

On approval of the Technical Regulation “Requirements for equipping buildings, premises and structures with automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire”

Invalidated Unofficial translation

Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated November 29, 2016 No. 1111. Registered with the Ministry of Justice of the Republic of Kazakhstan on March 7, 2017 No. 14858. Abolished by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 15, 2020 No. 470.

Unofficial translation

Footnote. Abolished by Order of the Minister of Internal Affairs of the Republic of Kazakhstan No. 470 dated 15.06.2020 (effective from 01.07.2021).

In accordance with subparagraph 70-23) of paragraph 1 of Article 12 of the Law of the Republic of Kazakhstan dated April 11, 2014 "On Civil Protection" I HEREBY ORDER:

1. To approve the attached Technical Regulation “Requirements for equipping buildings, premises and structures with automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire”.

2. The Committee for Emergency Situations of the Ministry of Internal Affairs of the Republic of Kazakhstan shall ensure:

1) state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

2) within ten working days from the date of the state registration of this order, sending a copy hereof in printed and electronic form in one copy in the state and Russian languages to the Republican State Enterprise on the Right of Economic Management "Republican Center of Legal Information" of the Ministry of Justice of the Republic of Kazakhstan for inclusion in the Reference Control Bank of Regulatory Legal Acts of the Republic of Kazakhstan;

3) posting on the official Internet resource of the Ministry of Internal Affairs of the Republic of Kazakhstan and on the intranet portal of government bodies;

4) within ten working days after the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan, submission to the Department of Legal Services of the Ministry of Internal Affairs of the Republic of Kazakhstan of information on the implementation of measures provided for in subparagraphs 1), 2), 3) and 4) of this paragraph.

3. Control over the execution of this order shall be assigned to the Deputy Minister of Internal Affairs of the Republic of Kazakhstan Yu.V. Ilyin and to the Chairman of the Committee for Emergency Situations of the Ministry of Internal Affairs of the Republic of Kazakhstan V. R. Becker.

4. This order shall come into effect upon expiry of ten calendar days after the day of its first official publication.

*Minister of Internal Affairs of the
Republic of Kazakhstan
Police Colonel-General*

K. Kassymov

“AGREED”

Minister for Investment and
Development of the
Republic of Kazakhstan

_____ Zh. Kassymbek

December 6, 2016

“AGREED”

Minister of National Economy of
the Republic of Kazakhstan

_____ K. Bishimbayev

“ ” 2016

“AGREED”

Minister of National Economy of
the Republic of Kazakhstan

_____ T. Suleimenov

January 20, 2017

Approved
by Order of the
Minister of Internal Affairs
of the Republic of Kazakhstan
dated November 11, 2016
No. 1111

Technical Regulation “Requirements for equipping buildings, premises and structures with automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire”

Chapter 1. Application area

1. This Technical Regulation “Requirements for the equipment of buildings, premises and structures with automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire” (hereinafter referred to as the Technical Regulation) has been developed in order to implement the

Law of the Republic of Kazakhstan dated April 11, 2014 "On civil protection", the Law of the Republic of Kazakhstan dated November 9, 2004 "On Technical Regulation" and the Law of the Republic of Kazakhstan dated July 16, 2001 "On Architectural, Urban Planning and Construction Activities in the Republic of Kazakhstan".

2. The requirements of this Technical Regulation shall apply to automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire, designed to detect, notify, report information on the occurrence of a fire, extinguish a fire in buildings, premises and structures (hereinafter referred to as the Facilities) and on life cycle processes.

The list of products covered by the requirements of this Technical Regulation is given in Annex 1 to this Technical Regulation.

3. The effect of this Technical Regulation shall not apply to:

1) fire extinguishing and fire alarm systems designed to protect vehicles (trains, ships and aircraft);

2) systems of automatic fire extinguishing, automatic fire alarm and warning and people evacuation management in case of fire, installed in the mines of the mining and coal industries;

3) sensors of stationary gas detectors of the maximum permissible concentrations of harmful substances and pre-explosive concentrations of combustible gases and vapors in industrial premises and on outdoor areas of explosive and fire hazardous facilities;

4) process control systems, automatic and remote control (control systems), emergency protection systems, as well as emergency communication and warning systems, including those delivered complete with equipment.

Chapter 2. Terms and definitions

4. The following basic terms and definitions shall be used in this Technical Regulation:

1) automatic - characterizes processes or devices that under certain conditions work or performed without human intervention;

2) automatic fire extinguishing system - a set of jointly operating technical means designed to detect a fire, collect, process and present in a given form special information, a fire notification and fire fighting in an automatic mode;

3) automatic fire extinguishing installation - a fire extinguishing installation that is automatically triggered when the controlled factor (factors) exceeds the fire thresholds in the protected area;

4) manufacturer - a legal entity or individual registered as an individual entrepreneur, including a foreign manufacturer, that on their own behalf, produces or

manufactures and sells products and is responsible for its compliance with the requirements of technical regulations, including the Customs/Eurasian Economic Union;

5) drencher fire extinguishing installation - a water fire extinguishing installation, equipped with normally open drencher irrigators and designed to detect and extinguish fires throughout the estimated area, as well as to create water curtains;

6) semi-automatic control - activation of the warning and evacuation control systems by the dispatcher upon receipt of a command impulse from automatic fire alarm or fire extinguishing installations;

7) supplier - an individual or legal entity providing products, services;

8) burglar and fire alarms - receiving, processing, transmitting and presenting in a predetermined form to consumers using technical means information on penetration into protected facilities and on fire on them;

9) evacuation warning and control system - a set of organizational measures and technical means designed to provide timely information to people on the occurrence of a fire and (or) the necessity and ways of evacuation;

10) products - the result of activities presented in material form and intended for further use for economic and other purposes;

11) fire automatics - a set of mechanisms, instruments and devices that operate automatically in accordance with a predetermined algorithm when performing the functions of a fire (fire and security) alarm, fire extinguishing, smoke removal, warning and people evacuation management in case of fire;

12) fire station - a special room of the facility with round-the-clock stay of duty personnel, equipped with devices for monitoring the status of fire automatics;

13) drencher fire sprinkler - a sprinkler of water or foam fire extinguishing installations with an open outlet, designed to receive sprayed water or air-mechanical foam from an aqueous solution of a foaming agent and distribute them over the protected area in order to extinguish the fire or localize it;

14) fire hydrant - a set consisting of a valve installed on a fire pipeline and equipped with a fire connection head, as well as a fire hose with a hand barrel;

15) fire alarm control panel - an integral part of a fire alarm installation for receiving information from fire detectors, generating a signal on a fire or installation malfunction, generating signals to start fire protection systems and for further transmitting commands to other devices;

16) fire safety requirements - special conditions of a social and (or) technical nature established in order to ensure fire safety by the legislation of the Republic of Kazakhstan;

17) fire warning zone - a part of the building where people are simultaneously and uniformly notified of the fire;

18) fire alarm system - a set of fire alarm systems mounted at one facility and controlled from a common fire station;

19) installation of a fire alarm - a set of technical means for detecting a fire, transmitting a message on the place of its occurrence and processing a fire signal, special information and (or) issuing commands to turn on automatic fire extinguishing installations and other technical devices;

20) fire extinguishing installation - a set of stationary technical means designed to extinguish a fire by releasing a fire extinguishing substance;

21) fire sprinkler irrigator - water irrigator or foam fire extinguishing irrigator with an outlet shut-off device that opens when the thermal lock is triggered, designed to receive sprayed water or air-mechanical foam from the foaming agent aqueous solution and distribute them over the protected area to extinguish the fire or its localization

22) fire detector - a device for generating a fire signal;

23) fire protection system - a set of technical and organizational measures and technical means aimed at preventing people from exposure to dangerous fire factors and limiting material damage from it;

24) operational control - one of the forms of conformity assessment performed by the person responsible for the operation of fire automatics in the organization;

25) a robotic fire extinguishing installation - a stationary automatic tool that is mounted on a fixed base, consists of a fire barrel having several degrees of mobility and equipped with a drive system, program control devices and is designed to extinguish and localize a fire or cool technological equipment and building structures;

26) sprinkler fire extinguishing installation - an automatic water fire extinguishing installation equipped with normally closed sprinkler irrigators that open when a certain temperature is reached;

27) stationary (non-automatic) fire extinguishing system - a system that includes tanks (vessels, containers) for a fire extinguishing agent, a pumping station and a network of pipelines with devices designed to select and supply a fire extinguisher to the fire zone.

Automation tools of these systems shall be used to ensure the inclusion of standby pumps in case the main pumps are malfunctioning or do not provide a rated head;

28) stationary installation of fire protection of technological equipment - a set of stationary technical means for cooling technological equipment and localizing the fire by supplying a fire extinguishing agent to the protected zone in an automatic, remote or local start mode;

29) technical warning equipment - sound, voice, light and combined fire alarms, their control devices, as well as fire safety evacuation signs.

Chapter 3. The conditions of circulation of products on the market of the Republic of Kazakhstan

Paragraph 1. General requirements

5. Fire automatics systems and installations placed on the market shall be used to perform the tasks of detecting, notifying, informing on the occurrence of a fire, putting out a fire at facilities, and shall not pose a danger to people, the environment, and property of individuals and legal entities.

6. The choice of product type, design, installation, testing and commissioning, technical content (operation and maintenance), technical examination of fire automatics systems and installations shall be carried out in accordance with the requirements of this Technical Regulation.

7. Information on the technical characteristics of systems and installations, technical devices, fire extinguishing means shall be indicated in the accompanying documentation for a specific product. The composition of the accompanying documentation shall be determined depending on the type of product and stage of its life cycle.

The following shall be presented in a set of accompanying documents:

1) passport on the product with a description of the product's arrangement and technical specifications guaranteed by the manufacturer and a set of drawings explaining the product's device and operation;

2) instructions (guidelines) containing information on preservation, storage, transportation, installation (assembly), testing, operation, maintenance of technical devices and safety requirements at all stages of their life cycle;

3) information on a certificate of conformity or a declaration of conformity of products subject to mandatory certification in accordance with the Law of the Republic of Kazakhstan dated November 9, 2004 "On Technical Regulation".

Paragraph 2. Product selection requirements

8. The type of automatic fire extinguishing installation, the method of extinguishing, the type of fire extinguishing means, the type of equipment for fire (security and fire) alarm systems, shall be determined by the constructing organization, taking into account the requirements of building codes and regulations, national, interstate, international standards effective in the Republic of Kazakhstan, depending on the technological process of production, construction features of the facility, technical and economic indicators, fire hazard and physical and chemical properties of substances and materials produced, stored and used at the facility.

9. The list of facilities to be equipped with fire automatics systems and installations shall be determined in accordance with the requirements of the construction standards of the Republic of Kazakhstan CN RK 2.02-11-2002* “Norms for the equipment of buildings, premises and structures with automatic fire alarm systems, automatic fire extinguishing systems and warning people on the fire.”

10. If the area of premises to be equipped with automatic fire extinguishing systems is 50% or more of the total area of the building premises, it is necessary to provide equipment with automatic fire extinguishing systems of the whole building.

11. Sprinkler and drencher fire extinguishing systems shall not be used in rooms where, according to the production technology, water is prohibited for fire fighting.

12. Arrangement of sprinkler installations shall be provided in those rooms where local extinguishing and localization of the fire source is allowed, drencher installations - in those rooms where simultaneous fire extinguishing is required over the entire calculated area, as well as for creating water curtains.

Paragraph 3. Requirements for the design of fire automatics systems and installations

13. When developing design and estimate documentation for equipping facilities with automatic fire extinguishing systems and automatic fire alarms, warning and people evacuation management in case of fire, it is necessary to be guided by the requirements of CN RK 2.02-11-2002* “Norms of equipment of buildings, premises and structures with automatic fire alarm systems, automatic fire extinguishing and fire warning systems.”

14. An obligatory document for the development of design estimates for the equipment of facilities with systems and installations of fire automatics shall be the “Technical specification for design”.

15. Excluded by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

16. Excluded by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

Paragraph 4. Requirements for construction, testing and commissioning of fire automatics systems and installations

17. Work on the construction of fire automation systems and systems shall be carried out in accordance with the design estimates and working documentation, the work design and technical documentation of manufacturers.

18. The units of measurement specified in the technical documentation shall be provided for in the international system of units (hereinafter referred to as SI).

19. For equipment, products and materials used in the installation of fire automatics systems and installations that meet the specifications of the project, certificates shall be provided (for equipment subject to mandatory certification in accordance with the Law of the Republic of Kazakhstan dated November 9, 2004 “On Technical Regulation”), passports, instructions (for assembly, testing and operation).

20. The materials used in systems and installations of fire automatics shall be used only if they comply with the requirements of national, interstate and international standards effective in the Republic of Kazakhstan, as well as with sanitary and epidemiological requirements.

21. During installation, it is necessary to comply with the requirements of the Fire Safety Rules approved by the Decree of the Government of the Republic of Kazakhstan dated October 9, 2014 No. 1077.

22. The cylinders of gas fire extinguishing installations and other vessels operating under pressure shall be checked and inspected before installation in accordance with the Rules for ensuring industrial safety when operating equipment under pressure, approved by Order of the Minister for Investment and Development of the Republic of Kazakhstan dated December 30, 2014 No. 358 (registered in the State Register of Normative Legal Acts No. 10303). It shall be prohibited to accept expired cylinders for installation.

23. When accepting pipeline (shut-off, regulating, safety) valves for installation, they shall be checked for conditional or working pressure marking on the case, the distinctive color of the valve corresponding to its purpose and material, as well as documents confirming its delivery by the manufacturer, and strength tests and tightness

24. The works carried out on the installation of fire automatics systems and installations shall be executed in accordance with the requirements of CN RK 1.03-00-2011 “Construction production. Organizing enterprises, buildings and structures construction”.

25. Work on individual and comprehensive adjustment of systems and installations of fire automatics (commissioning) shall be carried out after the completion of installation work.

26. Commissioning shall ensure reliable and uninterrupted operation of systems and installations of fire automatics.

Commissioning shall include the individual testing of installed circuits with equipment, devices and regulators in order to verify the correctness of the installation, their operability, as well as comprehensive adjustment in order to bring systems and installations to operating mode.

27. By the start of work on the adjustment of individual elements and assemblies, mounted systems and fire automatics, all control and shut-off valves shall be brought into working condition.

28. During the comprehensive adjustment period, tuning and adjustment of fire automatics systems and installations shall be carried out. Complex set-up shall be completed by preparing for commissioning of fire automatics systems and installations.

29. When commissioning fire automation systems and installations, commission shall be appointed by order of the head of the enterprise or organization of the customer.

30. The commission shall include representatives of the customer (general contractor), installation organization, and commissioning organization.

If necessary, the commission shall include a representative of a specialized organization that provides maintenance of fire automatics systems and installations.

31. By the time of acceptance of fire automatics systems and installations into operation, all installation, complex commissioning and acceptance tests shall be carried out.

Acceptance tests shall be carried out in the amount of technical documentation for systems and installations of fire automatics of specific types and modifications.

32. When accepting fire automation systems and installations into operation, the installation and commissioning organizations shall provide:

1) executive documentation (a set of working drawings as amended);

2) certificates (for equipment subject to mandatory certification), technical passports or other documents certifying the quality of materials, products and equipment used in the installation work;

3) production documentation.

33. Acceptance of fire automatics systems and installations for operation shall be made out by the act of acceptance for commissioning of fire automatics systems and installations in the form in accordance with Annex 2 to this Technical Regulation.

Paragraph 5. Requirements for the technical maintenance and examination of fire automatics systems and installations

34. In order to ensure the operability and reliable functioning of systems and installations of fire automatics, departmental (industry, facility) rules and instructions for the technical maintenance of systems and installations of fire automatics shall be developed taking into account the characteristics of facilities and the specifics of production processes.

35. Rules and instructions for the technical maintenance of fire automatics systems and installations shall be developed taking into account the requirements of this Technical Regulation and the Technical Regulation “General Fire Safety Requirements

”, approved by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 23, 2017 No. 439 (registered in the State Register of Normative Legal Acts No. 15501).

Footnote. Paragraph 35 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

36. From the moment of putting into operation fire automation systems and installations at each facility, maintenance and scheduled preventive repairs shall be organized.

37. Maintenance and preventive maintenance of fire automatics systems and installations shall be performed only by qualified specialists of the facility who have undergone appropriate training or organizations that carry out this type of activity on a contractual basis (hereinafter referred to as the Contractor).

Footnote. Paragraph 37 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

38. The presence of an agreement on maintenance and scheduled preventive maintenance of fire automatics systems and installations with the organization shall not relieve the manager of the facility from responsibility for fulfilling the requirements of this Technical Regulation.

Footnote. Paragraph 38 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

39. Maintenance and preventive maintenance of fire automatics systems and installations shall include:

- 1) scheduled preventive maintenance;
- 2) failure removal and maintenance;
- 3) provision by the Contractor of assistance to the Customer in matters of proper operation.

40. The frequency of maintenance, scheduled preventive maintenance and the scope of work shall be established in accordance with the requirements of the operational documentation for the technical means of the serviced fire automatics systems and installations, and indicated in the contract.

41. For qualified operation and maintenance in technically sound condition of fire automatics systems and installations at the facility, the following personnel shall be appointed by order of the head:

- 1) person responsible for the operation of systems and installations of fire automatics;

2) specialists to carry out maintenance work and preventive maintenance of fire automatics systems and installations. Training of specialists shall be carried out by the person responsible for the operation of fire automatics systems and installations according to the program approved by the facility manager;

3) operational (duty) personnel to monitor the status of systems and installations of fire automatics, as well as call the fire service in the event of a fire.

Footnote. Paragraph 41 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

42. At the facilities for maintenance personnel, “Instructions for the operation of fire automatics systems and installations” and “Instructions for duty (operational) personnel” shall be developed.

43. The person responsible for the operation of fire automatics systems and installations shall provide:

1) compliance with the requirements of these Technical Regulations;
2) control and acceptance of maintenance work and preventive maintenance in accordance with the schedule and schedule of work under the contract;

3) maintaining systems and installations of fire automatics in functioning condition by organizing timely and preventive maintenance;

4) training of maintenance and duty personnel, as well as instructing persons working in the protected premises, on actions when triggered by fire automatics systems and installations;

5) development of the necessary operational documentation, and its maintenance;

6) timely reclamations to:

manufacturers - upon delivery of incomplete technical devices and equipment for systems and installations of fire automatics or not corresponding to technical documentation;

installation organizations - upon detection of poor-quality installation;

service organizations - for untimely and poor-quality maintenance and scheduled preventive maintenance of fire automatics systems and installations.

44. The facility personnel or the Contractor shall know the device and the principle of operation of fire automatics systems and installations mounted at the facility, know and comply with the requirements of these Technical Regulations, rules, and operating instructions for fire automatics systems and installations, perform routine maintenance on time and fill out relevant operational documentation.

45. At the facility, equipped with systems and installations of fire automatics, the following documentation shall be available:

1) design estimates for fire automatics systems and installations;

- 2) performance documentation (set of working drawings), acts of hidden work (if any), tests and measurements;
- 3) act of acceptance into operation of systems and installations of fire automatics in the form in accordance with Annex 2 to this Technical Regulation;
- 4) passports for technical equipment that are part of fire automatics systems and installations;
- 5) list of installed devices and equipment of systems and installations of fire automatics in the form in accordance with Annex 3 to this Technical Regulation;
- 6) passports for charging cylinders of gas fire extinguishing installations (if any) with extinguishing agents;
- 7) operating instructions for fire automatics systems and installations;
- 8) schedule of maintenance work;
- 9) schedule of maintenance and preventive maintenance;
- 10) operational book of systems and installations of fire automatics in the form in accordance with Annex 4 to this Technical Regulation;
- 11) duty schedule of the operational (duty) personnel;
- 12) job descriptions of duty and maintenance personnel, the person responsible for the maintenance and preventive maintenance, an agreement with the organization for the maintenance and preventive maintenance (at facilities serviced by organizations);
- 13) journal for training personnel of a facility to evacuate people using warning systems and evacuation control (if any) in any form.

Footnote. Paragraph 45 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

46. Systems and installations of fire automatics shall be constantly in standby (design) operation mode.

47. During the period of maintenance work and preventive maintenance, the implementation of which is connected with the shutdown of fire automatics systems and installations, the administration of the facility shall ensure fire safety of facilities protected by fire automatics systems and installations, with compensating measures.

48. After the expiration of the service life specified in the documentation for the technical equipment included in the systems and installations of fire automatics, as well as in cases of failure of the systems and installations of fire automatics, a technical examination of these systems and installations shall be carried out in order to determine the possibility of their further use according to destination.

49. Technical inspection of fire automatics systems and installations shall be carried out by a commission with the obligatory participation of representatives of the Customer, Contractor, and, if necessary, specialists of other organizations.

50. The results of the survey shall be documented by the certificate of inspection of systems and installations of fire automatics in the form in accordance with Annex 5 to this Technical Regulation.

51. Installation, testing and commissioning of upgraded fire automatics systems and installations shall be carried out in accordance with the requirements established in paragraph 4 of Chapter 3 of these Technical Regulations.

Chapter 4. Requirements for product safety and its life cycle processes

Paragraph 1. General requirements

52. Security requirements for systems and installations of fire automatics shall be established in the technical documentation for systems and installations of fire automatics of a specific type and modification in accordance with the requirements of national, interstate, international standards effective in the Republic of Kazakhstan.

53. For systems and installations of fire automatics, it is necessary to accept the I category of reliability of power supply in accordance with the Rules for installation of electrical equipment approved by Order of the Minister of Energy of the Republic of Kazakhstan dated March 20, 2015 No. 230 (registered in the State Register of Normative Legal Acts No. 10851) (hereinafter referred to as RIE).

54. Equipment for fire automatics systems and installations shall be grounded (nullified) in accordance with the requirements of the EIC, GOST 12.1.030-81 “Occupational safety standards system. Electrical safety. Protective grounding. Nullifying”, and other national, interstate, international standards effective in the Republic of Kazakhstan.

55. Control units and manual cranes for automatic fire extinguishing installations shall be enclosed and sealed, with the exception of control units and manual cranes installed in the premises of pumping stations or fire stations.

56. The control units of automatic fire extinguishing installations located in the protected premises shall be separated from these rooms by fire-prevention partitions and ceilings with a fire resistance limit of EI 45, outside the protected premises - glazed or mesh partitions.

57. Shut-off devices (valves, gates, faucets) shall be provided with indicators (arrows) of the liquid flow direction and the words “OPEN” and “CLOSED”, to exclude the possibility of accidental or spontaneous switching on and off of automatic fire extinguishing installations.

58. When operating automatic fire extinguishing installations, it shall be prohibited to:

- 1) use the pipelines of automatic fire extinguishing installations to suspend or mount any equipment;

2) connect production equipment and sanitary devices to the pipelines of automatic fire extinguishing systems;

3) use internal fire hydrants installed on pipelines of automatic fire extinguishing sprinkler installations for purposes other than extinguishing fires.

59. In the premises of the pumping station and control units, a schematic diagram of the pumping unit is posted, according to which pumps, control units, gate valves and other equipment shall be numbered.

60. The premises of the pumping station working and emergency lighting shall be provided for, as well as telephone communications with a fire station (control room).

61. At the place of testing or repair work, warning signs “Caution. Danger (other dangers)” in accordance with the requirements of CN RK GOST R 12.4.026-2002 “Signal colors, safety signs and signal markings. General technical conditions and application procedure” with the explanatory inscription “Testing in progress!”, as well as post instructions and safety rules shall be hang out.

62. The room for the storage of the foaming agent shall be determined in accordance with the requirements of national, interstate, international standards effective in the Republic of Kazakhstan.

Paragraph 2. General requirements for fire extinguishing installations

63. Fire extinguishing installations according to the design device shall be divided into aggregate, modular and microencapsulated, according to the degree of automation - into automatic, autonomous and manual, according to the type of extinguishing agent – into liquid (water, aqueous solutions, other extinguishing liquids), foam, gas, powder, aerosol and combined, according to the method of extinguishing – into volumetric, surface, locally volumetric and locally surface.

64. The type of fire extinguishing installation, the method of extinguishing and the type of extinguishing agent shall be determined by the design organization. In this case , the fire extinguishing installation shall provide:

1) implementation of effective fire fighting technologies, optimal inertia, minimally harmful effect on the protected equipment;

2) triggering for a time not exceeding the duration of the initial stage of fire development (critical time of free development of the fire);

3) necessary irrigation intensity or specific consumption of extinguishing agent;

4) extinguishing a fire for the purpose of eliminating it or localizing it for the time necessary to bring into operation operational forces and means;

5) required reliability of operation.

Paragraph 3. General requirements for automatic fire extinguishing installations

65. Design solutions of automatic fire extinguishing installations (hereinafter referred to as Installations) shall be developed in accordance with the requirements of national, interstate and international standards operating in the territory of the Republic of Kazakhstan, and regulatory documents regarding:

- 1) performance categories for resistance to climatic influences;
- 2) seismicity and vibration;
- 3) strength and tightness.

66. Installations shall provide:

- 1) response in the initial stage of fire development;
- 2) localization of the fire during the time necessary for the introduction of operational forces and means;
- 3) extinguishing a fire in order to eliminate it with a surface or volumetric method of supplying a fire extinguishing substance;
- 4) required flow rate and (or) the concentration of the extinguishing agent;
- 5) required reliability of operation (localization or extinguishment).

67. Installations shall be equipped with devices:

- 1) of sound and light signals of fire warning and the place of its occurrence;
- 2) of monitoring the operation of the installation, pressure (level) in the filled pipelines and tanks containing the extinguishing agent, and (or) the mass of the extinguishing agent;
- 3) gas and (or) liquid supply for flushing (purging) pipelines and for testing;
- 4) for installation and maintenance of sprinklers and pipelines at a given height of their placement;
- 5) to delay the supply of gas and powder extinguishing agents for the time required to evacuate people from the fire premises.

68. Installations shall ensure the formation of a command impulse during volumetric fire extinguishing:

- 1) automatic shutdown of ventilation systems (air conditioning) and the closure, if necessary, of openings in adjacent rooms before the release of the extinguishing agent into the protected room;
- 2) for self-closing doors;
- 3) to delay the supply of extinguishing agent to the protected volume for the time necessary for the evacuation of people.

69. When the volumetric (powder, gas or foam) fire extinguishing installations are triggered, a signal shall be given in the form of an inscription on the light panel “Gas (foam, powder) – Leave now!” and a sound alert. At the entrance to the protected room, a signal shall be issued in the form of an inscription on the light panel “Gas (foam, powder) - No entry!”, And in the room of the duty personnel a corresponding signal with information about the supply of extinguishing agent.

70. Installations, with the exception of sprinkler, shall be equipped with a manual:

- 1) remote start - from devices located at the entrance to the protected room, and if necessary - from a fire station;

- 2) local start - from devices installed on the shut-off-start unit and (or) at the fire extinguishing station located inside the protected room.

71. Manual starting devices shall be protected against accidental actuation and mechanical damage and be out of the potential combustion zone.

72. Robotic fire extinguishing installations shall provide:

- 1) detection and elimination or limitation of the spread of fire beyond the limits of the outbreak without the direct presence of a person in the area of the installation;

- 2) ability to remotely control the installation and transmit information from the installation site to the operator;

- 3) ability to perform their functions under the influence of dangerous factors of fire and explosion, radiation and chemical exposure.

73. The drivers of automatic fire extinguishing systems shall be located in a protected room in such a way as to ensure timely detection of fire anywhere in the room.

74. Operation of installations shall not lead to a fire and (or) explosion of combustible materials in the premises of the facility and in open areas.

75. The method of supplying the extinguishing agent to the fire site shall not lead to an increase in the area of the fire due to the pouring, spraying or splashing of combustible materials.

76. Stationary fire protection installations of technological equipment shall be used in buildings and structures where the use of other installations is impractical or technically impossible.

77. The type of fire extinguishing substances, the intensity of their supply, the type of firefighting equipment for stationary fire protection installations shall be determined depending on the characteristics of the protected facility, the type and location of the fire load, taking into account the requirements of national, interstate and international standards effective in the Republic of Kazakhstan and regulatory documents in the field of fire safety.

Footnote. Paragraph 77 as amended by Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019 No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

78. Installations shall simultaneously perform the functions of an automatic fire alarm.

Paragraph 4. Requirements for automatic water extinguishing installations

79. Installations by type of irrigators shall be divided into:

sprinkler;

drencher.

80. Sprinkler installations shall be divided into:

water-filled - to protect rooms with a minimum air temperature during the year above 4 ° C;

air - to protect unheated rooms located in areas with a heating period of more than 240 days a year, with an average daily air temperature of 8 ° C or less;

water-air (variable) - to protect unheated rooms located in areas with a heating period of 240 days a year or less, with an average daily air temperature of 8 ° C or less.

81. Drencher installation of fire extinguishing (hereinafter referred to as DIFE) by start method (by type of actuator of the signal valve of the control unit) shall be divided into:

hydraulic;

mechanical;

pneumatic;

electric;

combined.

82. Installations for the response time shall be divided into:

high-speed, with a duration of operation of not more than 3 seconds;

medium-inertial, with a duration of operation of not more than 30 seconds;

inertial, with a duration of operation of more than 30 seconds, but not more than 180 seconds.

83. Installations for the duration of the action shall be divided into:

average duration of action, no more than 30 minutes;

long action, over 30 minutes, but not more than 60 minutes.

84. Installations shall provide the specified irrigation intensity on the protected area during the entire duration of the operation.

85. Installations shall be equipped with an automatic water feeder providing estimated flow and pressure, or with an impulse device that supports the installation in standby (control) mode under pressure, until the main water feeder is turned on.

86. For installations, the following power parameters shall be adopted:

1) voltage of direct and AC networks in accordance with the requirements of ST RK 1899-2009 "Fire equipment. Automatic fire extinguishing installations. General technical requirements. Methods of test" and other interstate, international standards effective in the Republic of Kazakhstan;

2) voltage fluctuation ranging from minus 15% to plus 10%;

3) AC frequency within (50 + 0.1) Hz.

87. The calculated value of the probability of failure-free operation of installations at the development stage shall be at least 0.924.

88. The average service life of installations before major repairs shall be at least 10 years.

89. Installations shall provide:

1) strength and tightness of pipe joints at a given pressure and their connections to fittings and devices;

2) reliability of the fastening of pipes on supporting structures and the structures themselves on the bases;

3) ability to inspect, flush, purge and maintain them.

90. In installations it shall be prohibited to use sprinklers with cracks, dents and other defects that affect the reliability of their operation.

91. Placement of control units, installation of pipelines shall be carried out in accordance with the requirements of CN RK 2.02-02-2012 “Fire automation of buildings and structures”, SR RK 2.02-102-2012 “Fire automation of buildings and structures”.

92. Capacities used in installations as an automatic water feeder or impulse device shall comply with the requirements of SR RK 2.02-102-2012 “Fire automation of buildings and structures”.

93. Electrical control of installations shall provide:

1) automatic start of the working pump;

2) automatic start of the backup pump in the event of a start disorder or failure of the working pump to extinguish the fire during the set response time;

3) automatic control of electric valves;

4) automatic switching of control circuits from a worker to a backup power source of electric energy.

94. Installations shall have devices for manual shutdown of pumps in the premises of the fire fighting pump station.

95. In the premises of the pumping station provide a light alarm on:

the presence of voltage on the main and backup power supply inputs and phase closure to ground (on call);

blocking the automatic start of the pumps;

emergency level in the tank;

emergency level in the drain pit;

damage to electric control lines with electric shut-off devices installed on the induction pipelines of drencher control units.

96. In a room with personnel performing round-the-clock monitoring of the operation of the installation, light and sound alarms shall be provided:

1) on the operation of the installation (with interpretation in the directions);

2) on blockage of the automatic start of the pumps;

3) on the malfunction of the installation (a common signal - on the pressure drop in the automatic water supply or impulse device, on the emergency water level in the tank or drain pit, on damage to the electrical control lines by shut-off devices, on the disappearance of voltage at the main input of the power supply);

4) on the malfunction of electric valves.

97. The control units at the end of installation shall be provided with a plate indicating:

1) name of the unit and its number;

2) direction numbers;

3) name of the protected premises;

4) type and number of irrigators;

5) functional diagram of the strapping and a schematic diagram of a fire fighting installation;

6) directions for the supply of extinguishing agent;

7) method of putting the installation into operation.

98. Pipelines and control units of plants shall be painted in accordance with the requirements of ST RK GOST R 12.4.026-2002 “Signal colors, safety signs and signal markings. General technical conditions and application procedure” and ST RK 1174-2003 “Firefighting equipment for facility protection. Basic types. Placement and service”, as well as other interstate, international standards effective in the Republic of Kazakhstan.

Coverage class - in accordance with the requirements of ST RK 1979-2010 “Firefighting equipment. Automatic water and foam fire extinguishing installations. Control units. General technical conditions”, as well as other interstate, international standards effective in the Republic of Kazakhstan.

99. Painting the irrigators, detectors, and thermal locks shall be prohibited.

100. Installations shall be provided with a supply of irrigators at the facility of at least 10% of the number of installations mounted on distribution pipelines and at least 2% for testing.

It shall be prohibited to install plugs and stoppers in place of opened and defective sprinklers.

Paragraph 5. Requirements for automatic foam extinguishing installations

101. Installations for design shall be divided into:

sprinkler;

drencher.

102. Drencher installations by the method of start (by the type of drive of the signal valve of the control unit) shall be divided into:

electric;

hydraulic;
pneumatic;
mechanical;
combined.

103. Installations for the response time shall be divided into:
high-speed, with a duration of operation of not more than 3 seconds;
medium-inertia, with a duration of operation of not more than 30 seconds;
inertial, with a duration of operation of more than 30 seconds, but not more than 180 seconds.

104. Installations according to the method of extinguishing a fire shall be divided into:

area fire extinguishing installations;
volumetric fire extinguishing installations.

105. Installations for the duration of the action shall be divided into:
short-term action, no more than 10 minutes;
average duration, no more than 15 minutes;
long action, over 15 minutes, but not more than 25 minutes.

106. Installations for the multiplicity of foam shall be divided into:
fire extinguishing installations with foam of low multiplicity (multiplicity from 5 to 20);
fire extinguishing installations with foam of medium multiplicity (multiplicity from 20 to 200);
high-foam foam fire extinguishing systems (multiplicity over 200).

107. Installations shall provide a predetermined foam supply rate not lower than the standard during the set operating time in accordance with the requirements of CN RK 2.02-02-2012 “Fire automation of buildings and structures”, SR RK 2.02-102-2012 “Fire automation of buildings and structures”.

108. Installations shall ensure strength and tightness at a test pressure of 1.5 MPa.

109. Foaming agents used in installations shall comply with the requirements of ST RK 1609-2006 “Foaming agents for fighting fires. General technical requirements. Methods of testing” and other interstate, international standards effective in the Republic of Kazakhstan.

110. Installations shall be provided by devices of:

- 1) pressure control in filled pipelines and in an impulse device;
- 2) pumping the foaming agent from the transport tank;
- 3) automatic dispensing of the foaming agent during its separate storage;
- 4) supply of a foaming agent solution from mobile firefighting equipment providing the maximum design flow and pressure in the design section;

5) draining the foaming agent from the storage tanks or its solution from the pipelines;

6) level control in water tanks, foaming agent and its solution.

When using a foaming solution, devices shall be provided for mixing it.

111. Installations shall be equipped with an automatic water feeder providing estimated flow and pressure, or with an impulse device that supports the installation in standby (control) mode under pressure, until the main water feeder is turned on.

112. Capacities used in installations as an automatic water feeder or impulse device shall comply with the requirements of SR RK 2.02-102-2012 “Fire automation of buildings and structures”.

113. Electrical control of installations shall provide:

1) automatic start of the working pump;

2) automatic start of the backup pump in the event of a start disorder or failure of the working pump to extinguish the fire within a specified time;

3) automatic control of electric valves;

4) automatic switching of control circuits from a worker to a backup power source of electric energy;

5) automatic start of the dosing pump;

6) automatic start of the backup dosing pump in case of failure of the working dosing pump to the operating mode for a set time;

7) ability to manually start the pumps, dosing pumps and electric valves from the premises of the pumping station.

114. In the premises of the pumping station, light alarm shall be provided:

on presence of voltage on the main and backup power supply inputs and the phase closure to ground (on call);

on blocking the automatic start of pumps and dosing pump;

on emergency level in the tank;

on emergency level in the drain pit;

on damage to the electric control line by electric shut-off devices installed on the induction pipelines of drencher unit control units and pressure pipelines of dosing pumps (with decryption in the directions).

115. In a room with personnel performing round-the-clock monitoring of the operation of the installation, light and sound alarms shall be provided:

on the operation of the installation (with decryption in the directions);

on blocking the automatic start of the pumps;

on the malfunction of the installation (a general signal about the pressure drop in the automatic water supply or impulse device, emergency water level in the tank or drain pit, damage to the electrical lines of the shut-off devices, voltage failure at the main input of the power supply);

on malfunctioning electric valves.

116. Control units of fire extinguishing installations shall provide:

- 1) ability to monitor the status of the installation;
- 2) issuance of a signal for the formation of a command impulse about a fire, to turn on the pumps, turn off the technological and electrical equipment;
- 3) passage of the extinguishing agent into the supply and distribution pipelines.

117. Placement of control units, installation of pipelines shall be carried out in accordance with the requirements of CN RK 2.02-02-2012 “Fire automation of buildings and structures”, SR RK 2.02-102-2012 “Fire automation of buildings and structures”.

118. The control units at the end of installation shall be provided with a plate indicating:

- 1) name of the unit and its number;
- 2) direction numbers;
- 3) name of the protected premises;
- 4) type and number of irrigators;
- 5) functional diagram of the strapping and a schematic diagram of a fire fighting installation;
- 6) directions for the supply of extinguishing agent;
- 7) method of putting the installation into operation.

119. The control units and pipelines of the units shall be washed and cleaned of dirt and rust at least once every five years with the replacement of damaged sections.

120. Pipelines and control units of plants shall be painted in accordance with the requirements of ST RK GOST R 12.4.026-2002 “Signal colors, safety signs and signal markings. General technical conditions and application procedure” and ST RK 1174-2003 “Firefighting equipment for facility protection. Basic types. Placement and service”, as well as other interstate, international standards effective in the Republic of Kazakhstan.

Coverage class - in accordance with the requirements of ST RK 1979-2010 “Firefighting equipment. Automatic water and foam fire extinguishing installations. Control units. General technical conditions”, as well as other interstate, international standards effective in the Republic of Kazakhstan, but not lower than class VI.

121. Coloring foam sprinklers, detectors, thermal locks shall be prohibited.

122. The average service life of installations before overhaul shall be at least 10 years.

123. The probability of failure-free operation of installations shall be at least 0.924.

124. Installations shall be provided with a stock of foam sprinklers or foaming devices at the facility of at least 10% of the number of installed and at least 2% for testing. It shall be prohibited to install plugs and stoppers, as well as sprinklers with a

diameter not in accordance with the installation design, in place of opened and defective sprinklers.

125. Foam sprinklers with exit openings of the same diameter shall be installed within one protected space.

Paragraph 6. Requirements for automatic gas fire extinguishing installations

126. Installations of gas fire extinguishing (hereinafter referred to as IGE) by design (by the method of storage of gas extinguishing composition) shall be divided into:

centralized;

modular.

According to the method of starting shall be divided into:

with electric;

with pneumatic;

with cable (mechanical);

combined start.

According to the method of extinguishing, they shall be divided into:

volumetric fire extinguishing installations;

local fire extinguishing installations.

By duration of action:

for modules using freon as a fire extinguishing agent - not more than 10 seconds;

for modules using inert gases as extinguishing agent - not more than 60 seconds.

By type of fire extinguishing agent on:

carbon dioxide;

freon;

nitrogen;

steam.

127. Equipment, products, materials, gas fire extinguishing compounds and gases for their displacement used in the installation shall have a passport, documents certifying their quality, shelf life and comply with the conditions of application and specification of the installation project.

128. Only gas fire extinguishing compositions shall be used in installations that meet the requirements of national, interstate, international standards effective on the territory of the Republic of Kazakhstan.

129. Air, nitrogen, inert gases and mixtures thereof shall be used as gas for displacing gas extinguishing compositions. The dew point for air shall be no more than minus 40⁰ C.

130. Vessels (vessels of various designs, cylinders installed separately or in batteries) used in fire extinguishing installations shall comply with the requirements of

the Rules for ensuring industrial safety in the operation of pressure equipment, approved by order of the Minister of Investment and Development of the Republic of Kazakhstan dated December 30, 2014 No. 358 (registered in the State Register of Normative Legal Acts No. 10303).

131. The units shall provide devices for controlling the amount of gas extinguishing agent and the pressure of the propellant.

Installations in which the gas extinguishing agent is compressed gas under operating conditions shall be provided with pressure monitoring devices.

132. Installations shall provide a response time (without taking into account the delay time of the release of a gas fire extinguishing composition necessary for evacuating people, stopping technological equipment) for no more than 15 seconds.

133. Installations shall ensure the concentration of gas extinguishing composition in the volume of the protected premises is not lower than the normative.

134. The filling of vessels with a gas fire extinguishing composition and a propellant by weight (pressure) shall comply with the requirements of the installation project and technical documentation for vessels, gas fire extinguishing composition, as well as the conditions of their operation. For cylinders of the same size in the installation, the calculated values for filling with a gas extinguishing agent and a propellant shall be the same.

135. Centralized setting than the calculated amount of gaseous extinguishing agent shall have 100% reserve. The supply of a gas extinguishing agent in centralized installations shall be optional.

136. Modular installation than the calculated amount of gaseous extinguishing agent shall have 100% stock. A reserve of gas extinguishing agent in modular installations shall be optional.

The gas extinguishing agent stock shall be stored at the facility in cylinders similar to those of the installations. The supply of gas extinguishing agent shall be prepared for installation.

If there are several modular installations at the facility, the total supply of gas fire extinguishing composition shall be sufficient to completely replace the cylinders of each size in any of installations used at the facility.

If there is a reserve of a gas extinguishing composition in a modular installation, the supply of a gas extinguishing composition for this installation is not necessary.

Placing a reserve of gas extinguishing agent in a protected room is not recommended.

137. The mass of the gas extinguishing composition and the pressure of the propellant in each vessel of the installation, including the vessels with the reserve of

the gas extinguishing composition in centralized installations and the cylinders with the supply or reserve of the gas extinguishing composition in modular installations, shall be at least 95% of their calculated values.

The pressure of the gas extinguishing composition, which in the conditions of operation of the plants is compressed gases, shall be controlled.

138. Pipelines for supplying a gas fire extinguishing composition and their connections in installations shall provide strength at a pressure of at least 1.25 of the maximum pressure of the gas fire extinguishing composition in the vessel under operating conditions, and for induction pipelines and their connections at least 1.25 of the maximum gas pressure (air) in the incentive system.

139. Incentive pipelines and their connections in installations shall ensure tightness at a pressure of at least 1.25 of the maximum gas (air) pressure in the induction system.

140. Means of electrical control of installations shall provide:

- 1) automatic and manual remote start;
- 2) shutdown and restoration of automatic start;
- 3) automatic switching of power supply from the main source to the backup when the voltage is switched off at the main source;
- 4) serviceability monitoring (open circuit, short circuit) of fire alarm loops and connecting lines;
- 5) control of serviceability (break) of electric circuits of control of starting elements ;
- 6) pressure control in starting, cylinders and induction pipelines;
- 7) serviceability of sound and light alarm (on call);
- 8) turn off the sound alarm;
- 9) formation and issuance of a command impulse to control the technological and electrical equipment of the volume, ventilation, air conditioning, as well as fire warning devices.

141. Installations shall provide a delay in the release of gas fire extinguishing composition into the protected room during automatic and manual remote start for the time necessary for evacuating people from the room, but not less than 10 seconds from the moment the devices for warning people about evacuation are turned on in the room.

The time of complete closing of the dampers (valves) in the ducts of the ventilation systems in the protected room shall not exceed the time delay for the release of the gas extinguishing composition into this room.

142. A light and sound alarm shall be provided in a fire station premises or in another room with personnel conducting round-the-clock duty, which complies with the requirements of CN RK 2.02-02-2012 “Fire automation of buildings and structures”, SR RK 2.02-102-2012 “Fire automatics of buildings and facilities”

143. Installations shall be equipped with local start-up devices. Starting elements of devices for local switching on of installations, including switchgears, shall be supplied with plates indicating the names of the protected premises.

144. The placement of devices for remote start-up, shutdown of automatic start of installations when opening doors, as well as restoration of automatic start of installations shall be determined in accordance with the requirements of CN RK 2.02-02-2012 “Fire automation of buildings and structures”, SR RK 2.02-102-2012 “Fire automation of buildings and structures.”

Devices for restoring the automatic start of installations shall be allowed to be placed at the entrances to the protected premises in the presence of a fence that prevents unauthorized persons from accessing them.

145. Nozzles of installations shall be placed and oriented in space in accordance with the project for installation and technical documentation for nozzles.

In places of possible damage to the nozzles, they shall be protected.

146. Nozzles having cracks, dents or other defects affecting their performance shall be prohibited to be used in installations.

147. Installations shall provide a supply of fire detectors and sprinkler sprinklers for the incentive system with at least 10% of the number of installed ones.

Instead of installing opened sprinkler sprinklers and defective nozzles, plugs and stoppers, as well as nozzles that do not correspond to the installation project, shall be prohibited.

148. The external surfaces of pipelines, except for threaded connections and sealing surfaces shall be painted with protective paint.

149. The painting of component parts of plants, including pipelines, shall be carried out in accordance with the requirements of ST RK GOST R 12.4.026-2002 “Signal colors, safety signs and signal markings. General technical conditions and application procedure” and ST RK 1174-2003 “Firefighting equipment for facility protection. Basic types. Placement and service”, as well as other interstate, international standards effective in the Republic of Kazakhstan.

Painting nozzles, fire detectors and heat-sensitive elements in motive systems shall be prohibited.

150. The service life of installations before overhaul shall be at least 10 years.

Paragraph 7. Requirements for automatic installations of powder fire extinguishing systems

151. The design of powder fire extinguishing shall be divided into modular and aggregate.

By the method of starting the installation, they shall be divided into:

cable (mechanical systems with thermal locks);

with electric start.

According to the method of extinguishing, they shall be divided into:

surround;

superficial;

local quenching by volume.

By response time (inertia):

low inertia (with an inertia of not more than 3 seconds);

average inertia (with inertia from 3 to 180 seconds);

increased inertia (with an inertia of more than 180 seconds).

By duration of action:

fast action - impulse (I), with an action time of up to 1 second;

short-term action (KD-1), with a duration of 1 to 15 seconds;

short-term action (KD-2), with a duration of more than 15 seconds.

By the method of storing the displacing gas in the module housing (capacity):

injection;

with gas generating (pyrotechnic) element;

with cylinders of compressed or liquefied gas.

By the capacity of a single module housing (capacity):

modular (quick-action installations impulse (I) - from 0.2 to 50 liters;

installations of short-term action (KD) - from 2 to 250 liters;

aggregate units - from 250 to 5000 liters.

152. Installations shall not be used to extinguish fires of:

1) combustible materials, prone to spontaneous combustion and decay within the volume of a substance;

2) chemicals and their mixtures, pyrophoric and polymeric materials, prone to smoldering and burning without air.

153. The requirements for design, reliability, resistance to external influences, completeness, packaging and labeling, as well as safety requirements for the plants and methods for their testing, are determined in accordance with the requirements of ST RK 1302-2004 "Automatic powder fire extinguishing installations. Modules. General technical conditions" and other national, interstate, international standards effective in the Republic of Kazakhstan.

154. In premises where it is intended to extinguish the entire protected volume, measures shall be taken to seal (draft-proof) openings, against self-opening of doors.

155. In the duct systems of general ventilation, air heating and air conditioning of the protected premises, air locks or fire dampers shall be provided.

Paragraph 7-1. . Requirements for modular air dispersion fire extinguishing installations

Footnote. Chapter 4 supplemented by paragraph 7-1 in accordance with the Order of the Minister of Internal Affairs of the Republic of Kazakhstan dated June 28, 2019

No. 598 (shall come into effect upon expiry of ten calendar days after the day of its first official publication).

155-1. According to the method of start, modular units shall be divided into:
with thermal lock;
with electric start.

155-2. According to the method of extinguishing, they shall be divided into:
surround;
superficial;
local quenching by volume.

155-3. By duration of action:
short-term action, with a duration of 1 to 15 seconds;
short-term action, with a duration of more than 15 seconds.

155-4. By the capacity of a single module housing (capacity):
short-term modules - from 2 to 8 liters;
short-term modules - from 8 to 80 liters.

155-5. According to the method of storing the displacing gas in the module case (vessel) - rechargeable.

Paragraph 8. General requirements for automatic fire alarm systems

156. Fire alarm systems (installations) consist of six types of technical equipment:
fire alarm and fire alarm devices;
fire control devices;
warning devices;
linear structures;
fire detectors;
targeted fire alarm systems.

Fire and fire alarm devices (hereinafter referred to as FFAD):

According to the information capacity (the number of monitored alarm loops), the control panel shall be divided into devices:

low information capacity - up to 5 alarm loops;
average information capacity - from 6 to 20 alarm loops;
large information capacity - more than 20 alarm loops.

According to the information content of the control panel shall be divided into devices:

low information content - up to 3 types of notices;
average information content - from 3 to 5 types of notices;
more informative - more than 5 types of notices.

If possible, backup of the components of the control panel of medium and large information capacity shall be divided into:

appliances without reserve;

appliances with reserve.

Fire control devices (hereinafter referred to as FCD):

FCD shall be divided into the following groups according to the control facility:

for control of water and foam fire extinguishing installations;

for control of gas extinguishing installations;

for control of powder fire extinguishing installations;

for control of aerosol fire extinguishing installations;

for control of smoke removal systems;

for control of other devices;

According to the information capacity (the number of protected zones) FCD shall be divided into devices of:

small capacity - up to 5 zones;

medium capacity - from 6 to 20 zones;

high capacity - more than 20 zones.

By branching (the number of switched circuits per one protected zone) FCD shall be divided into devices of:

low branching - up to 3;

medium branching - from 4 to 6;

large branching - more than 6.

If possible, reserve components of FCD shall be divided into devices:

without reserve;

with reserve.

157. Automatic fire alarm systems shall be used to provide automatic fire detection, reporting a fire to a fire station premises, generating and transmitting control signals to technical means of warning and evacuation of people, fire extinguishing, smoke removal control devices, engineering and technological equipment.

158. Installations shall provide information to the duty personnel on the detection of a malfunction of communication lines between individual technical means by means of light and sound signals other than fire signals.

159. Fire alarm systems shall provide a light and sound signal about the occurrence of a fire to the control panel in the premises of the duty personnel and to special remote warning devices in buildings and structures.

160. The technical means of automatic fire (security and fire) alarm systems shall ensure electrical and information compatibility with each other, as well as with other technical means interacting with them.

161. Communication lines between the technical means of automatic fire alarm systems shall be carried out taking into account their functioning in case of fire during the time necessary to detect a fire, send evacuation signals, evacuation time, as well as the time required to control other technical means.

162. Fire control devices for automatic fire alarm systems shall provide a control algorithm in accordance with the type of equipment being controlled.

163. The technical means of automatic fire (security and fire) alarm systems provide uninterrupted electrical power for the duration of their functions.

164. The technical means of automatic fire (security and fire) alarm systems shall be resistant to electromagnetic interference with the maximum permissible level characteristic of the protected facility, while they shall not adversely affect the electromagnetic means used by the protected facility.

165. The parameters of fire detectors, address fire alarm systems, fire alarm control panels, as well as security, fire and fire alarm systems, shall be determined in accordance with the requirements of national, interstate, international standards effective in the Republic of Kazakhstan.

Paragraph 9. Requirements for fire detectors

166. By the method of activating, the fire detectors shall be divided into automatic (hereinafter referred to as AFD) and manual.

IPA shall be divided into:

According to the type of controlled sign of fire, AFDs shall be divided into the following types: thermal, smoke, flame, combined.

Thermal AFDs, according to the principle of action, shall be divided into:

using the dependence of the electrical resistance of the elements on temperature;

using thermoelectric driving forces;

using linear expansion;

using fusible or combustible inserts;

using the dependence of magnetic induction on temperature;

using volume expansion (liquid, gas);

using the dependence of the elastic modulus on temperature;

using the effect of "shape memory".

According to the configuration of the measuring zone, thermal AFDs shall be divided into:

point;

multipoint;

linear.

Smoke AFDs according to the principle of action shall be divided into:

ionization;

optical.

According to the configuration of the measuring zone, optical smoke AFDs shall be divided into:

point;

linear.

Flame AFD, according to the spectrum of electromagnetic radiation perceived by a sensitive element shall be divided into:

ultraviolet radiation spectrum;

infrared radiation spectrum.

Combined AFD.

According to the nature of the reaction to a controlled sign of fire, AFDs shall be divided into:

maximum;

differential;

maximum differential.

According to the method of power supply, AFDs shall be divided into:

with power supply on a loop;

with power on a separate wire;

autonomous.

If possible, the IPA addresses shall be divided into:

address;

non address.

167. Fire detectors of automatic fire alarm systems shall be located in a protected room in such a way as to ensure timely detection of fire anywhere in the room.

168. Manual fire detectors shall be installed on evacuation routes in places accessible for their inclusion in case of fire.

169. Fire detectors shall be designed for round-the-clock continuous operation.

170. Fire detectors shall provide information and electrical compatibility with control panels.

171. Fire detectors shall contain a built-in optical indicator of red color that turns on in the mode of transmitting an alarm notification.

If it is impossible to install an optical indicator in a fire detector, it shall provide the ability to connect a remote optical indicator or have other means for local indication of the transmission mode of the alarm notification.

172. If the design of the fire detector provides for its fastening in the socket, then the notification of malfunction shall be provided on the control panel when the fire detector is disconnected from the socket.

173. Calibration or adjustment elements of the fire detector used in the manufacturing process shall not have external access after the manufacture of the fire detector.

174. If the sensitivity of the fire detector can be adjusted externally, the following requirements shall be met:

1) each sensitivity level shall correspond to a certain marking on the fire detector;

2) after installation of the fire detector, there shall not be direct access to the means of adjustment.

175. Fire detectors shall be a reconditioned product that provides verification on each of its samples of all standardized technical characteristics during testing, as well as a check of operability during operation.

176. The response threshold of a linear fire detector shall be in the range from 0.4 dB to 5.2 dB, while the ratio of the maximum and minimum values of the thresholds for eight samples of detectors shall be no more than 1.3.

177. A linear fire detector with an adjustable threshold shall be provided by the device, showing the set value of the threshold. The range of regulation of the threshold shall be in the range from 0.4 to 5.2 dB.

178. The value of the threshold of operation of a linear fire detector shall not change during prolonged continuous operation.

179. The value of the response threshold of a linear fire detector shall not depend on a change in the angle of inclination of the axis of the optical beam to the vertical and horizontal planes.

180. The threshold value of the linear fire detector shall not change with changes in the supply voltage in the range from 85% to 110% of the nominal value of the supply voltage.

181. Opposite components of a linear fire detector shall have adjustment devices that allow changing the angle of inclination of the axis of the detector optical beam to vertical and horizontal planes.

182. A linear fire detector shall provide control of cable connections between components with the formation of a "Failure" signal in the event of a cable connection failure.

183. Power consumption of a linear fire detector in standby mode shall be no more than 1.0 W.

184. The value of the response threshold of a linear fire detector shall not depend on the optical path length.

185. A linear fire detector shall generate a "Fire" signal in no more than 10 seconds, with a rapid increase in the optical density of the medium (in no more than 5 seconds), by $(5.2 + 0.5)$ dB.

186. A linear fire detector having optical pollution compensation devices, upon reaching a maximum compensation of 2.8 dB shall generate a "Failure" signal with a rate of change of optical density of the medium of not more than 0.268 dB in 30 minutes.

With a further increase in the optical density of the medium with a speed of not more than 0.109 dB in 1 minute, a linear detector having compensation devices shall generate a "Fire" signal until the optical density of the medium reaches 10 dB.

187. The linear detector shall not generate a “Failure” or “Fire” signal when the transmitter radiation is interrupted for $(1 + 0.1)$ seconds.

188. The response signal of optical fire detectors with a discrete output signal shall be stored after the end of the exposure to combustion products. The signal shall be turned off by turning off the power for a period of no more than 3 seconds or using a special device.

189. The rated voltage of the optical fire detectors shall be determined from the range of 6 V, 9 V, 12 V, 18 V, 20 V, 24 V or 30 V.

190. The sensitivity of optical fire detectors shall be selected in the range from 0.05 dB/m to 0.2 dB/m.

191. In the technical documentation for an optical fire detector with a discrete output signal, a specific sensitivity value shall be set.

192. In the technical documentation for an optical fire detector with an analog output signal, a range of sensitivity values shall be established.

193. The maximum specific optical density controlled by an optical fire detector with an analog output signal under normal conditions shall be at least 0.2 dB/m.

194. The sensitivity value of an optical fire detector shall not:

- 1) depend on the number of detectors;
- 2) depend on the impact of air currents;
- 3) depend on the orientation to the direction of the air flow;
- 4) vary from sample to sample;

5) depend on the supply voltage within the voltage range specified in the technical documentation for the specific type of optical fire detector.

195. Gas fire detectors shall respond to one or more of the following gases with the following concentration limits:

- 1) for carbon dioxide (CO_2) in the range from 1000 ppm to 1500 ppm;
- 2) for carbon monoxide (CO) in the range from 20 ppm to 80 ppm;
- 3) for hydrocarbon gases (C_xH_y) ranging from 10 ppm to 20 ppm.

196. Gas fire detectors shall remain operational when the supply voltage changes in the range from 75% to 115% of the nominal value of the supply voltage.

197. When triggered, the self-contained fire detector shall emit an “Alarm” sound signal, the volume level of which (measured at a distance of 1 m from the self-contained detector) shall be at least 85 dB for 4 minutes.

198. The sensitivity of optoelectronic smoke autonomous fire detectors shall be in the range from 0.05 dB/m to 0.20 dB/m.

199. The sensitivity value (response threshold) of an autonomous fire detector shall not:

- 1) depend on the number of operations;

2) depend on the orientation to the direction of the air flow;

3) vary from sample to sample.

200. The sensitivity of an autonomous fire detector shall not depend on the impact of air flows at speeds from 0.2 m/s to 1.0 m/s.

201. At a value of air flow rate (10.0 ± 0.5) m/s, an autonomous fire detector shall not give false signals "Alarm".

202. The value of the current consumed by an autonomous fire detector from an internal power source in standby mode shall be no more than 50 mA.

Paragraph 10. Requirements for address fire alarm systems

203. Address fire alarm systems (hereinafter referred to as AFAS) according to the maximum number of connected address fire detectors AFAS shall be divided into three categories:

1) 1 category - from 1 to 128 address fire detectors (hereinafter referred to as address FD). The minimum configuration of the periphery of the AFAS loop shall contain a smoke address FD;

2) Category 2 - from 129 to 512 address fire detectors. AFAS has an external sound fire annunciator, and the minimum configuration of the loop periphery shall contain smoke and manual address FD;

3) Category 3 - more than 512 address fire detectors. AFAS shall have a remote sound fire annunciator and a remote backup display with a sound alarm that displays the numbers of the address FDs from which the Fire signal was received, and the minimum configuration of the loop periphery shall contain smoke, thermal and manual address FDs.

According to the method of transmitting information about a fire hazard situation in the protected premises, AFAS shall be divided into:

analog AFAS;

discrete AFAS;

combined AFAS.

204. Address fire alarm systems shall be installed in rooms with round-the-clock stay of duty personnel.

205. The address fire alarm system shall go into the "Fire" mode when the quantity of the controlled fire factor of the address threshold of the fire detectors included in the address fire alarm system that is part of the address fire alarm system is exceeded in the protected room (at the location of the address fire detectors), as well as when manual address fire detector.

206. An address fire alarm system shall automatically provide a visual display of address codes (hereinafter referred to as the Numbers) of address fire detectors from which a "Fire" signal has been received. The total number of address numbers of

address fire detectors displayed simultaneously or alternately, from which the “Fire” signal was received, shall be at least 10 numbers.

207. An address fire alarm system shall:

- 1) contain a memory device for the number of received signals "Fire" with the ability to visually display this information;
- 2) provide automatic remote check of operability of address fire detectors with visual display of numbers of defective address fire detectors;
- 3) provide, using relay contacts, the transmission of electrical signals “Fire” and “Fault”, as well as the inclusion of a signal to start the installation of fire automatics.

208. The time interval from the moment of the failure of the address fire detector to the moment information appears on the address control panel shall be no more than 2 hours.

209. The address fire alarm system shall have:

- 1) possibility of manually remotely turning on the start signal of a fire automatics installation;
- 2) protection against accidental activation of the fire alarm installation start signal.

210. Upon receipt of the “Fire” signal from the address fire detector at the address control panel, the “Fire” optical indicator of red color and the two-tone “Fire” sound signal shall turn on.

211. The arrival of the first “Fire” signal from an address fire detector from any programmed group of address fire detectors that automatically turn on the start signal of a fire automatics installation shall be accompanied by the inclusion of a corresponding red optical indicator.

212. After turning off the main source of electrical power, the address fire alarm system shall switch to the “Reserve” mode with automatic switching to electric power from the backup source with the sound signaling different from the “Fire” and “Failure” modes and the corresponding optical indicator (except red) or with the optical indicator turned on in a different mode.

The malfunction is the failure of any component of the electrical circuit of the address fire detector, which violates its operability, or the failure of the loop, which disrupts the exchange of information between the address control panel and the address fire detector.

213. After a shutdown, failure or reserve below the norm of the backup power supply, the address fire alarm system shall switch to the “Reserve” mode with the corresponding optical indicator (except for red) and an audible alarm other than the modes “Fire”, “Failure” and “Reserve”.

When switching to the “Reserve” mode, caused by periodic monitoring of the state of the backup power supply, the time interval between monitoring shall be no more than 2 hours, and the sound signal may be short.

214. To turn off sound signals, the controls of the address control panel shall contain a button without a fixation or a button with a fixation with an optical indication of its position corresponding to the mute mode of sound signals.

215. The controls of the address control panel shall contain a button without fixation to quickly turn off all received signals with saving information.

216. In the address fire alarm system, the optical, sound and electrical signals “Fire” shall have priority over other signals.

217. Programming and control bodies in address fire alarm systems of all categories shall be protected from unauthorized access.

218. The time interval from the moment a controlled fire factor is exposed to an address fire detector with a value exceeding the response threshold of an address fire detector or a programmed response threshold of the entire analog fire alarm system before it enters the Fire mode, shall be no more than 10 seconds.

The time interval from the moment the manual address fire detector is turned on until the address fire alarm system switches to “Fire” mode shall be no more than 10 seconds.

Paragraph 11. Requirements for fire alarm control panels of automatic fire alarm systems

219. Fire alarm control and fire and security devices (hereinafter referred to as the FACFC) according to the information capacity (the number of monitored signal loops) the control panel shall be divided into the following devices:

- low information capacity - up to 5 alarm loops;
- average information capacity - from 6 to 20 alarm loops;
- large information capacity - more than 20 alarm loops.

According to the information content of the control panel shall be divided into devices:

- low information content - up to 3 types of notices;
- average information content - from 3 to 5 types of notices;
- more informative - more than 5 types of notices.

If possible, backup of the components of the control panel of medium and large information capacity shall be divided into:

- appliances without reserve;
- appliances with reserve.

220. Fire alarm control panels shall be installed in rooms with round-the-clock stay of duty personnel.

221. Fire alarm control panels shall provide the following functions:

1) receiving electrical signals from manual and automatic fire detectors with light indication of the number of the loop in which the fire detectors were triggered, and the sound and light alarm;

2) monitoring the health of alarm loops along their entire length with automatic detection of a break or short circuit in them, as well as light and sound alarms about a malfunction;

3) control of the loopback of signaling loops and communication lines to the ground (if this impedes the normal operation of the fire alarm control panel);

4) manual or automatic monitoring of the health and condition of the units and blocks of the fire alarm control panel with the possibility of issuing a notification of their malfunction in external circuits;

5) manual inclusion of any of the alarm loops, while turning off one or more alarm loops shall be accompanied by the issuance of a failure notification to external circuits;

6) manual inclusion of an audible alarm about the received notification with the preservation of the light indication, while turning off the audible alarm shall not affect the reception of notifications from other alarm loops and its subsequent activation upon receipt of a new alarm notification;

7) mainly registration and transmission of fire notification to external circuits in relation to other signals generated by the fire alarm control panel;

8) sending a return signal to a manual fire detector confirming the receipt of a fire notification submitted by him;

9) protection of governing bodies from unauthorized access of unauthorized persons;

10) automatic transmission of separate fire notices, malfunctions of the fire alarm control panel and unauthorized entry of unauthorized persons to its governing bodies;

11) formation of the starting impulse of the start of control devices for automatic fire extinguishing installations when two fire detectors are installed in one protected room, with a shutter speed of at least 30 seconds and without a time delay for rooms where people stay is provided for;

12) automatic switching of power supply from the main source to the backup one and vice versa with the inclusion of the corresponding indication without issuing false signals to external circuits;

13) ability to include active (energy-consuming) and passive fire detectors with normally closed contacts in one loop;

14) monitoring the status of the backup power source (battery);

15) ability to program the tactics of generating a fire notice.

222. Fire alarm control panels shall provide the issuance of the following types of notices:

1) on a fire when one fire detector is triggered in the alarm loop;

2) on a fire when two fire detectors are triggered for fire alarm control panels, working in conjunction with automatic fire extinguishing installations;

3) on a short circuit or break in the alarm loop;

- 4) on disconnecting the voltage of the main power source or on reducing the voltage below an acceptable level;
- 5) on disconnecting the voltage of the backup power source;
- 6) on the malfunction of the fire alarm control panel during manual or automatic verification of its performance;
- 7) on the transition from the primary to the backup power source;
- 8) on unauthorized access of unauthorized persons to the control body of the fire alarm control panel.

223. Fire alarm control panels shall ensure the registration and display of notices in one of the following ways:

- 1) light indication;
- 2) light indication and sound notification.

224. Fire alarm control panels shall have the following indicators of purpose:

- 1) current consumption from the backup power source in standby mode and in alarm mode;
- 2) range of supply voltages;
- 3) noise immunity;
- 4) information capacity;
- 5) informational content;
- 6) maximum voltage switched by the output contacts;
- 7) maximum current switched by the output contacts;
- 8) time of technical readiness for work;
- 9) maximum resistance of the alarm loop without taking into account the resistance of the remote element, at which the fire alarm control panel remains operational;
- 10) minimum allowable leakage resistance between the wires of the alarm loop or each of the wires to the "Earth", at which the fire alarm control panel remains operational;
- 11) current value on the alarm loop for powering the detectors;
- 12) duration of the alarm notification;
- 13) operating conditions for climate impacts;
- 14) operating conditions for mechanical stress;
- 15) overall dimensions.

Paragraph 12. Requirements for the means of security, fire (security and fire) alarm

225. Means of security, fire (security and fire) signaling (hereinafter referred to as Items) shall ensure compatibility in four main areas between:

- 1) detectors, cipher devices, and a control panel or fire alarm station;
- 2) control panel or fire alarm station, sirens and a terminal device for a notification system;

3) final repeater, the central monitoring console of the notification transmission system and the standard tone frequency channel;

4) central monitoring console for a notification transmission system and peripheral equipment.

226. Items, depending on their functional purpose, shall ensure the formation, receipt, processing, transmission and presentation in the prescribed form to consumers of information on penetration, fire at a protected facility.

227. Depending on the type of item, registration and display of notices shall be carried out in one or more of the following ways:

- 1) optical indication;
- 2) light, sound or voice notification;
- 3) formation of an electrical signal in a contact or non-contact manner;
- 4) alphanumeric printing device;
- 5) on magnetic (m) tape (disc).

228. Items, depending on their functional purpose, shall issue notices in the following cases:

- 1) penetration or approach of the offender;
- 2) robbery;
- 3) detection of a sunburn;
- 4) equipment malfunction (service notice);
- 5) decrease in the supply voltage below an acceptable level;
- 6) transition to a backup power source from the main and back (service notice);
- 7) short circuit or breakage of signal wires or signal loop;
- 8) unauthorized interference with the operation of equipment and other types of service notices.

229. When transmitting several types of notices, the items shall ensure the priority of transmitting notices of fire, intruder and robbery.

230. A short circuit, a circuit to ground, and also a break in the connecting lines in the joints of complexes of technical equipment shall not cause damage to mating items.

231. Items that automatically switch to standby power when the main power fails and vice versa shall provide switching without issuing alarm notifications.

232. The types and basic parameters of security, fire (security and fire) alarm systems shall be determined in accordance with the requirements of national, interstate and international standards effective in the Republic of Kazakhstan.

Paragraph 13. Requirements for fire warning systems and evacuation management in buildings and structures

233. Annunciators, depending on the nature of the issued signals, shall be divided into:

- 1) light;
- 2) sound;
- 3) speech;
- 4) combined.

234. Devices, depending on the method and sequence of alerts, shall be divided into five groups:

1st group:

- 1) notification methods: sound, light (flashing light signal, "Exit" light indicators);
- 2) priority of notification: one notification line (with the inclusion of all annunciators in the notification line at the same time);

2nd group:

- 1) notification methods: sound, light (flashing light signal, "Exit" light indicators, light signs of movement direction);
- 2) alert sequence: two or more alert lines (independent inclusion of each line to ensure a given alert sequence);

3rd group:

- 1) notification methods: sound, voice, light ("Exit" light indicators, light signs of movement direction);
- 2) alert sequence: two or more alert lines (independent inclusion of each line to ensure a given alert sequence);

4th group:

- 1) notification methods: sound, voice, light ("Exit" light indicators, light signs of movement direction);
- 2) alert sequence: two or more alert lines (independent inclusion of each line to ensure a given alert sequence);
- 3) communication of the warning zone with the control room;

5th group:

- 1) notification methods: sound, voice, light ("Exit" light indicators, light signs of movement direction);
- 2) alert sequence: two or more alert lines (independent inclusion of each line to ensure a given alert sequence);
- 3) communication of the warning zone with the control room;
- 4) full automation of the management of warning systems and the possibility of implementing many options for organizing evacuation from each warning zone.

235. Warning systems and evacuation management in case of fire shall provide:

- 1) transmission of sound, and, if necessary, light signals to all rooms of the building;
- 2) broadcast of voice messages;

3) transmission to separate areas of the building or premises of messages on the place of the fire, the evacuation routes and actions that ensure personal safety, as well as aimed at preventing panic and other phenomena that complicate the evacuation process;

4) inclusion of light and sound indicators of the recommended direction of evacuation;

5) inclusion of emergency lighting;

6) two-way communication of a fire post (control room) with all rooms where people stay is possible;

7) remote opening of the doors of emergency exits equipped with electromagnetic locks.

236. Devices shall ensure the registration and display of notices in one of the following ways:

1) light indication;

2) light indication and sound alarm.

237. The control devices for voice annunciators shall provide translation of recorded phonograms and (or) live broadcast of messages and control commands through microphones.

238. The control devices for voice and sound annunciators of groups 4 and 5 shall provide for the possibility of two-way communication with the warning zone.

Sound signals on the issuance of control signals to annunciators shall differ from signals of other purposes.

239. Voice alarm control devices shall have possibility to promptly adjust control commands in case of emergency changes in the situation at the facility in case of fire.

240. Warning and evacuation management systems shall be designed to implement evacuation plans. When designing a warning system and evacuation control, it is necessary to provide for the possibility of its interaction with the civil defense warning system.

241. The warning and evacuation control system shall automatically turn on when an automatic fire alarm or automatic fire extinguishing installation is triggered, unless in the building and structure, in accordance with regulatory documents, equipping with automatic fire extinguishing installations and automatic fire alarm is required. In this case, the remote activation of the warning and evacuation system in case of fire shall be carried out from the starting elements made and placed in accordance with the requirements of the standards for manual fire detectors.

242. Semi-automatic control, as well as remote and local activation of warning systems and evacuation control in certain warning zones, are applied in accordance

with the requirements of CN RK 2.02-11-2002* “Norms for the equipment of buildings, premises and structures with automatic fire alarm systems, automatic fire extinguishing installations and warning people on a fire.”

The choice of control type shall be determined by the design organization depending on the functional purpose, structural and space-planning decisions of the building based on the conditions for ensuring safe people evacuation management in case of fire.

243. When dividing a facility into notification zones, in the project, the priority for notifying people in the protected facility shall be developed.

244. The sizes of the fire warning zones, the priority of the warning and the start time of the warning in individual zones shall be determined based on the conditions for ensuring safe people evacuation management in case of fire.

245. Warning and evacuation control systems shall be operational for the time necessary to complete the evacuation of people from the building.

246. Wires and cables of connecting lines of warning and evacuation control systems shall be laid in building structures, ducts or channels of non-combustible materials.

247. Evacuation light indicators shall be switched on simultaneously with the main lighting devices of the working light. It shall be allowed to use evacuation light indicators that are automatically turned on when the warning and evacuation control systems receive a command impulse about the start of a fire warning and (or) an emergency power outage for the working light.

248. The number of sound and voice fire alarms, their arrangement and power shall provide the necessary audibility in all places of permanent or temporary stay of people.

249. Annunciators shall not have volume controls and shall be connected to the network without plug-in devices.

250. Sound alerts shall be different in tone from sound signals for other purposes.

251. The warning and evacuation control system shall be managed from the central control point of fire protection systems, from the premises of a fire station, operator or other special premises.

252. Regardless of the type of control of the warning system (with manual or semi-automatic start), devices are designed at the design stage of the project to exclude its unintentional operation or accidental switching on.

253. In buildings and premises where people with physical disabilities stay (work, live, spend leisure time), these features shall be taken into account when designing and (or) installing a warning and evacuation control system.

254. If there is a radio broadcasting site at the facility, it shall be allowed to notify people of a fire via it.

255. Radio broadcasting units shall be designed with the possibility of their inclusion in the warning system and evacuation control.

256. Technical warning equipment for the reliability of power supply shall be provided by category I electric receivers in accordance with the Rules for installing power equipment and shall be carried out in one of the following ways:

- 1) from an AC network with a frequency of 50 Hz and a voltage of 220 V;
- 2) from DC sources with a supply voltage selected from the range: 3 V, 6 V, 9 V, 12 V, 18 V, 20 V, 24 V, 30 V, 36 V, 42 V, 60 V or 110 V.

257. The backup power supply of technical warning equipment shall be carried out:

- 1) from the second independent input of the AC network;
- 2) from a DC power source;
- 3) autonomous electrical unit of AC.

As a backup source of DC, the use of dry galvanic cells or batteries shall be allowed.

258. The standby time of technical means of warning from a reserve DC source in standby mode shall be at least 24 hours

259. The operating time of technical means of warning from a backup DC source in alarm mode shall be at least 3 hours.

260. The parameters and execution of technical warning equipment, the placement of light indicators and evacuation signs, sound annunciators, emergency lighting shall be determined in accordance with the requirements of national, interstate, international standards effective in the Republic of Kazakhstan, as well as regulatory documents in the field of fire safety, approved in the established order.

Paragraph 14. Requirements for the labeling and packaging of fire automatics systems and installations

261. The marking of fire automatics systems and installations shall be determined in accordance with the requirements of the Technical Regulation “Requirements for the Labeling of Products” approved by Order of the Minister for Investment and Development of the Republic of Kazakhstan dated October 15, 2016 No. 724 (registered in the State Register of Normative Legal Acts No. 14471)

262. The marking of the transport packaging shall contain warning safety signs in accordance with the requirements of ST RK GOST R 12.4.026-2002 “Signal colors, safety signs and signal markings. General technical conditions and application procedure”: “Caution, fragile!”; “Keep dry”; “Do not turn over”.

263. The place and method of marking shall be indicated in the technical documentation for the systems and installations of fire automatics of a particular type and modification.

264. Fire automatics systems and installations shall be packaged in consumer containers with corrosion protection in accordance with the requirements of national, interstate, international standards effective in the Republic of Kazakhstan.

265. The delivery package for the system and installation of fire automatics shall be packaged in a transport container in order to protect them from damage during transportation and storage.

Paragraph 15. Requirements for transportation and storage of fire automatics systems and installations

266. The conditions for the transportation and storage of fire automation systems and installations shall be carried out in accordance with the conditions of their operation and the requirements of national, interstate, international standards effective in the Republic of Kazakhstan.

267. During transportation and storage of the system and installation of fire automatics, the conditions shall be provided that protect them from mechanical damage, heat, direct sunlight, precipitation, moisture and aggressive environments.

Chapter 5. Presumption of conformity

268. Technical devices and equipment for systems and installations of fire automatics, systems and installations of fire automatics, manufactured and installed at facilities in accordance with the requirements of harmonized standards, shall be considered to comply with the requirements of this Technical Regulation.

269. Fire automatics systems and installations can be manufactured according to other normative documents in the field of standardization, provided that their requirements are not lower than the requirements specified in this Technical Regulation.

Chapter 6. Procedure for confirmation of product conformity

270. Technical means of fire automatics systems and installations, fire extinguishing means (foaming agents, gas and powder fire extinguishing compositions), before they are delivered to the market of the Republic of Kazakhstan, shall undergo a conformity confirmation procedure.

271. Bodies for the confirmation of conformity, their functions, rights and obligations, as well as the procedure for confirming the conformity of products shall be determined in accordance with the Law of the Republic of Kazakhstan dated November 9, 2004 “On Technical Regulation”.

272. The identification of technical means of fire automation systems and installations, as well as fire extinguishing means, shall be carried out upon confirmation of compliance.

273. The identification of technical means of systems and installations of fire automatics, as well as fire extinguishing means shall be carried out by:

- 1) testing laboratories;
- 2) conformity confirmation bodies;
- 3) authorized bodies when exercising control within their competence.

274. Confirmation of compliance of systems and installations of fire automatics shall be carried out in the following cases:

1) upon their acceptance into operation in accordance with the act of acceptance into operation of fire automatics systems and installations, given in Annex 2 to this Technical Regulation;

2) during an audit in the field of fire safety in accordance with the Law of the Republic of Kazakhstan dated April 11, 2014 “On Civil Protection”.

Chapter 7. Terms of enforcement

275. On the territory of the Republic of Kazakhstan, the validity of regulatory legal acts in the field of fire safety with regard to fire automatics systems and installations, the provisions of which comply with the requirements of this Technical Regulation, shall be maintained.

Chapter 8. List of standards

276. The list of standards, the application of which on a voluntary basis ensures compliance with the requirements of the technical regulation, is given in Annex 6 to this Technical Regulation.

The list of standards containing the rules and methods of research (testing) and measurements, including the rules for sampling, necessary for applying and fulfilling the requirements of the technical regulation and assessing (confirming) the conformity of products, is given in Annex 7 to this Technical Regulation.

277. Harmonization of the effective standards ensuring the fulfillment of safety requirements established by these technical regulations shall be carried out in the manner established by the legislation in the field of technical regulation.

Annex 1
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”

The list of products to which the requirements of the technical regulation apply

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No.	Name of products	HS Code
1. Technical means of fire and security and fire alarm:		
1.1	Thermal fire detectors	8531 100 000
1.2	Fire smoke optoelectronic linear detectors	8531 100 000
1.3	Fire smoke optoelectronic spotting detectors	8531 100 000
1.4	Fire smoke radioisotope detectors	9022 290 000
1.5	Autonomous fire detectors	8531 100 000
1.6	Gas fire detectors	8531 100 000
1.7	Fire flame detectors	8531 100 000
1.8	Manual fire detectors	8531 100 000
1.9	Address fire alarm systems	8531 100 000
1.10	Fire alarm control panels	8531 100 000
1.11	Fire alarm and evacuation control equipment	8531 100 000
2. Elements of automatic fire extinguishing installations:		
2.1	Modules and batteries of automatic gas extinguishing systems	8424 900 000
2.2	Isothermal tanks of automatic low pressure gas fire extinguishing systems	8424 900 000
2.3	Distribution devices of automatic gas fire extinguishing installations	8424 900 000
2.4	Modules of automatic powder fire extinguishing systems	8424 900 000
2.5	Modules of fire extinguishing systems	8424 900 000
2.6	Control units for automatic water and foam fire extinguishing installations	8481 800 000
2.7	Foam mixers and dispensers for automatic water and foam fire extinguishing systems (with the exception of those installed on water bypass lines)	8481 000 000
2.8	Dispensers for automatic foam extinguishing systems	8481 000 000
2.9	Fire and pressure signaling devices for automatic water and foam fire extinguishing systems	8481 401 000
2.10	Sprinkler and drencher water irrigators	8424 898 009, 8424 900 000
2.11	Sprinkler and drencher foam irrigators	8424 898 009, 8424 900 000
		8481 309 100,

2.12	Control unit valves, locking devices	8481 309 900, 8481 401 000, 8481 806 100, 8481 807 100, 8481 808 100
2.13	Fire sound hydraulic announcers	8479 899 500

Annex 2
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”
Form

ACT for commissioning of fire automatics systems and installations

City _____ " ____ " _____ 20__.

Commission appointed by _____

(name of the organization-customer)

by decision from _____ 20__ No. _____ consisting of:

Chairman - representative of the customer (general contractor) _____

(position, surname, name, patronymic (if any))

Commission members - representatives:

Installation organization _____

(position, surname, name, patronymic, if any)

Commissioning organization _____

(position, surname, name, patronymic, if any)

checked the work performed and determined:

1. The installation and commissioning (starting) organization submitted for acceptance the

_____ installation set in _____

(name of the installation (name of the facility))

according to the project developed (compiled) _____

(name of organization)

2. Installation works were completed _____

(name of organization) from _____ 20__ to _____
20__

3. Commissioning works were completed _____

(name of the commissioning organization)

from “ ___ ” _____ 20__ to “ ___ ” _____ 20__

4. Defects and deficiencies identified during the process of complex testing were eliminated (if necessary, indicate in the annex to this act).

Conclusion of commission:

Installation, last comprehensive testing, including commissioning works deemed to be accepted into service with the " ___ " _____

20__

to the assessment

of quality of work performed _____ (excellent, good, satisfactory)

The list attached to the act of documentation _____

Commission:

Chairman of the commission _____

Stamp Here (signature)

Members of the commission _____

(signatures)

Annex 3
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”

Form

LIST

of installed instruments and equipment of systems and installations of fire automation

(facility name)
for the project _____

Number of position and specifications of the project	Name	Type	Factory number	Note
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Accepted _____

(position, last name, first name, patronymic (if any))

of the customer representative) (signature)

Delivered _____

(position, last name, first name, patronymic (if any))

of the representative of the installation organization) (signature)

Annex 4
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”

Form

Operational journal of systems and installations of fire automatics

1. Name and departmental affiliation (form of ownership) of a facility
equipped with fire automatics systems and installations

(type of system, type of start)

Address, phone _____

date of installation of the system, name of the installation company _____

Type of fire automation systems _____

Name of the organization serving the system (service)

phone _____

2. Characteristics of automatic fire fighting system

(name of hardware types, date of issue, start date, next inspection period, etc.)

3. Schematic or wiring diagram of a fire automatics system.

4. Results of hydraulic and electrical tests:

Date of conducting	Test results	Conclusion	Signature
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5. Reception and delivery of duty and the technical condition of the system:

Date of acceptance	State of the systems during the period of duty	Name of protected facilities and type of systems from which signals were received	Surnames, signature of persons handed over/taken over the duty
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6. Accounting of failures and malfunctions of systems and installations of fire automatics

No.	Date and time the message arrived	Name of controlled premises	Nature of the failure	Surname and position of the person received the message	Date and time of failure removal
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Notes:

- 1) Analysis of timely failure removal shall be carried out daily.
- 2) Journal monthly summarizes the number of failures, malfunctions, and false positives.
- 3) Journal shall be maintained by operational (duty) personnel.

7. Accounting for maintenance and preventive maintenance of fire automatics systems and installations.

No.	Date	Type of system	Controlled facility	Nature of the work performed	List of work	Position, surname and signature of the person conducting the maintenance
-----	------	----------------	---------------------	------------------------------	--------------	--

8. Testing the knowledge of personnel servicing fire automation systems.

No.	Surname, name, patronymic (if any), position, length of work of the examinee	Examination date	Assessment of knowledge	Examiner signature	Examinee signature
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9. Accounting of operation (shutdown) of fire automatics systems.

No.	Name of the controlled facility	Type and type of fire automatics system	Operation (off) date	Operation (off) reason	Fire damage	Operation reason
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10. Instructing technical and operational personnel on safety when working with fire automatics systems.

No.	Name of instructed person	Position of the instructed person	Date of instructing	Signature of instructed person	Signature of instructor
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Annex 5
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”

Form

ACT

on inspection of systems and installations of fire automatics

City _____ " ____ " _____ 20__.

Facility _____

_____ (name)

Commission composed of:

Chairman of the Commission _____

_____ (position, surname, name, patronymic (if any) of the

Commission members

(position, surname, name, patronymic (if any)
performed an inspection

(name of installation)

(indicate location of installation)

(name of elements)

Work was performed from _____ to _____ 20__.
During the inspection revealed:

(state of installations, elements)

Commission recommendations:

(further operation of existing systems and installations of fire automation
is possible/impossible or it is necessary to install new systems and installations;
repairs of certain hardware of systems and installations of fire automation are
required;

it is necessary to extend the operation of systems and installations of fire
automation,

indicating the next certification)

Chairman of the commission: _____

(signature, position, last name, first name, patronymic (if any)

Members of the commission: _____

signature, position, last name, first name, patronymic (if any)

Annex 6
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation
management in case of fire”

The list of standards, the result of application hereof on a voluntary basis ensures compliance with technical regulations

No.	Elements of technical regulation	Standard designation	Name of standard	Note
1	2	3	4	5
1	Chapter 2	ST RK 1088	Fire safety. Terms and definitions	
2	Chapter 2	ST RK 1167	Fire automatics. Classification. Terms and definitions	
3	p. 64, p. 126	ST RK GOST R IEC 50571.17	Electrical installations of buildings. Part 4. Security requirements . Chapter 48. Selection of protection measures depending on external conditions. Section 482. Fire protection	
4	p.65	GOST 12.1.030	Occupational safety standards system. Electrical safety. Protective grounding. Nullifying	
5	p.66, p. 67, p. 110, p. 111, p. 129	ST RK 1979	Firefighting equipment. Automatic water and foam fire extinguishing installations. Control units. General specifications	
6	p. 111, p. 133, p. 162	ST RK 1174	Firefighting equipment to protect facilities. Basic types. Placement and service	
			Firefighting equipment.	

7	Paragraph 4 of Chapter 4	ST RK 1899	Automatic fire extinguishing installations. General technical requirements. Methods of testing	
8	Paragraph 5 of Chapter 4	ST RK 1903	Firefighting equipment. Automatic foam fire extinguishing installations. General technical requirements. Methods of testing	
9	Paragraphs 4.5 of Chapter 4	ST RK 1977	Firefighting equipment. Automatic water and foam fire extinguishing installations. Announcers protection, sound hydraulic. General specifications	
10	Paragraphs 4, 5 of Chapter 4	ST RK 1978	Firefighting equipment. Automatic water and foam fire extinguishing installations. Sprinklers. General specifications	
11	Paragraphs 4, 5 of Chapter 4	ST RK 1979	Firefighting equipment. Automatic water and foam fire extinguishing installations. Control units. General specifications	
12	Paragraph 5 of Chapter 4	ST RK 1982	Firefighting equipment. Automatic foam fire extinguishing installations. Dispensers. General specifications	
13	Paragraph 6 of Chapter 4	ST RK 2515	Firefighting equipment. Automatic gas fire	

			extinguishing installations. General specifications.
14	Paragraph 6 of Chapter 4	ST RK 1900	Firefighting equipment. Automatic gas fire extinguishing installations. Distribution devices. General technical requirements. Methods of testing
15	Paragraph 6 of Chapter 4	ST RK 1901	Firefighting equipment. Automatic gas fire extinguishing installations. The tanks are isothermal. General technical requirements. Methods of testing
16	Paragraph 6 of Chapter 4	ST RK 1902	Firefighting equipment. Automatic gas fire extinguishing installations. Modules and batteries. General technical requirements. Methods of testing
17	Paragraph 6 of Chapter 4	ST RK 2512	Firefighting equipment. Automatic gas fire extinguishing installations. Extinguishing agents. Acceptance rules and methods of testing.
18	Paragraph 7 of Chapter 4	ST RK 1302	Automatic powder fire extinguishing installations. Modules. General technical requirements. Methods of testing.
19		ST RK 2430	Firefighting equipment. Automatic water and foam fire extinguishing installations. Fire

	Paragraph 9 of Chapter 4		extinguishing modules with finely divided water. General specifications.	
20	Paragraph 8 of Chapter 4	IST 25 1099	Security, fire and security alarm equipment. General technical requirements and methods of testing	
21	Paragraph 9 of Chapter 4	ST RK 1187	Fire detectors. Classification. General technical requirements. Methods of testing.	
22	Paragraph 9 of Chapter 4	ST RK 1188	Thermal fire detectors. Technical requirements for fire safety. Methods of testing	
23	Paragraph 9 of Chapter 4	ST RK 1233	Optoelectronic linear fire smoke detectors. General technical requirements. Methods of testing	
24	Paragraph 9 of Chapter 4	ST RK 1234	Optoelectronic point smoke detectors. General technical requirements. Methods of testing	
25	Paragraph 9 of Chapter 4	ST RK 1235	Smoke radioisotope smoke detectors. General technical requirements. Methods of testing	
26	Paragraph 9 of Chapter 4	ST RK 1298	Autonomous fire detectors. General technical requirements. Methods of testing	
27	Paragraph 9 of Chapter 4	ST RK 1299	Gas fire detectors. General technical requirements. Methods of testing	
28	Paragraph 9 of Chapter 4	ST RK 1300	Fire flame detectors. General technical requirements. Methods of testing	
			Manual fire detectors. General technical	

29	Paragraph 9 of Chapter 4	ST RK 1301	requirements. Methods of testing	
30	Paragraph 10 of Chapter 4	ST RK 1236	Address fire alarm systems. General technical requirements. Methods of testing	
31	Paragraph 11 of Chapter 4	ST RK GOST R 51089	Fire alarm control panels. General technical requirements. Methods of testing.	
32	Paragraph 12 of Chapter 4	GOST 26342	Security, fire and security alarm equipment. Types, main parameters and sizes	
33	Paragraph 12 of Chapter 4	GOST 27990	Security, fire and security alarm equipment. General technical requirements	
34	Paragraph 13 of Chapter 4	ST RK 1189	Technical means of warning and fire evacuation control. Classification. General technical requirements. Methods of testing	

Annex 7
to the Technical Regulation
“Requirements for equipping
buildings, premises and structures
with automatic fire extinguishing
systems and automatic fire alarms,
warning and people evacuation |
management in case of fire”

The list of standards containing the rules and methods of research (testing) and measurements, including the rules for sampling, necessary for the application and enforcement of technical regulations and the assessment (confirmation) of product conformity

No.	Elements of technical regulation	Designation of standard	Name of standard	Note
1	2	3	4	5
1		ST RK 1979	Firefighting equipment. Automatic water and foam fire extinguishing	

	p.66, p. 67, p. 110, p. 111, p. 129		installations. Control units. General specifications	
2	Paragraph 4 of Chapter 4	ST RK 1899	Firefighting equipment. Automatic fire extinguishing installations. General technical requirements. Methods of testing	
3	Paragraph 5 of Chapter 5	ST RK 1903	Firefighting equipment. Automatic foam fire extinguishing installations. General technical requirements. Methods of testing	
4	Paragraphs 4, 5 of Chapter 4	ST RK 1977	Firefighting equipment. Automatic water and foam fire extinguishing installations. Announcers protection, sound hydraulic. General specifications	
5	Paragraphs 4, 5 of Chapter 4	ST RK 1978	Firefighting equipment. Automatic water and foam fire extinguishing installations. Irrigators. General specifications	
6	Paragraphs 4, 5 of Chapter 4	ST RK 1979	Firefighting equipment. Automatic water and foam fire extinguishing installations. Control units. General specifications	
7	Paragraph 5 of Chapter 4	ST RK 1982	Firefighting equipment. Automatic foam fire extinguishing installations. Dispensers. General specifications	

8	Paragraph 6 of Chapter 4	ST RK 2515	Firefighting equipment. Automatic gas fire extinguishing installations. General specifications.
9	Paragraph 6 of Chapter 4	ST RK 1900	Firefighting equipment. Automatic gas fire extinguishing installations. Distribution devices. General technical requirements. Methods of testing
10	Paragraph 6 of Chapter 4	ST RK 1901	Firefighting equipment. Automatic gas fire extinguishing installations. Isothermal tanks. General technical requirements. Methods of testing
11	Paragraph 6 of Chapter 4	ST RK 1902	Firefighting equipment. Automatic gas fire extinguishing installations. Modules and batteries. General technical requirements. Methods of testing
12	Paragraph 6 of Chapter 4	ST RK 2512	Firefighting equipment. Automatic gas fire extinguishing installations. Extinguishing agents. Acceptance rules and methods of testing.
13	Paragraph 7 of Chapter 4	ST RK 1302	Automatic powder fire extinguishing installations. Modules. General technical requirements. Methods of testing.
			Firefighting equipment. Automatic water and

14	Paragraph 9 of Chapter 4	ST RK 2430	foam fire extinguishing installations. Fire extinguishing modules with finely divided water. General specifications.	
15	Paragraph 8 of Chapter 4	IST 25 1099	Security, fire and security alarm equipment. General technical requirements and methods of testing	
16	Paragraph 11 (9)	ST RK 1187	Fire detectors. Classification. General technical requirements. Methods of testing.	
17	Paragraph 9 of Chapter 4	ST RK 1188	Thermal fire detectors. Technical requirements for fire safety. Methods of testing	
18	Paragraph 9 of Chapter 4	ST RK 1233	Optoelectronic linear fire smoke detectors. General technical requirements. Methods of testing	
19	Paragraph 9 of Chapter 4	ST RK 1234	Optoelectronic point smoke detectors. General technical requirements. Methods of testing	
20	Paragraph 9 of Chapter 4	ST RK 1235	Smoke radioisotope smoke detectors. General technical requirements. Methods of testing	
21	Paragraph 9 of Chapter 4	ST RK 1298	Autonomous fire detectors. General technical requirements. Methods of testing	
22	Paragraph 9 of Chapter 4	ST RK 1299	Gas fire detectors. General technical requirements. Methods of testing	
23		ST RK 1300	Fire flame detectors. General technical	

	Paragraph 9 of Chapter 4		requirements. Methods of testing	
24	Paragraph 9 of Chapter 4	ST RK 1301	Manual fire detectors. General technical requirements. Methods of testing	
25	Paragraph 10 of Chapter 4	ST RK 1236	Address fire alarm systems. General technical requirements. Methods of testing	
26	Paragraph 11 of Chapter 4	ST RK GOST R 51089	Fire alarm control panels. General technical requirements. Methods of testing.	
27	Paragraph 12 of Chapter 4	GOST 26342	Security, fire and security alarm equipment. Types, main parameters and sizes	
28	Paragraph 12 of Chapter 4	GOST 27990	Security, fire and security alarm equipment. General technical requirements	
29	Paragraph 13 of Chapter 4	ST RK 1189	Technical means of warning and fire evacuation control. Classification. General technical requirements. Methods of testing	