for heating organisations in settlements, it is not allowed:
- 1) store liquid fuel in rooms not designated for this purpose;
  - 2) use as fuel combustible substances (solid, liquid, gaseous) not specified in the operating instructions of the equipment;
  - 3) operate the heat generating plants in case of liquid fuel leakage or gas leakage from fuel supply systems;
  - 4) ignite the units without blowing through the fuel boxes and supply fuel with nozzles or gas burners switched off;
  - 5) work in the absence, malfunction or disconnection of control and regulation devices provided for by the design of heat generating installations;
  - 6) dry combustible materials on boilers and steam lines.
61. Electric duct heaters are allowed to be used with a functioning alarm and interlock to prevent the power supply to the heating elements when the fan is not running, and the automatic control of the outlet air temperature and its regulation provided for by the electrical and thermal protection.
62. When operating the duct heaters, it is not allowed:
- 1) switch off the alarm or interlocking system;
  - 2) use flammable materials for the flexible insertion between the duct heater casing and the fan;

- 3) exceed the maximum permissible outlet air temperature of the heater, as specified by the manufacturer;
- 4) switch on the heater when the fan is switched off (check the interlocks before each start-up of the unit);
- 5) dry clothes or other combustible materials on or near the heater (within a radius of 3 metres).

## **10. Maintenance procedures for ventilation systems**

63. Fire retarders (dampers, dampers, valves) in air ducts, ventilation system interlocking devices with automatic fire alarm or fire extinguishing systems, and automatic ventilation shutdown devices in case of fire shall be checked within the terms specified in technical documentation and shall be kept in good working order. Sensitive elements of the damper drives (fusible locks, flammable inserts, temperature sensitive elements) shall be cleaned in a timely manner from contamination by combustible dust.

64. Only non-combustible materials shall be used for sealing detachable joints (including flanges) of fire-retardant duct structures.

65. Storage of any equipment and materials in ventilation chambers is not allowed. Ventilation chambers shall be locked at all times. Unauthorised persons are not allowed to enter the ventilation chambers.

## **10 Maintenance of public facilities and fire safety requirements in the office**

66. Fire safety requirements are stipulated not only for permanent office employees but also for persons performing seasonal work, business travellers, practitioners.

67. Storage (stockpiling) of substances and materials is conducted taking into account the compatibility of their storage and the uniformity of the extinguishing media.

68. All rooms in the buildings are kept clean. Baskets and boxes for papers and other combustible waste are cleaned regularly.

69. It is not allowed to use furniture, finishing materials on evacuation routes and equipment made using polymeric materials capable of releasing highly toxic products during gorenje.

70. A security company or security guards of the Company shall be on duty at the site 24 hours a day. The security guard on duty shall have a set of keys to all the emergency exit door locks at all times. Another set of keys shall be kept in the guardroom on duty. Each key in both sets shall be signed as belonging to the respective lock.

71. Guards on duty are located in rooms where a fire alarm indication panel system has been installed and are provided with hand-held electric lights and a

telephone. Installation of bunks in corridors, halls and other escape routes is not allowed.

72. Signs "Gathering place" shall be placed outside, in a safe and non-obstructing place for fire-fighting teams to pass through.
73. Every building intended for human use shall have sufficient exits to permit rapid evacuation in the event of an emergency. Exits and routes to and from them shall be kept clear and accessible at all times. Doors to escape exits shall open freely towards the exit of the premises.
74. Evacuation plans in the event of fire shall be posted in a conspicuous place, on each floor of the office premises, at a distance of no more than 20 metres from each other. The locations of fire extinguishers shall be marked with signs and be in full view.
75. It is not allowed to store combustible or non-combustible materials in combustible containers in the rooms of the basement and basement floors that do not have windows with pits for removing smoke, as well as when communicating the common stairwells of the building with these floors.
76. Paper, cardboard boxes, clothing and other flammable materials shall be kept a minimum distance of 3 m from any heat source. Flammable materials shall not accumulate under tables or in other places where they can be a potential source of fire.
77. It is not allowed to arrange storerooms and other utility rooms in stairwells and floor corridors, as well as to store things, furniture and other combustible materials under staircases and on stairwells.
78. It is prohibited in offices:
  - 1) clutter the escape routes with equipment, materials and other items;
  - 2) use open fire;
  - 3) smoke in the workplace, including electronic cigarettes;
  - 4) fix self-closing doors of corridors and vestibules in an open position; - doors of corridors and vestibules provided for by the draft;
  - 5) store and use FL and FF and gas cylinders;
  - 6) leave oil-contaminated cleaning materials;
  - 7) use the premises for storage of equipment, furniture and other items;
  - 8) install blind bars on the windows.
79. It is forbidden to operate electrical appliances:
  - a. operate wires and cables with damaged or lost protective properties of the insulation;
  - b. to cover electric lamps and lighting fixtures with paper, cloth or other combustible materials;
  - c. leave working electric heaters without constant supervision, and after the end of work – devices connected to the power grid.

## 11 Fire safety requirements in storage areas

80. The storage area, material and equipment storage areas shall be kept clean at all times and systematically cleaned of various types of waste, debris. Oil spillage areas shall be cleaned up immediately. All buildings and storehouses shall be easily accessible to fire teams. Fire-fighting equipment and appliances shall also be easily accessible.
81. All storage rooms shall be equipped with an automatic fire alarm system and primary fire extinguishing equipment. All fire alarm boards shall be located in easily accessible places within sight.
82. It is forbidden to clutter up the driveways around buildings, warehouses and storage areas for materials and equipment with materials and equipment. In open areas, the width between the storage stacks of various substances, materials and equipment should be at least 5 m. Signs with the designation of the category of explosion and fire hazard should be posted at the entrances to the warehouse premises.
83. The definition of explosion and fire hazard categories of premises and buildings 'warehouses' is assumed to be divided into five categories A, B, C, D and E depending on the fire hazard of the materials stored therein in accordance with Annex 4 to this Standard.
84. It is forbidden to clean warehouses and office premises with the use of gasoline, kerosene and other FF and FL. Wooden structures of warehouses must be treated with a flame retardant. After processing, an act shall be drawn up. After the expiration of the treatment (impregnation) and in case of loss or deterioration of fire-retardant properties, the treatment must be repeated.
85. When storing different materials and substances, their fire-hazardous and physico-chemical properties (ability to oxidation, self-heating, ignition upon contact with moisture, interaction with air, etc.), compatibility as well as signs of homogeneity of extinguishing substances shall be taken into account. No other goods or materials, irrespective of the homogeneity of the extinguishing agents used, may be stored together in the same section of automobile rubber and FF and FL.
86. Materials and goods shall be stored in racks or stacks which shall be sufficiently stable. Racks and stacks shall not be placed close to walls and columns of buildings, nor shall spacers be placed between the stacks (racks) and the wall (column). - the minimum distance between the stack (shelf) and the wall (column, drafting structure, heating appliances) shall be at least 0.7 m, - between the stack (shelf) and the ceiling (truss or rafters) - 0.5 m, - between the stack and the lamp - 0.5 m, - between the lamp and a combustible structure - 0.2 m.
87. The racking in the storage premises shall be metal, but wooden racks treated with flame retardants are allowed.
88. It is prohibited in storage rooms:

- 1) storage of products in bulk and close to heaters;
  - 2) storage of aerosol packages in the same room with oxidizer, flammable gases, flammable liquids and liquefied hydrocarbons;
  - 3) storage of acids in places where they can come into contact with wood and other substances of organic origin (for neutralization of accidentally spilled acids the storage places shall be provided with ready-made solutions of chalk, lime or soda);
  - 4) storage of vegetable oils together with other combustible materials;
  - 5) smoking, use of open flames.
- 89.No huts, catering rooms or other auxiliary services shall be permitted in premises designed for the storage of inventory items. Glass partitions installed in storage facilities to protect workplaces of merchandisers, experts and storekeepers shall not impede evacuation of people or inventory in case of fire.
- 90.Electrical equipment in warehouses shall be de-energized at the end of the working day. Device for disconnecting the power supply to the warehouse shall be placed outside the warehouse, on the wall of non-combustible materials or a freestanding support, enclosed in a cabinet and locked.

## **12 Fire safety requirements in eating rooms**

- 91.An employee responsible for fire safety at a Company's branch shall provide compliance with fire safety requirements in the eating room, including
- 1) availability of signs with the telephone number to call the fire team;
  - 2) serviceable condition of fire safety signs, including those indicating evacuation routes and evacuation exits;
  - 3) serviceable condition of fire protection systems and means, automatic (autonomous) fire extinguishing installations, automatic fire alarm installations.
- 92.It is forbidden to be in the eating rooms:
- 1) store combustible materials, waste, packaging and containers in escape routes (these shall be removed daily as they accumulate);
  - 2) to conduct fire work during the stay of people in dining rooms;
  - 3) use open fires;
  - 4) fix self-closing doors in corridors and vestibules in an open position;
  - 5) remove the doors of corridors and vestibules as provided by the draft;
  - 6) store and use FL and FF and gas cylinders;
  - 7) to conduct cleaning of premises with the use of FF and FL;
  - 8) leave oiled cleaning material.
- 93.It is forbidden to leave electrical installations and kitchen appliances not de-energized at the end of working hours, with the exception of on-duty lighting, fire protection systems, as well as other electrical installations and electrical appliances, if this is due to their functional purpose and provided for by the requirements of the operating instructions.

### **13 Fire safety requirements in buildings with recreation rooms.**

94. Evacuation plans shall be posted in a conspicuous place, indicating the location of the assembly point in the event of an emergency. Fire safety instructions shall be posted next to the evacuation plan. Fire exits shall be kept clear and unobstructed by materials. Doors to escape exits shall open towards the exit of the building and shall only be locked with easy-open locks.
95. The break room shall be equipped with an automatic fire alarm system. Fire extinguishers shall be placed in the corridors in a visible and accessible place. Routine maintenance and scheduled preventive maintenance of automatic fire alarm systems and the fire alarm system shall be conducted in accordance with the annual schedule.
96. Employees are not allowed in the living rooms:
- 1) clutter escape routes and exits with various materials, products, furniture, equipment, production waste, rubbish and other items, as well as block the doors of evacuation exits and approaches to fire extinguishing equipment and electrical equipment;
  - 2) smoke and use open fire;
  - 3) use damaged socket outlets, lighting and connection boxes and other damaged electrical devices;
  - 4) use non-standard (homemade) heating appliances for heating purposes;
  - 5) to use electric wires and cables with damaged insulation or loss of its protective properties;
  - 6) connect more than one electric energy consumer to the same power supply;
  - 7) use temporary wiring as well as extension cords to power appliances that are not intended for emergency and other temporary work.
97. It is not allowed to use technical floors, technical underground, ventilation chambers, boiler rooms, machine rooms of elevators and attic rooms not for their intended purpose (for warehouses, archives, as well as premises for other purposes), as well as for the storage of combustible materials. The doors of these premises are locked with a lock, the keys to which are located in a certain place, accessible for receipt at any time of the day, with a 24-hour stay of the on duty.
98. Smoking areas shall be equipped with a sign: "Smoking area", bins or ashtrays made of non-combustible materials. A fire extinguisher shall be provided in each designated smoking area.

### **14 Maintenance of transport facilities**

98. Minor repairs and routine maintenance of vehicles in outdoor parking areas are conducted on paved areas.
99. A fire-team with a set of fire-fighting equipment is installed at each site for minor repairs and routine maintenance of vehicles.
100. The premises of garages and vehicle open storage areas shall not be cluttered with items and equipment that may hinder the evacuation in case of fire or any other emergency.
101. Garages, boxes and areas for open storage of vehicles (except for individual vehicles) shall be equipped with the schemes of arranging the vehicles.
102. The premises of garages and open-air storage areas of vehicles shall be kept clean. Spilled combustive and lubricating materials shall be covered with sand and cleaned up immediately.
103. It is not allowed to park cars with engines running on compressed natural gas and liquefied petroleum gas in built-in buildings for other purposes and attached to them, as well as closed parking lots located below ground level.
104. The use of garages and outdoor parking areas for purposes other than their intended use (storage of combustible materials, gas cylinders, establishment of repair shops, paint booths and other) is not allowed.
105. The parking premises shall be heated with water or air, combined with fresh air ventilation. In the security rooms of garages, the use of factory-made local heating devices with a smooth surface is allowed. In this case, heating appliances with surface temperatures exceeding 1000C shall be enclosed with screens made of non-combustible materials.
106. In premises, under sheds and in outdoor vehicle storage areas are not allowed:
  - 1) installation of vehicles in the number exceeding the norm of the layout plan, reduction of the distance between vehicles, buildings (constructions);
  - 2) cluttering the exit gates and driveway; conducting blacksmithing, thermal, welding, painting and woodwork, as well as washing the parts with FL and FF;
  - 3) leaving vehicles with open fuel tank necks if they are leaking from fuel tanks, fuel lines or carburettors or if electrical systems are defective;
  - 4) collection of used petrol, oil and lubricants, filters, rags shall be made in containers made of non-flammable materials with closable covers;
  - 5) recharging of accumulators directly on vehicles or on premises which are not suitable for such purposes;
  - 6) engine heating by open fire (bonfires, torches, blowtorches), the use of open fire sources for lighting;
  - 7) installation of vehicles for the transportation of flammable and combustible liquids, as well as combustible gases in common parking lots;

- 8) storage of containers of flammable and combustible liquids;
  - 9) engine heating, conducting repair work with the use of open fire, as well as the use of open fire sources for lighting during repair work
107. When operating vehicles that run on gaseous fuels:
- 1) it is not allowed to park vehicles with a technically faulty (leaky) gas supply system in a closed room;
  - 2) When vehicles are parked overnight or for a long period of time, the flow valves shall be closed, all the gas in the main gas supply line shall be produced, then the ignition shall be switched off, the main gas valve shall be closed and the "mass" on the battery shall be disconnected;
  - 3) thoroughly ventilate the premises after the vehicles have left them;
  - 4) start the engine only with one type of fuel - gas or petrol.
108. Parking spaces and areas for open storage of vehicles (except for individual vehicles) shall be equipped with towing ropes and bars at the rate of 1 rope (bar) per 10 vehicles.
109. In the vehicle repair premises and auxiliary rooms it is not allowed to repair vehicles with tanks filled with fuel (and in the case of gas vehicles with filled gas cylinders) and crankcases filled with oil. At the end of the work, the room and the inspection pits are to be cleaned of oily cleaning materials and various liquids.
110. In the garage room and inspection pits, rubbish, waste shall be removed at the end of each shift. Access to the garage emergency gate shall be kept free at all times. No blacksmithing, thermal, welding, painting or flushing of parts with FL and FF are allowed in the garage.
111. A fire shield with a set of fire-fighting equipment shall be installed in each area for minor repairs and routine maintenance of vehicles. The premises of garages and vehicle open storage areas shall not be cluttered with items and equipment that may hinder their evacuation in case of fire or other emergencies. The premises of garages and vehicle open storage areas shall be kept clean. Spilled fuel and lubricants shall be covered with sand and cleaned up immediately.
112. It is prohibited to maintain or repair motor vehicles in places of service and repair:
- 1) wash and wipe down vehicle parts, units and work clothes etc. with oil products;
  - 2) park the vehicle in case of a leak in the tank without first draining the fuel;
  - 3) to make flammable repairs of cars filled with fuel;
  - 4) clutter exit gates and driveways;
  - 5) store vehicles with flammable loads;
  - 6) keep vehicles with open petrol tank necks;
  - 7) store petrol, diesel fuel, gas cylinders (with the exception of fuel in tanks and gas in cylinders mounted on vehicles);



- 8) store containers of FL and FF.
113. To prevent cars from catching fire, the following conditions shall be met:
  - 1) clean the engine and other components from fuel and oil;
  - 2) do not allow the operation of vehicles with defective fuel and electrical equipment;
  - 3) Do not leave oil and petroleum product contaminated cleaning materials, overall, FL and FF in the body or interior of the vehicle.
114. In the garage room and inspection pit, rubbish, waste shall be removed at the end of each shift. Access to the garage emergency gate shall be kept free at all times. No blacksmithing, thermal, welding, painting or flushing of parts with FL and FF are allowed in the garage.
115. No storage rooms for motor vehicles are allowed:  
heat the engines with an open flame and use it for lighting during maintenance, repair and other work;  
leave the car with the ignition on.
116. Repair work on vehicles with tanks filled with fuel (and in the case of gas vehicles with filled gas cylinders) and crankcases filled with oil is not permitted in the repair rooms or auxiliary rooms. At the end of the work, the room and the inspection pits shall be cleaned of oily cleaning materials and various liquids, after which they shall be disposed of.
117. Soldering work or work with a soldering lamp in battery charging rooms shall not be conducted earlier than 2 hours after the batteries have stopped being charged, provided that the room is thoroughly ventilated. Continuous ventilation of the room shall be provided during soldering or soldering lamp operation. The soldering area shall be protected from the room's process equipment by fire-resistant shields.

#### **14.1 Maintenance procedures for battery stations**

118. When charging the batteries:
  - 1) check that the wires to the battery terminals are securely connected to prevent sparking;
  - 2) the plugs in the battery banks are kept open;
  - 3) the charging current is only switched on and the charged batteries are only stored when the flowing exhaust ventilation is running;
  - 4) disconnection of the conductors of individual accumulators is only effected when the charging current is switched off;
  - 5) damaged leads shall be replaced immediately.
119. Soldering or soldering lamp work in battery charging rooms shall not be conducted earlier than 2 hours after the batteries have stopped charging, provided that the room is thoroughly ventilated. During soldering or soldering lamp work, the room is ventilated continuously. The soldering area shall be

fenced off from the technological equipment of the room with fireproof shields.

120. The battery station premises shall not be permitted:

- 1) smoking, lighting fires and the use of electric heaters;
- 2) storage of acids, alkalis or electrolyte in an amount greater than the single-shift need;
- 3) leave special clothing and foreign objects in the workplace.

#### **14.2 Procedure for the transport of explosive and flammable substances and materials**

121. Tanks carrying flammable gases, flammable liquids and combustible liquids shall be equipped with reliable earthing, fire extinguishers, a fire blanket, a container of sand weighing at least 25 kg, and marked according to the degree of hazard of the cargo, and the exhaust pipes shall be equipped with serviceable spark arresters.

122. Before the filling of the tanks, reservoirs and containers with the liquid, the operability of the measuring device shall be checked.

123. The level of the liquid in the tank and the sampling is usually done during daylight hours. Only explosion-proof accumulator lanterns are to be used when working during the hours of darkness.

124. Level gauging and manual sampling during thunderstorms and during pumping or pumping of the product is not permitted.

125. Intrinsically safe sampling devices and earthing shall be used.

126. Filling and emptying of containers with flammable and combustible liquids shall be conducted through pipelines and hoses having faultless connections, and only after checking that the respective valves are correctly opened and closed and that the hoses and pipelines are tightly connected.

127. Product supply to the tanks and vessels in a "falling stream" is not allowed. The tank filling (emptying) speed shall not exceed the total capacity of breathing and safety valves (or vent pipes) installed on the tank.

#### **14.3 Requirements for the storage of fuels and lubricants**

128. The permanent storage area shall be isolated by a fence made of non-combustible material at a distance of at least 5 m from the walls of buildings and structures. The height of the fence shall be not less than 2 m.

129. All the access routes to the place of storage of petroleum, oil and lubricants shall be sufficiently lightened. Stationary equipment for receipt and storage of petroleum, oil and lubricants (tanks and reservoirs) shall be installed on strong fireproof foundations.

130. A berm (bund) shall be built around the tanks. The areas between the ramparts and the tanks are carefully levelled and covered with sand. The berms and berm crossings are maintained in good condition. Tank breather valves are inspected for compliance with the requirements of the technical certificate at least once a month, and at temperatures below 0°C at least once a decade. During inspections of breathing valves, the valves and screens shall be cleaned of ice. They shall only be heated using fire-safe methods.
131. When storing petroleum products in drums, the distance between the tiers shall be at least 1 m. All drums are stored corked upwards, in special wooden spacers which prevent them from rolling away. When stacking drums, wooden spacers are used between them to prevent the formation of sparks from any accidental impact. All empty containers shall be washed and steamed, and only so washed and steamed may be stored again.
132. Waste oil shall be collected in separate containers placed outdoors in the garage. These containers shall be periodically emptied by taking them to a collection point. It is strictly prohibited to discharge waste oil into the general sewerage system or the ground.

## **15 Procedure for conducting hot work**

133. Welding and other hot work areas shall be provided for:

- 1) Permanent - organised in workshops, workshops or open areas specially equipped for this purpose;
- 2) Temporary - when hot work is conducted directly in buildings, residential buildings and other structures under construction or reconstruction, on the premises of enterprises for the purpose of repairing equipment or installing building structures.

134. If there are no more than 10 welding stations in a welding shop, each station may have one spare cylinder with oxygen and combustible gas. The spare cylinders shall be shielded with shields from non-combustible materials or kept in special additions to the workshop.

135. The floors in the rooms where the permanent welding workshops are organised shall be made of non-combustible materials.

136. Conducting welding and other fire works is conducted by persons who have passed the technical minimum in accordance with the established procedure and have passed knowledge tests of the requirements of fire safety rules.

137. Temporary electric welding and other hot work places shall be determined only by a written permission of the site head or a person performing his duties (Annex 5 to this Standard).

138. Conducting fire work without obtaining written permission in places that are safe in terms of fire, is conducted only by specialists of appropriate qualifications who have mastered the program of fire-technical minimum and the requirements of this Standard. The list of specialists allowed to conduct fire work independently

without obtaining written permission is approved by the General Director of the Service Factory.

139. Permission to conduct temporary (one-time) hot work is given only for the working shift. For the same work, if it is to be conducted over several shifts or days, a repeated permit is not required.

140. In these cases, for each following work shift, after re-inspection of the site of the said works, the person in charge shall confirm the previously issued permit, of which an appropriate record shall be made.

141. Fire extinguishing equipment (fire extinguisher, box with sand and shovel, bucket with water) shall be provided at the hot work site. If there is an internal fire fighting water supply system at the site, fire hoses with nozzles shall be laid from the fire hydrants to the place of hot work. All employees engaged in hot work shall skillfully use primary fire extinguishing means.

142. The person in charge of hot work shall check the availability of fire extinguishing means at the work place.

143. It is not allowed to locate permanent places for hot work in fire-prone and explosion-hazardous premises.

144. The process equipment, where hot work is to be conducted, shall be brought into explosion-proof condition by means of:

- 1) release of explosive and flammable substances;
- 2) disconnecting from active utilities (except utilities used to prepare for firing operations);
- 3) pre-cleaning, washing, steaming, venting, sorption, phlegmatisation.

145. In order to prevent incandescent metal particles from entering adjacent rooms, neighbouring floors, all inspection, technological and other hatches (hatches), ventilation, installation and other openings (holes) in ceilings, walls and partitions of rooms where hot work takes place, shall be covered with non-combustible materials.

146. The place where hot work is conducted within a radius of 5 metres shall be cleared of combustible substances and materials.

147. During breaks at work as well as at the end of the shift the welding equipment shall be disconnected including the power supply, hoses shall be disconnected and released from flammable liquids and gases, and the soldering lamps shall be completely depressurized.

148. Upon completion of the work, all equipment and device shall be removed to the designated rooms (places).

149. During hot work operations it is not allowed:

- 1) to commence work with defective equipment;
- 2) to make fire works on structures and products freshly painted with combustible paints (varnishes);
- 3) use clothes and gloves with traces of oil, grease, petrol, paraffin and other flammable liquids;
- 4) store clothing, flammable and combustible liquids and other combustible materials in welding booths;

5) independent work of apprentices and employees without qualification certificate and fire safety certificate;

6) contact of electric wires with cylinders with compressed, liquefied and dissolved gases;

7) to make work on devices and communications filled with combustible and toxic substances, as well as those under pressure and electric voltage;

8) to conduct the fire works concurrently with the arrangement of the waterproofing and vapour barrier in the roof, installation of the panels with combustible and slow-burning heaters, gluing the flooring and finishing of the rooms with the use of combustible paints, glues, mastics and other combustible materials;

9) work as an electric welder and gas welder (gas cutter) inside closed containers and rooms at the same time.

## **16 Training and fire safety briefing procedures.**

150. Personnel involved in the operation, inspection and maintenance of fire-fighting equipment, as well as those responsible for fire safety shall undergo training on fire-technical minimum in accordance with the "Rules of Training Employees of Organisations and the Public in Fire Safety Measures and Requirements for the Content of Fire Safety Training Curriculum" at intervals of once every three years.

151. Fire drill and fire safety training shall be conducted in a room equipped with visual aids.

152. The fire safety briefing shall be conducted by a person responsible for fire safety, according to the Model Fire Safety Briefing Program, according to Annex 1 to this Standard.

## **17 Requirements for fire-fighting equipment**

### **17.1 Fire extinguishers**

153. Location requirements for fire extinguishers:

1) the number and location of fire extinguishers shall be determined in accordance with the classification of premises categories of explosion and fire hazard;

2) the premises shall be equipped with fire extinguishers in accordance with the norms specified in Annex 6 to this Standard;

3) the premises equipped with automatic fixed fire-extinguishing installations may be provided with 50 % fire extinguishers, based on the calculated number of fire extinguishers.

4) the distance from a possible fire source to the fire extinguisher location shall not exceed 20 m<sup>2</sup> (for public buildings and structures); 30 m<sup>2</sup> (for premises of categories A, B and C); 40 m<sup>2</sup> (for premises of category D); 70 m<sup>2</sup> (for premises of category E).

5) Fire extinguishers shall be placed in clearly marked areas which can be easily seen from any side.

6) Fire extinguishers shall not be stored on the floor or the ground because of the possibility of corrosion of the bottom. They shall be hung so that the top of the extinguisher is not more than 1.1m above the floor surface and at least 1.2m from the edge of the open door.

154. Persons in charge of firefighting facilities shall check portable and mobile fire extinguishers on a monthly basis.

155. When inspecting fire extinguishers, care shall be taken to provide that the following conditions are met:

1) the extinguisher is in place and easily accessible. Its location shall be marked with a sign or painted;

2) the extinguisher has not been used - the seal, pin (if included) is intact;

3) the extinguisher hose is not significantly cracked or damaged;

4) the extinguisher is undamaged, not corroded, especially the bottom;

5) the pressure gauge reads in the green safety zone;

6) in all cases when a fire extinguisher shall be sent for repair, a replacement fire extinguisher shall be installed in its place.

156. The fire extinguisher inspection log shall be kept by the Service Factory's fire safety officer (in his absence, the log shall be kept by the responsible Company branch).

157. The grounds for installing a replacement fire extinguisher are:

1) the seal is broken;

2) lack of pressure inside the extinguisher body (for extinguishers with internal pressure); Deformation or corrosion of the extinguisher body;

3) a defective pressure gauge;

4) lack of a label with the date of the annual audit;

5) a torn hose or other damage of a mechanical nature which prevents the extinguisher from being used.

158. All types of fire extinguishers shall be charged and recharged in accordance with the manufacturer's technical documentation. Recharging and recharging of fire extinguishers shall be conducted by specialised organisations.

159. Fire extinguishers shall be recharged immediately after use or if the leakage rate of the gas fire-extinguishing agent or displacing gas exceeds the permissible value for the year.

160. At least once every 5 years, each fire extinguisher and displacement gas cylinder shall be discharged, the extinguisher body shall be completely cleaned of residual extinguishing agent, an external and internal inspection shall be conducted and a hydraulic strength and pneumatic leak test of the extinguisher body, trigger

head, hose and shut-off device shall be conducted. Fire extinguishers shall be tested by specialised organisations.

161. In case mechanical damage or corrosion is detected, the housing and assemblies of the fire extinguisher shall be subjected to strength testing in accordance with the requirements of state, interstate, international standards permitted for use in the Republic of Kazakhstan, and regulatory documents on fire safety, approved in the prescribed manner. Fire extinguishers whose bodies are damaged or corroded shall be removed from service and replaced with new ones.

After successful completion of the test, the extinguisher shall be dried, painted (if necessary) and charged with extinguishing agent.

## **17.2 Fire hydrants and hoses**

162. Internal fire hydrant tests shall be conducted twice a year (spring and autumn). The test results of the internal fire water supply system shall be activated in accordance with Annex 3 to this Standard.

163. Rerolling of fire hoses to a new roll shall be performed twice a year (in spring and autumn) when testing the internal fire hydrants.

164. The following criteria shall be paid attention to when testing internal fire hydrants:

- 1) the hose shall be connected to the barrel and the crane. The barrel shall hang down from the reel or lie on the hose;
- 2) the reel shall be loose. Verify this by extending the hose a few metres;
- 3) the hose is not under pressure and the reel support is firm;
- 4) the hose is not broken or cracked and is wrapped neatly around the reel.

## **17.3 Fire hydrants**

165. The outdoor fire hydrant shall be tested twice a year (spring and autumn). The test results shall be activated in accordance with Annex 3 to this Standard.

166. Outdoor fire hydrants shall be insulated in winter to prevent freezing. The hydrant itself and access routes to the hydrants shall be cleared of snow and ice.

167. Light or fluorescent signs with the letter indices "PG", numerical values of the distance in meters from the sign to the hydrant, and the diameter of the pipe shall be installed in prominent places along the passages to the fire team building and at the location of hydrants.

## **17.4 Fire cabinets**

168. Fire cabinets shall be installed so that the outlet with the fire hydrant valve is  $1.35 \pm 0.15$  m above the hollow of the room.

169. The letter index "PC", the serial number of the fire hydrant, the number of the fire fighting service call (101, 112) and the nearest fire station, information about the person in charge of fire safety (name, position and telephone number) shall be indicated on the cabinet door.

170. Fire cabinets shall be sealed.

171. If fire extinguishers are located inside fire cabinets, appropriate fire extinguisher signs shall be placed on the doors.

### **17.5 Automatic fire extinguishing and fire alarm systems**

172. The list of objects to be equipped with fire automation systems and installations is determined in accordance with the requirements of construction standards BC RK 2.02-112002 and other RK regulatory documents.

173. From the time of commissioning of fire automation systems and installations at each facility, maintenance and preventive maintenance shall be organized with the involvement of a specialised organization.

174. Maintenance and preventive maintenance of fire automation systems and installations includes:

- conducting routine preventive maintenance;
- rectifying faults and conducting routine repairs.

175. The frequency of maintenance and preventive maintenance is set during the acceptance and commissioning period in accordance with the requirements of the technical documentation for the maintained fire automation systems and installations, and is specified in the agreement.

176. During the period of maintenance and scheduled preventive repairs, which are associated with the shutdown of fire automation systems and installations, those persons in charge of fire safety of the facility are obliged to ensure fire safety of the objects protected by fire automation systems and installations with compensating measures.

## **18 Procedure for using a powder fire extinguisher**

177. Procedure for activating a powder extinguisher:

- 1) Remove the extinguisher from its holder and bring it to the fire.
- 2) Break the seal and remove the pin or latch.
- 3) Point the nozzle of the extinguisher at burning materials, products or equipment and press the release lever.

178. The powder jet shall be directed to the base of the flame (when extinguishing the flame outdoors, the extinguishing agent jet shall be directed downwind), the extinguisher shall be moved so as to provide coverage of the entire burning surface with powder; extinguishing flammable liquids with an area of over 2



m<sup>2</sup> and a burning time of over 1 (one) minute, using several fire extinguishers simultaneously, with several people involved. Extinguishing of electrical installations under voltage up to 1000 V shall be conducted from a distance of at least one meter from the nozzle on the hose of the fire extinguisher to the live parts.

### **19 Requirement for the development of evacuation plans.**

179. In buildings and constructions (except residential buildings), if more than 10 people are present on the floor at any one time, evacuation plans shall be drawn up for people in case of fire.

180. Evacuation plans contain graphical and textual parts.

181. The graphic part includes a floor (section-by-section) plan of the building or structure with the indication of evacuation exits (staircases, exterior open staircases, exits directly to the outside), routes for visitors and service personnel, as well as a symbolic representation of the location of manual fire alarm buttons, telephone sets, fire extinguishing equipment (fire hydrants, fire extinguishers).

182. The text of the evacuation plans shall contain instructions on the actions to be taken in an emergency situation (in case of fire, accident, etc.) and shall be supplemented with safety signs for clarity.

183. The evacuation plans shall be posted on each floor of the building, at the evacuation exits from the floor at a distance of no more than 20 m along the length of the corridor.

184. Deciphering of symbols in the graphic part shall be made under the evacuation plan in the state and Russian languages.

**Annex 1**  
*(compulsory)*

**Model fire safety briefing programme**

1. General information on the specifics and characteristics of the organisation (production) in terms of fire and explosion hazards.
2. Duties of employees and their responsibility for compliance with fire safety requirements.
3. Familiarization with the fire regime in the organization.
4. Acquaintance with the orders on the observance of the fire protection regime, fire safety instructions.
5. General fire prevention and fire fighting measures:
  - for the heads of structural subdivisions, workshops, sections (terms of checking and testing hydrants and internal fire hydrants, charging fire extinguishers, automatic fire extinguishing equipment and alarms, familiarization with the primary instruction program for the workshop or section personnel, providing personal and collective safety and other fire safety requirements and rules);
  - for the employees (actions in case of fire or fire, reporting the fire to the fire service and direct head, methods and means of extinguishing the fire or fire, means and measures for personal and collective safety, knowledge of and compliance with the established fire safety regime at the facility).
6. Familiarisation (on the evacuation plan) with the location of primary fire extinguishing equipment, hydrants, water and sand supplies, escape routes and exits. Walk around the relevant premises and areas.
7. Fire hazards of the raw materials used, the materials and the products manufactured. Flammability of the technological process.
8. Types of fire extinguishers and their use depending on the class of fire (type of combustible substance, features of equipment).
9. Requirements for extinguishing electrical installations and production equipment. A briefed person shall behave and act during a fire and heavy smoke on escape routes.
10. Methods of reporting a fire. Personal measures to be taken in case of fire. Ways to render first aid to injured persons.
11. Practical exercise.



**Annex 2**  
*(recommended form)*

**Logbook for primary fire extinguishing equipment**

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(organisation)

Launched «\_\_»\_\_\_\_\_202\_\_.  
Finished «\_\_»\_\_\_\_\_202\_\_.

№	Name of primary fire extinguishing equipment	Name of production (location)	Factory/ inventory number	Condition/compl eteness	Date of last recharging/test (for extinguishers)	Date of next recharging/test (for extinguishers)	Note
1	2	3	4	5	6	7	8

**Annex 3**  
*(compulsory)*

Form

**Water supply network survey report for water discharge**

\_\_\_\_\_ " " \_\_\_\_\_ 20\_\_

Commission composed of:

Chairman \_\_\_\_\_

Commission members \_\_\_\_\_

\_\_\_\_\_ conducted a survey of the water supply network with fire hydrants installed on it.

Survey results:

Type of water mains: \_\_\_\_\_; diameter: \_\_\_\_\_ millimetre(s) (hereinafter - "mm").

Mains pressure: \_\_\_\_\_ Atmosphere (hereinafter - atm.)

\_\_\_\_\_;

Size of fire hydrants installed \_\_\_\_\_;

Method of water yield surveys \_\_\_\_\_;

Actual water yield: \_\_\_\_\_ litre (s) per second (hereinafter - l/s).

Required water yield: \_\_\_\_\_ l/s.

Opinion of the commission: \_\_\_\_\_

Commission members: \_\_\_\_\_

*(signature)*

Form

**Fire hydrant inspection report**

\_\_\_\_\_ " " \_\_\_\_\_ 20\_\_

Name of the organisation that conducted the survey:

\_\_\_\_\_ Commission composed of:

Chairman \_\_\_\_\_

Commission members \_\_\_\_\_

Fire hydrant characteristics and markings:

the name, address and trademark of the manufacturer \_\_\_\_\_

manufacturer's designation \_\_\_\_\_

factory number \_\_\_\_\_

the height of the fire hydrant, \_\_\_\_\_ mm;

nominal bore of the inside diameter of the enclosure, \_\_\_\_\_;

year of production \_\_\_\_\_

Survey conditions \_\_\_\_\_

Data on measuring instruments and test equipment: \_\_\_\_\_

Survey results:

**Continuation of Annex 3**

manhole cover and lid, nipple covers and threads, the top square of the boom and the fire hydrant body are in good working order

the functionality of the drainage system \_\_\_\_\_

presence of water in the fire hydrant body and well \_\_\_\_\_

tightness of the valve (gate valve) as well as connections and seals at operating pressure \_\_\_\_\_

operability of the fire hydrant when a fire hydrant is installed on it

the opening or closing force of the fire hydrant \_\_\_\_\_ water flow (water yield) in the pressure range of the water supply network from 0.4 to 0.6 MPa. \_\_\_\_\_

Method of water yield survey \_\_\_\_\_

Actual water yield: \_\_\_\_\_ l/s.

Required water yield: \_\_\_\_\_ l/s.

Opinion of the commission: \_\_\_\_\_

Commission members: \_\_\_\_\_

(signature)

*(compulsory)***Fire and explosion hazard categories**

<b>Room category</b>	<b>Characteristics of substances and materials, substances (handled) in the premises</b>
A (high explosion and fire hazard)	Combustible gases, FF with a flashpoint not exceeding 280°C in such quantities as to form explosive vapour/gas/air mixtures, the ignition of which develops a design explosion overpressure in the room in excess of 5 kPa. Substances and materials liable to explode and burn when in contact with water such that the calculated explosion pressure in the room exceeds 5 kPa.
B (fire and explosion hazard)	Combustible dusts or fibres, FF with a flash-point above 280°C, FL in such quantities as to form explosive dust-air or vapour-air mixtures, the ignition of which generates a design explosion pressure in the room in excess of 5 kPa.
C1-C4 (fire hazard)	Combustible and non-combustible liquids, solid combustible and non-combustible substances and materials (including dusts and fibres), substances and materials which can only burn when reacting with water, air oxygen or each other, provided that the premises in which they are present or handled are not classified as Category A or B.
D (moderate fire hazard)	Non-combustible substances and materials in a hot, glowing or molten state, the processing of which is accompanied by the emission of radiant heat, sparks and flames; combustible gases, liquids and solids which are burned or disposed of as fuel.
E (reduced fire risk)	Non-combustible substances and materials when cold

(compulsory)

**Permit to conduct hot work**

"\_\_"\_\_\_\_20\_\_.

Object \_\_\_\_\_

Issued at \_\_\_\_\_ in the fact that  
(Full name)

he is allowed to produce \_\_\_\_\_  
(specify exactly which firing operations and location)

after the following measures have been taken to provide the fire safety of the work:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Permission is valid  
from "\_\_" hour. "\_\_"\_\_\_\_20\_\_.  
until "\_\_" hour. "\_\_"\_\_\_\_20\_\_.

Chief Engineer \_\_\_\_\_  
(signature)

Permit renewed  
from "\_\_" hour. "\_\_"\_\_\_\_20\_\_.  
until "\_\_" hour. "\_\_"\_\_\_\_20\_\_.

Chief Engineer \_\_\_\_\_  
(signature)

Production \_\_\_\_\_  
(indicate which works)

Work is conducted subject to the following additional fire safety requirements

\_\_\_\_\_  
from "\_\_" hour to "\_\_"\_\_\_\_20\_\_.

Permit renewed:  
from "\_\_" hour to "\_\_"\_\_\_\_20\_\_.

Instructed on fire safety measures and the implementation of the measures proposed  
in the permit:

\_\_\_\_\_  
(signature of the person conducting the work)



(compulsory)

**Standards for primary firefighting equipment**

Buildings, premises, warehouses and installations	Units of measure	Number of primary fire extinguishing equipment		
		Fire extinguisher type OP-10 pcs.	Firebox kit	250 litre water drums and 2 buckets, pcs.
Buildings and premises under construction and refurbishment	Per 100 m <sup>2</sup> floor area	1	-	-
Office space	Per 100 m <sup>2</sup> floor area	1	-	-
Storage rooms, where combustible materials are available	On 50 m <sup>2</sup>	1	-	-
Closed storage of non-combustible materials	On 100 m <sup>2</sup>	1	-	-
Tare storages for FL and FF	On 50 m <sup>2</sup>	1	-	-
Storage of cylinders with compressed, liquefied and dissolved gases	On 50 m <sup>2</sup>	1	1	-
Installation locations for heat generators, heaters	On 50 m <sup>2</sup>	1	-	-
Open car parking areas	On 200 m <sup>2</sup>	1	1	-
Gas and electric welding shops	On 50 m <sup>2</sup>	1	1	-
Enclosed car parks	On 200 m <sup>2</sup>	2	-	-

Note:

1. The required number of primary fire extinguishing equipment for warehouses and structures not specified in this table shall be determined in accordance with the standards approved by the relevant regulations of the Republic of Kazakhstan.
2. One OP-10 fire extinguisher equals two OP-5 fire extinguishers.