



**ҚАЗАҚТЕЛЕКОМ**

STANDARD OF KAZAKHTELECOM JSC

**RULES FOR CONDUCTING WORK IN HAZARDOUS CONDITIONS BY  
MEANS OF WORK PERMITS**

ST JSC 80429 – 1/022 – 2021

Nur-Sultan

## Preface

- 1 **ACTUALLY APPROVED** by the Occupational Safety and Health Service of Kazakhtelecom's Headquarters
- 2 **INTRODUCED** by the Occupational Safety and Health Service of Kazakhtelecom JSC's Headquarters
- 3 **APPROVED** by the Order of Kazakhtelecom JSC dated July 21, 2021 No. 193
- 4 **INTRODUCED INSTEAD** "Rules for conducting work in hazardous conditions by means of work permits of Kazakhtelecom JSC", approved by Order of Kazakhtelecom JSC dated 14.11.2018 No. 262.

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## 1 Area of application

1. This Standard of Kazakhtelecom JSC "Rules for conducting work in hazardous conditions by means of work permits (hereinafter - the Rules) is developed in accordance with the Order of the Minister of Labor and Social Protection of the Republic of Kazakhstan No. 344 of August 28, 2020 "On approval of the Rules for execution and application of work permits in hazardous conditions" and the Safety Rules for Operation of Electrical Installations by Consumers No. 222 of March 19, 2015.

## 2 Regulatory references

2. The following referenced regulations are required for the application of this Rule:

- 1) Labor Code of the Republic of Kazakhstan No. 414-V of 23 November 2015.
- 2) Rules for execution and application of work permits for operations in hazardous conditions approved by Order No. 344 of the Minister of Labor and Social Protection of the Republic of Kazakhstan, dated 28 August 2020.
- 3) Safety Rules for Operation of Consumers' Electrical Installations approved by Order No. 222 of the Minister of Energy of the Republic of Kazakhstan dated March 19, 2015.
- 4) Rules for Technical Operation of Consumers' Electrical Installations, approved by Order No. 246 of the Minister of Energy of the Republic of Kazakhstan, dated 30 March 2015.

Note: When using this Rule, it is advisable to check the validity of the reference standards as at the date (time) of application. If a reference document is replaced (changed), the use of this Rule shall be guided by the replaced (changed) document. If a reference document is repealed without replacement, the regulation in which it is referred to shall apply insofar as it does not affect that reference.

## 3 Terms and definitions

3. The following terms with corresponding definitions adopted by Kazakhtelecom JSC shall apply in these Rules:

**Work permit** a written order by the organisation for the safe execution of work applied to hazardous work, specifying all necessary safety measures and the persons responsible for safe execution of the work;

**Production equipment** machines, mechanisms, devices, apparatus, instruments and other technical means necessary for work,

	production;
<b>Electrical installation</b>	a set of machines, devices, lines and auxiliary equipment for the production, conversion, transformation, transmission, distribution of electrical energy and its conversion into another form of energy;
<b>Electrical installation in operation</b>	an electrical installation or part of an installation that is energised or to which voltage can be applied by switching devices;
<b>Company</b>	Kazakhtelecom JSC;
<b>Order</b>	a verbal assignment to perform the work safely, defining its content, place, time, safety measures (if required) and the persons tasked to conduct it;
<b>Service Factory</b>	branch of Kazakhtelecom JSC responsible for the operation of buildings and constructions. It is the entity that manages the real estate owned by the Company;
<b>Technical measures</b>	making necessary disconnections and taking measures to prevent voltage from entering the workplace, displaying prohibition, warning and caution posters, applying earthing, fencing the workplace;

#### **4 Designations and abbreviations**

4. The following abbreviations and designations shall be used in these Rules:

AMS	antenna mast structures
AWP	antenna-wave path
OSH	Occupational safety and health
OCL	overhead communication line
CCL	cable communication lines
RRS	radio relay station

ES	Emergency situation
MBS	maintenance-free booster station
DGS	diesel generator set

## 5 General regulations

5. These Rules apply to all types of hazardous work conducted in the Company.

6. High-risk jobs include all types of repair, installation, dismantling, construction, reconstruction and other jobs where the appearance and exposure of employees to hazardous and harmful production factors is most likely, as well as work associated with increased risk (work at height, near power lines, in wells, with vessels working under pressure) which require preparation of the workplace, and the associated possible injury (or poisoning) of personnel.

7. The list of hazardous jobs is given in Annexes 1, 2 to these Rules. This list may be amended and supplemented.

8. The work permit shall be issued and registered in the subdivisions of the Company's branch, where the increased hazard works are supposed to be conducted.

9. The work permit form shall be issued on a special form in accordance with Annex 3 to these Rules.

10. Attached to the work permit as required plans transferred territory and equipment location, sketches of protective devices and appliances, arrangements for cordon posts, installation of safety signs and placards.

11. It is allowed to execute and register the work permit and keep the register of issuance of work permits for performance of hazardous operations in electronic form. In case of execution of the work permit in electronic form it is required to provide protection against unauthorized change of information in the work permit, as well as storage conditions of the work permit for one year from the date of its closure.

12. The work permit shall be drawn up in two copies and completed in a clear and legible manner. Corrections and erasures in the work permit is not allowed; all the boxes of the work permit shall be completed in accordance with the content of the text underneath. Any columns that do not require filling in shall be marked with a dash.

13. The work permit is issued for the period necessary to perform the specified amount of work, but no more than 7 working days. The validity of the work permit is maintained during this period, unless the security conditions provided for by the work permit change.

14. An work permit shall be issued for a shift or for the whole period of works at continuous nature of their execution with prolongation for each shift. Prolongation of the work permit shall be issued and conducted by the permittee before the beginning of each shift.

15. When several contractors work at the same site at the same time, before issuing a work permit, the contracting authority together with contractors shall develop additional measures to provide occupational safety and specify them in the work permit-permit which shall be issued to the work head of each organization.

16. Works performed in the vicinity of operating railway lines, motor roads, power lines, gas and heat pipelines and other existing open (hidden) communications and technological lines, as well as all excavation works shall be previously agreed by the person issuing the work permit with the organisations servicing these facilities. The relevant documents (schemes, communications), if necessary, shall be attached to the work permit.

17. For works related to increased hazard performed by contractors according to certificates of permits issued for the regulation of the territory for the performance of work on the territory of the customer, work permits are issued by representatives of contracting organizations.

18. Prior to work commencement, the work permit shall be signed by the person issuing the work permit (persons who have performed the occupational safety measures specified in the work permit, persons who have approved the work permit), the permittee and the work head.

19. Closing of the work permit shall be documented with signatures of the permittee and the work head. The permittee shall make a note of the time of work completion to close the work permit after receiving it from the work head and shall provide its storage.

In the absence of an admission to work, the work permit shall be closed and signed by the works head and the person who issued the permit.

20. Work on the localization and elimination of accidents shall be performed without an work permit until the direct threat of causing harm (damage) to individuals, legal entities, and the environment is eliminated, and shall be conducted in accordance with the accident elimination plan.

After elimination of the threat, the emergency elimination works and their consequences shall be conducted in accordance with the work permit.

21. Registration of issued work permits shall be kept in the register of work permits for hazardous operations in the form according to Annex 4 to these Rules. The log shall be numbered, laced and sealed.

22. Closed work permits shall be stored for one year from the date of their closure by the issuer of the work permit.

23. Work permits for works, in the performance of which accidents or accidents occurred, shall be kept in the central office of the Company with the materials on the investigation of accidents or accidents.

## **6. Use of a work permit in a hazardous environment.**

24. For works related to increased hazard, in which several sections of the structural subdivision of the Company's branch take part, work permits are issued by the head of the structural subdivision (center, workshop, site) of the Company's branch or by a person authorized by him.

25. For works of a local nature associated with increased hazard, the issuance of work permits is conducted by the head of the section of the structural unit where these works are to be conducted.

26. Production areas, process lines or freestanding equipment, buildings and structures, as well as other facilities, allocated for the performance of work associated with increased hazard by a contractor, may be transferred under the permit-to-work form in accordance with Annex 5 to these Rules.

27. If the site allocated for hazardous work is crossed by active electrical, gas, heat, oil, acid or other communications pipelines, as well as technological machines and mechanisms, the site is not handed over to the contractor under the permit to work.

28. The person issuing the work permit shall determine the necessity to conduct works associated with increased hazard and measures to provide the safe performance of works, appoint the head of the works, the permittee and the person conducting the works.

29. The person issuing the work permit determines the need for work related to increased hazard and measures to provide safe performance of work, appoints the head of work, admitting to work, the manufacturer of work.

30. A person from the management or engineering and technical personnel of the site, structural subdivision, which performs the work, shall be assigned to work under an admission-to-work permit.

31. The work head and permit officer may be combined in the same person.

32. The work permit issuer, work permit holder, work head shall be trained and tested at occupational safety and health qualification courses, and shall be responsible for providing occupational safety and health.

33. Work permits connected with hazardous technical devices (devices operating under pressure exceeding 0.07 mega Pascal, or water heating temperature exceeding 115 degrees Celsius, lifting mechanisms and other hazardous technical devices) shall be issued by the persons trained and tested at the industrial safety qualification development courses.

34. Admission to hot work (metal cutting, electric and gas welding, work with a torch, etc.) shall be formalized by Permit to perform hot work according to Annex 5 of ST 80429 - 1/038 - 2020 "Fire Safety Rules of Kazakhtelecom JSC.

35. The work permit shall provide the implementation of measures to provide safety at work, specified in the work permit, including:

control over availability and serviceability of personal protective equipment, tools, appliances and measuring devices (gas analysers);

monitoring of air in inspection chambers for presence of hazardous gases;

conducting ventilation works, conducting other preparatory works;



separation of the work area from the operating equipment and utilities by fencing, dead ends, safety signs, signalling means, posters and other means that provide personnel safety.

36. Allowing to work before permission to work on the work permit checks the implementation of measures to provide safety at work, specified in the work permit, instructs the manufacturer of the work on the specifics of work in the organization directly on the site of the work.

37. When admitting the team to work, the permissions officer shall give a copy of the work permit to the person conducting the work.

38. The permittee shall stop performing work, withdraw the work permit, execute it once again and perform the admission to work anew, if before the end of work in this work permit:

an emergency has occurred;

the actual condition of the working conditions does not meet the safety requirements established in the work permit;

the work is conducted in the vicinity of facilities where there is a threat of an emergency situation, including a risk to the life and health of personnel;

there is a need to connect at least part of the operating equipment or electrical installation in the work area (to a unit, system).

39. If the work permit is lost, the work shall be stopped. A new work permit shall be issued and a new permit shall be issued and work shall be allowed to be conducted again.

40. At the temporary cessation of work in accordance with the work permit, the works head shall remove the team members from the place of work and return the work permit to the permittee.

Resumption of work shall be authorized by the permittee after checking all initial arrangements, providing safety of employees in accordance with the work permit and returning the work permit to the permit-holder.

## **7 Procedure for drawing up and issuing a work permit in electrical installations**

41. Work in electrical installations shall be conducted:

by work permit;

in the order of routine operation;

by order.

42. The first head of the Company's branch shall approve:

- 1) list of works with increased hazard, issued with a work permit for the section of power supply devices and climatic engineering (is given in Annex 6 to this Rule);
- 2) list of works in electrical installations, which shall be issued with a work permit (as specified in Annex 7 to this Rule);
- 3) list of works to be conducted in electrical installations by order (approximate lists of works to be conducted in electrical installations by order are given in Annex 8 to these Rules);

4) a list of works performed as part of routine operation in electrical installations (an approximate list of works performed as part of routine operation in electrical installations is given in Annex 9 to these Rules).

43. Works in operating electrical installations shall be conducted in accordance with a work permit in an electrical installation in the form specified in 10 to these Rules.

44. Issuing the order, the order shall take measures to prepare the workplace and is responsible for the sufficiency, accuracy of safety measures specified in the order, for the qualitative and quantitative composition of the team and the appointment of responsible persons, as well as for compliance with the performed work of electrical safety groups of employees listed in the order.

Issue of an order, order in electrical installations with voltage above 1000 V shall be granted to employees from the administrative and technical personnel with electrical safety group V and in electrical installations up to 1000 V - with electrical safety group IV.

45. A work order shall be issued in two copies, one for the person in charge of the work and the other for the permittee or the person who issued the work order.

46. It is allowed to transmit work orders by phone. In this case the order shall be issued in triplicate: for the issuing order, the responsible head (operations head) and the permittee.

In this case, the issuing work order shall write one copy, and the person receiving the text by telephone shall fill in two copies of the work order and, after verification, shall indicate his name, initials, position in the place of the issuing work order signature, confirming the correctness of the entry by his signature.

In case of overlapping the duties of the work head and the permittee, the work order shall be issued in duplicate.

47. The following categories of work shall be conducted in an operating electrical installation in accordance with the permit:

1) with the removal of voltage (with induced and without induced voltage) in electrical installations above 1000 V;

2) on busbars and distribution boards up to 1000 V as well as on their connections which supply voltage to the busbar system

3) without removing of voltage using electric protection means, except for works with electric clamps and bars as well as works performed by on-duty and operating and maintenance personnel as part of routine maintenance. The list of work performed by on-duty and on-call maintenance personnel as part of routine operation, without removing the voltage, using electrical protection equipment shall be developed based on local conditions and approved by the technical head of the plant;

4) without removing the voltage at the potential of the live part.

48. An application for work in electrical installations shall specify the category of work. A specific list of workplace preparation measures is not included in the application.

49. Work orders, under which the work is fully completed, shall be kept by the issuer of the work order for one year from the date of their closure.

If accidents or incidents occur during the performance of work under work orders, such work orders shall be kept in the archives of the Company's headquarters together with the investigation materials.

50. The logbook on work orders and work orders is given in Annex 11.

51. The logbook shall record in the appropriate columns the initial admission to work on orders and its complete completion, admission to work on orders and its completion, except for work conducted under the supervision of operational personnel, a record of which shall be made in the operational logbook.

In addition, initial and daily admissions to work under the order shall be recorded in the operational log, with only the order number and the workplace being indicated.

52. The register shall be numbered, sewn and stamped. Its retention period after the last entry shall be 12 months.

## **8 Work permit on overhead lines and cable lines**

53. Maintenance and overhaul works, dismantling of linear structures and installation of poles, as well as daily repair of damages on overhead power line poles and linear and cable structures, including observation devices and house distribution networks, shall be performed only with an work permit.

54. All work on emergency poles is strictly prohibited.

## **9 Procedures for work permits using cranes and hoists near overhead power lines.**

55. The production of works using automobile cranes and hoists at a distance of less than 30 m from the wire of an overhead power transmission line under a voltage of 42 V or more shall be conducted in accordance with the work permit in accordance with the form of Annex 12 of these Rules.

56. Work permit shall be issued in two copies: the first shall be given to the driver of the truck crane or truck hoist (hereinafter - the driver), the second shall be kept by the person performing the works.

57. Work permit shall be given to the machine operator in his/her hands before starting the work.

58. It is prohibited for the driver to unauthorisedly install a truck crane or a truck hoist in the vicinity of power lines, and a record of this shall be made on the waybill.

59. The operation of a truck crane or a truck hoist near an electric power line shall be conducted under the direct supervision of the person responsible for safe operation of cranes to move loads, who shall indicate to the driver the location of the crane, provide that the measures for safe working conditions specified in the work permit and make an entry in the logbook, given in Annex 13 of these Rules.

60. During the works in the protected zone of power lines or within the gaps, established by the rules of protection of high-voltage electric networks, work permit may be issued only with the permission of the organization, operating the power line.

61. The operation of cranes under unconnected overhead wires of public transport shall be allowed provided the distance between the crane arm and the overhead wires is at least 1 m with a stopper installed to prevent the reduction of the said distance when the crane arm is lifted.

62. It is allowed to eliminate accidents on the main FOCL lines which require prompt action, without issuing a work permit, in compliance with all the measures providing safe work execution.

### **10 Procedure for work under work permits on antenna-mast structures and antenna-wave paths**

63. All works including those conducted by the Company's branch related to lifting at AMS and AWP shall be conducted on the basis of work permits.

64. Work performed with climbing on AMSs and AWPs shall be conducted after targeted safety and health briefing, as well as using personal protective equipment against falling from height during climbing work.

### **11 Emergencies**

65. An emergency is a disruption of normal conditions of human activity in a certain area caused by an accident, disaster, natural or environmental disaster, or mass contagious disease, which may result in loss of life and property. Each ES has its own causes, characteristics and nature of development.

66. The classification of emergencies is provided in Annex 14 to this Rule.

67. In emergency situations, work with increased hazard can be started without issuing an work permit, but with the obligatory observance of a set of measures to provide the safety of employees and under the direct supervision of the responsible official. Further work to eliminate the direct threat shall be conducted after the issuance of a work permit.

### **12 Procedure for issuing and drawing up a permit to work**

68. Production areas, buildings and structures as well as other facilities allocated for work performance on them by the contractor, third-party operator shall be handed over according to the Permit to Work Act for work performance on the territory of the Company's branches.

The certificate of permit for execution of works on the territory of the Company's branches shall be issued by the representatives of the Service Factory.

69. If the site allocated for works of increased hazard is crossed by active current, gas, heat, oil or other active communications pipelines, as well as operating technological machines and mechanisms, the site cannot be handed over under the Certificate of Permit to Work.

70. The form of the Permit to Work Act shall be drawn up in duplicate, making sure that the notes in both copies are clear and legible. Corrections and erasures of the written text shall not be allowed.

71. The Operations Certificate for works at the objects shall be issued to one work head with one team. One Approval shall be issued to the person conducting the works, the other one shall remain with the person who issued the Approval.

72. Regional representative of the Service Factory of the Company's branch:

- 1) conducts an initial briefing for the workplace instructor and enters it in the workplace instructor's logbook;
- 2) issues (fills in and signs) a permit form.

73. The closed access certificates shall be kept for one year in the structural unit of the Company's branch that issued them.

74. The certificates-permits for works, in the performance of which accidents or accidents occurred, shall be stored in the archive of the branch with the materials on investigation of accidents or accidents for forty five years.

75. When conducting work at the site, accepted by the certificate of admission, the responsibility for the correctness and completeness of the implementation of measures to provide safety at work, specified in the certificate of admission, shall be borne by employees of the contractor who have implemented these measures.

## **Annex 1**

*(compulsory)*

### **List of hazardous work performed in accordance with a work permit**

(common to all subdivisions of the Company)

Hazardous work shall include:

- 1) all types of loading and unloading work: unloading of cable drums, poles, marked reinforced concrete products and other materials with an actual weight exceeding 50 kg;
- 2) in protected zones of overhead power transmission lines, pipelines, gas pipelines and other above-ground and underground utilities
- 3) on underwater cable laying from floating facilities and from ice
- 4) at intersections of communication lines with overhead power lines and overhead contact wires of ground transport
- 5) performed at railway and tramway crossings and during works at a distance of up to 1.5 m from them
- 6) dismantling, repairing, installing, pulling cables performed in underground communication facilities, wells, collectors, closed tanks and cable trenches;
- 7) performed with the use of construction machines and mechanisms;
- 8) construction of overhead and cable crossings over roads with heavy traffic;
- 9) with the use of glues, compounds, resins, paints and other substances which are poisons (at high concentrations);
- 10) on steep and unroofed roofs without manhole, ramp and rope approaches, on roofs covered with a thin layer of snow or ice;
- 11) installation, adjustment, maintenance, operation, repair and dismantling of lifting machines and mechanisms, electrical installations and power lines;
- 12) in confined spaces (tanks, boxes, pipelines, wells);
- 13) degassing works;
- 14) cleaning of ventilation ducts and air ducts;
- 15) associated with lifting to heights higher than 5 meters (climbing work);
- 16) lifting, concreting of hatches on inspection devices;
- 17) pumping of water from cable wells;
- 18) laying communication cables in trenches more than 1 meter deep in dry, non-bulk soil;
- 19) excavation work deeper than 1 metre in the absence of external utilities and dry, non-bulk soil;
- 20) preventive and emergency repair works on trunk and distribution networks and overhead power lines;
- 21) repair of lighting wiring;
- 22) works in electrical installations and power supply devices;
- 23) installation, repair and preventive maintenance of security alarm systems;
- 24) repair of fuel equipment of internal combustion engines;

- 25) rescue work, fire fighting, flood control;
- 26) gas and electric welding works;
- 27) with use of hoisting machines and mechanisms (truck crane, hoist, drilling and crane unit and others)
- 28) at the height of over 1.8 m from lean-to ladders, step-ladders, scaffolding and other scaffolding;
- 29) in underground communication facilities - wells, sewers, closed tanks and cable trenches;
- 30) pruning of trees growing along communication lines, if 0.4 kV power lines and 6-10 kV high-voltage lines pass nearby;
- 31) all types of hot work, including work performed with a gas burner and blowtorch;
- 32) works performed in telephone sewer inspection chambers with a steam boiler (steam generator) operating on liquid or solid fuel
- 33) with the use of power tools (angle grinder, rotary hammer, electric drill, etc.)
- 34) on OCL and CCL poles at a height of more than 1.8 metres.

**Annex 2***(compulsory)***List of works on antenna-mast structures and antenna-wave tracts to be conducted with a work permit**

1. The ground support shall be walked around and inspected weekly for a serviced station and weekly for an unattended station when the station is visited for inspection of process equipment, but at least once a month.
2. Revision (detailed inspection) of the supports structures - twice a year (spring, autumn).
3. Unscheduled inspection of antenna pylons after strong wind (over 20 m/s), earthquake and rapid snowmelt, during which large flows of water were observed, posing a particular hazard to pylons' foundations installed on subsiding and permafrost soils.
4. Check the installation ties in the mast braces and tension them to the value specified in the design at the end of the first and third years of operation, followed by a check every five years. If the permissible verticality of the masts is violated, it is to be checked irrespective of the period of operation.
5. Instrumental (geodetic) check of the design position of the support shaft - once a year, as well as during unscheduled inspection of the support.
6. Corrosion protection lubrication of support ropes operated in areas with aggressive air environment (near sea coasts with moist salty air or in the area of gases of power plants, metallurgical or chemical plants), depending on local meteorological conditions and the applied lubricant.
7. Painting and, where necessary, priming of steel structures of supports, mounting and lifting gear, once every five years.
8. Replacement of blown bulbs in lighting fixtures - as required.
9. Checking the serviceability of the antenna pole signal lamps by switching on and off the different phases of the 380/220 V mains (for unattended radar stations) - at each visit.
10. Inspection of ground part of central and anchor foundations and their collapses - twice a year and after heavy rains and rapid snowmelt.
11. Checking the settlement of foundations - in the first and third years of operation; thereafter, the frequency of checking settlement depends on the nature of changes in its value (with an increase - twice a year until stabilisation).
12. Checking insulation resistance of lighting and antenna heating cables - once a year.
13. Checking the earth resistance of the antenna poles - once a year.
14. External inspection of lifting equipment (winches, ropes, blocks, cradles, etc.) - once per quarter and before each lift.

Note: The list may be supplemented by the Company's branch if necessary.



**Annex 3***(compulsory)***Form for a work permit to conduct work at increased risk****Organisation, site, workshop** \_\_\_\_\_**Work permit no.** \_\_\_\_\_ **for hazardous work**

1. Employee \_\_\_\_\_  
(Full name (if any), organisation, site, workshop, position)
2. Permitted to be conducted \_\_\_\_\_  
(Place of work, name of equipment, summary of volume of work)
3. Authorising person(s) to work \_\_\_\_\_  
(Full name (if any), position)
4. Responsible head \_\_\_\_\_  
(Full name (if any), position)
5. Measures to provide for the safety of the work:
  - 5.1. Stop \_\_\_\_\_  
(stopping place, position)
  - 5.2. Deactivate \_\_\_\_\_  
(switch, gate valve, mains, etc.)
  - 5.3. Set up \_\_\_\_\_  
(deadheads, plugs, signal lights, etc.)
  - 5.4. Take a sample to analyse the air environment \_\_\_\_\_  
(indicate the location and the result of the analysis, the gas group)
  - 5.5. Fence \_\_\_\_\_  
(the work area, put up posters)
  - 5.6. Provide for safety measures when working at heights and in wells  
\_\_\_\_\_  
(scaffolding, safety belts, ropes, etc.)
  - 5.7. Alert \_\_\_\_\_  
(of adjacent crane operators and crane operators of adjacent bays with their signatures in the logbook)
  - 5.8. Provide for safety measures at the railway tracks \_\_\_\_\_  
(install signs, posters, fencing, dead-ends, etc.)
  - 5.9. Specify routes to the workplace \_\_\_\_\_  
(if necessary, attach a diagram)
  - 5.10. Additional activities \_\_\_\_\_

6. Work permit has been issued

\_\_\_\_\_ (Full name (if any), position, signature, date)

7. Activities implemented

\_\_\_\_\_ (Event number; full name (if any), position, signature)

8. Agreed:

\_\_\_\_\_ (shift (section) head, name and surname (if any), signature)

8.1.

\_\_\_\_\_ (position, name and surname (if any), signature)

9. Measures taken, work safety provided, employee familiarised and instructed on working conditions, clearance granted - clearance to work

\_\_\_\_\_ (position, full name (if any), signature, date)

10. Familiarised and instructed in the conditions of work, checked the training, accepted the workplace - work head \_\_\_\_\_

\_\_\_\_\_ (position, full name (if any), signature, date, time)

11. Team composition and briefing note

No	Date and time of work	Full name (if any) of the team members	Profession	Familiarised with the conditions of work, briefed (signature)	The instruction was given by (authorising person's full name (if any), signature)

Team(s) in number \_\_\_\_\_ the man has been instructed, the work has begun

\_\_\_\_\_ (date, time)

Employee \_\_\_\_\_

\_\_\_\_\_ (Full name (if any), signature)

12. Renewal of a work permit

Date, time	Conditions have not changed, shift handed in - workman		Numbers of the incoming team	Familiarised with the conditions of work, shift head - shift head		Permission granted - permissive for shift work	
	Full name (if any)	signature		Full name (if any)	signature	Full name (if any)	signature

13. The work is finished (\_\_\_\_\_) the workplace is cleaned up and personnel are withdrawn from the work site.

Work permit has been handed  
in \_\_\_\_\_  
(position, full name (if any), signature of the person conducting the work)

Workplace, work permit accepted \_\_\_\_\_  
(position, full name (if any), signature of the  
permittee)

**Annex 4***(compulsory)***Form for the logbook for the issuance of work permits**

## Logbook for issuing work permits

---

 (organisation, name of the facility)

Launched \_\_\_\_\_ 20\_\_

Finished \_\_\_\_\_ 20\_\_

№	Date and time (beginning and end) of the initial work permit	Date and time (beginning and end) of re-authorisation	work permit no.	Signature of the person who issued the order	Nature of the work to be conducted
1					

Note: Records of work permits shall be made in chronological order as work permits are received, regardless of the date and time of issue of the work permit.

**Annex 5***(compulsory)***Permit to work on the premises of an existing organisation (company)**« \_\_\_\_\_ » \_\_\_\_\_ **20** \_\_\_\_\_\_\_\_\_\_  
(company name)

We, the undersigned, the foreman of the workshop (section) \_\_\_\_\_

\_\_\_\_\_  
(Full name, position)

have drawn up this act as follows.

The organisation allocates an area bounded by coordinates: \_\_\_\_\_

\_\_\_\_\_  
(names of axes, marks and drawing no.)

to produce on it \_\_\_\_\_

(work name)

under the direction of the technical personnel representative of the contractor for the next term:

start « \_\_\_\_\_ » \_\_\_\_\_ end « \_\_\_\_\_ » \_\_\_\_\_

Before work commences, the following measures shall be taken to provide that the work is conducted safely:

№	Name of event	Due date	Implementer	
			Full name, position	Signature

Responsibility for compliance with safety and health rules rests with the contractor's heads and representative personnel.

Head (workshop) of the site \_\_\_\_\_

(signature)

Responsible representative of the contractor \_\_\_\_\_

(signature)

Note: If work has to be conducted after the expiry of this permit, a new permit shall be drawn up.

**Annex 6**  
(*compulsory*)

**List of hazardous work to be conducted with a work permit in the power and air conditioning section**

1. Work at heights above 1.8 m on building façades, porches and in entrances from ladders and steps, except for repairing lighting fixtures and replacing bulbs.
2. Work in overhead power lines, pipelines, gas pipelines and other above-ground and underground utilities in protected areas.
3. Work on equipment with voltage exceeding 42 V and 110 V in rooms with high risk.
4. Installation, dismantling of station equipment, connected with connection or disconnection of power supply from the buses.
5. Cleaning and cleaning of electrical equipment inside behind a permanent fence without removing the voltage.
6. Working at the automatic switch-on stations (ASI cabinets): preventive maintenance, repairs, cleaning.
7. Repair and installation of electrical equipment without removing voltage from rectifiers, busbars and cables.
8. Work on mounting and dismounting of diesel generator sets (DGS) in the vicinity of energised live parts.
9. Work on steep and unroofed roofs without manhole, gangway or rope access, on roofs covered with a thin layer of ice or snow.
10. Work in electrical installations with one-way power supply.
11. Disconnecting, connecting cables, electric motor wires and other equipment.
12. Routine maintenance of individual motors.
13. Taking care of the brush device of electric machines on the non-operating electric motor.
14. Replacement of fuses in shields, assemblies.
15. Repair of lighting fittings, replacement of lamps, cleaning of lamps up to 2.5 m high from permanent fixtures (except for particularly hazardous premises).
16. The same with ladders, stepladders and in particularly hazardous rooms.
17. Repair of lighting wiring and wiring fixtures at a height of up to 2.5 m using permanent fixtures (except in particularly hazardous areas).
18. Servicing of batteries.
19. Renewal of the inscriptions on the covers and fences of electric installations up to 1000 V.
20. All types of work, including dust prevention, on 0.4 kV switchgear.
21. Preventive maintenance, including dust prevention, as well as repair work in switchboards, power supply units of ATS and other production units.
22. Repair of rectifier devices, inverters associated with the replacement of individual parts and assemblies.

23. Measurement of insulation resistance of power cables, wires, windings.
24. All types of work conducted on the capacitor installation.
25. All types of work in electrical installations with a voltage of up to 1000 V without removing the voltage away from live parts under voltage, lasting more than one shift.
26. All types of work in electrical installations with voltages of up to 1000 V without removing the voltage on and near live parts under voltage.
27. All types of work in electrical installations with voltages of up to 1000 V with the removal of voltage for more than one shift.
28. All kinds of emergency recovery work.
29. Checking the absence of voltage in lighting circuits and switchgear up to 1000 V.
30. Troubleshooting of faults in the machine's electric drive.
31. Removing and installing electric meters and other devices and measuring instruments.

Note: The list may be supplemented by the branch if necessary.

**Annex 7**  
(*compulsory*)

**An approximate list of works in electrical installations performed according to the work permit according to the Rules of technical operation of electrical installations**

Name of work	Duration of work	Terms and conditions of work							
		by operational personnel			by seconded personnel				
		Quantitative composition	Electrical safety group	Procedure for registration	Quantitative composition	Electrical safety group	Procedure for registration	Availability of supervision by operational personnel	
1	2	3	4	5	6	7	8	9	
1. For all categories with regard to security measures									
1.1 All types of work on 0.4 kV switchgear	Over 1 hour	2	IV+III	Alongside	2	IV+III	On a work permit	Available	
1.2 Overhaul of ID, inverters, contact assemblies involving the replacement of individual parts and assemblies	--	2	IV+III	--	2	IV+III	--	--	
1.3 Repairs to main MSB, SB ATS, LB	--	2	IV+III	--	2	IV+III	--	--	



1.4 Testing of power cables, wires, motor and generator windings, transformers with test voltage of 1000 V of power frequency or measuring of insulation resistance with 2500 V megohmmeter	Same	2	IV+III	--	2	IV+III	--	--
1.5 Work on circuits of electrical measuring instruments and meters connected via measuring transformers without current shunt and voltage circuit disconnection devices	--	2	IV+III	--	2	IV+III	--	--
1.6 Adjustment, repair and measurement of CU	--	2	IV+III	--	2	IV+III	--	--
1.7 Testing of automatic machines	--	2	IV+III	--	2	IV+III	--	--

**Annex 8**  
(*compulsory*)

**Indicative list of work to be conducted in electrical installations under an order in accordance with the Rules for the Technical Operation of Electrical Installations**

Name of work	Duration of work	Terms and conditions of work						
		by operational personnel			by seconded personnel			
		Quantitative composition	Qualification group for occupational safety	Procedure for registration	Quantitative composition	Qualification group for occupational safety	Procedure for registration	Availability of supervision by operational personnel
1	2	3	4	5	6	7	8	9
1. Without removing the voltage near or on live parts								
1.1 Cleaning and wiping of covers and guards of 0.4 kV switchgear, main switchboard	No more than 1 shift	2	III	By order	--	--	On a work permit	--
1.2 Checking and adjusting individual devices with circuit control elements	Same	1	IV	Same	1	IV	By order	Available
1.3 Removal for inspection or repair of measuring instruments, except when working on the circuits of electrical measuring	--	2	IV+III	--	2	IV+III	Same	--

instruments and meters connected through measuring transformers without current shunt and voltage circuit breakers								
1.4 Adjustment of relay protection and automation devices: ID, inverters, contact assemblies, auto-switching devices DEI and CE, control panels and nodes of DPP, ventilation and air conditioning	--	2	IV+III	--	2	IV+III	--	--
1.5 Checking the operation of all equipment alarms	--	1	III	--	1	III	--	--
1.6 Measurement of voltage drop on fuses, circuit breakers, direct current busbars, measurement with current clamps	--	2	IV+III	--	--	--	--	--
1.7 Check operation of switchgear in secondary circuits of 0,4 kV switchgear	--	2	IV+III	--	2	IV+III	By order	--
1.8 Troubleshooting of detected faults on direct current busbars, panels and assemblies	No more than 1 hour	1	III	--	1	III	--	--
1.9 Checking the operation of the ASI and ARC circuits	Same	2	IV+III	--	2	IV+III	--	--
1.10 Conducting test discharges of batteries	No more than 1 hour	1	III	--	1	III	--	None
1.11 Measuring the phase-ground loop resistance	Same	2	III	--	2	III	--	Available
1.12 Cleaning and maintenance of DC panels and assemblies, ATS busbars and batteries	--	1	III	--	--	--	--	None
2. Operational work with complete and partial de-energisation								
2.1 Troubleshooting of detected faults in MSB,	No more than	2	IV+III	By	2	IV+III	By	Available

0.4 Kv switchgear, DPP, SB	1 hour			order			order	ble
2.2 Measuring the insulation resistance of batteries	Same	2	III	--	--	--	--	None
2.3 Disconnecting and connecting cables to electric motors, ID, inverters, CB, SHC, SB, MSB, CU, circuit breakers and circuit breakers, DC switchboards and assemblies	--	2	III	--	2	III	By order	Available
2.4 Tightening and stripping of contacts on the AC busbars in the MSB, SB, 0,4 kV switchgear	--	2	III	--	2	III	--	--
2.5 Tightening and stripping of single contacts, checking the installation of the CU in accordance with the CU maintenance instructions	--	2	IV+III	--	2	IV+III	--	--
2.6 Measurement of insulation resistance of power grid, working, emergency, local lighting, electric motors and secondary switching networks	--	2	III	--	2	III	--	None
2.7 Preparation of electrolyte (over 100 l)	--	2	III	--	2	III	--	--
2.8 Filling of fuel tanks at fuel depots and fuel storage facilities	--	2	IV+III	--	--	--	--	--

**Annex 9**  
(*compulsory*)

**List of work to be conducted in electrical installations as part of routine operation**

Name of work	Duration of work	Terms and conditions of work						
		by operational personnel			by operational personnel			
		Quantitative composition	Electrical safety group	Procedure for registration	Quantitative composition	Electrical safety group	Procedure for registration	Availability of supervision by operational personnel
1	2	3	4	5	6	7	8	9
1. Working without removing the voltage away from live parts								
1.1 Cleaning of rooms (up to permanent fencing) workshops, rectifier rooms, switchboard 0.4 kV, ventilation centres, air-conditioners, battery rooms, block stations. Cleaning area for occupational safety group 1 shall be specified by local instruction	No more than 1 shift	1	III	As part of ongoing operation	--	--	--	--
1.2 Operational changeover to air conditioning, air centre equipment, instrumentation, automation of ventilation systems.	Same	1	III	Same	--	--	--	--
1.3 Operational switching in the main switchgear, MSB, SB, LU, CB, SHC on DEI	--	1	III	--	--	--	--	--

and PE switchgear assemblies, DPP, SSD, SSSD, RCP, NS, electric heating devices, DC and AC assemblies and panels, on alarm networks.								
1.4 Checking portable electrical equipment	--	1	III	--	--	--	--	--
1.5 Cleaning and wiping of shrouds and panels ID, inverters, other equipment that cannot be de-energised for technological reasons.	--	2	III	--	--	--	--	--
1.6 Measurement of protective earthing resistance	--	1	III	--	--	--	--	--
1.7 Renewal of safety inscriptions and signs on equipment casings and panels, fences, electric motors, MSB, CB, SB, DN, 0,4 Kv switchgear, NS, BB, batteries, ventilation equipment.	No more than 1 shift	1	III	As part of ongoing operation	--	--	--	--
2. Repair of equipment with complete or partial de-energisation								
2.1 Maintenance of brushes (replacement), motor rings and collectors	Same	1	III	Same	--	--	--	--
2.2 Repair of lighting fittings and replacement of lamps with de-energisation of the network section to be repaired:	-	-	-					
1) In technical rooms where technological communication equipment is installed, workshops, warehouses, service laboratories	--	1	III	--	1	III	By order	--
2) in rectifier rooms, shafts, instrument cleaning rooms, substations, 0.4 kV switchgear, switchboard rooms, conference rooms,	--	2	III	--	2	III	By order	--

switching rooms, ventilation centres, basements, attics, battery rooms as well as outdoor and staircase lighting								
2.3 Replacing the fuse plugs	--	1	III	--	--	--	--	--
2.4 Current repair of electric motors, electric drives	--	2	III	--	--	III	By order	--
2.5 Routine repair of magnetic starters, push-buttons, circuit breakers, switches, contactors and similar starting and switching equipment, provided that this equipment is installed outside assemblies and panels	--	1	III	--	2	III	Same	--
2.6 Routine repair of ID, inverters, guaranteed power supply and automatic switching of batteries, and volt feeding equipment	--	2	III	--	2	III	--	--
2.7 Repair of rheostats, NS, electrodistillers, electric calorifiers and other electric heating appliances	--	1	III	--	1	III	--	--
2.8 Repairs to the wiring in the rooms referred to in clause 5.2.a	--	1	III	--	1	III	--	--
2.9 Repairs to the wiring in the rooms referred to in clause 5.2.b	--	2	III	--	2	III	--	--
2.10 Routine repair of control rooms, ventilation, air-conditioning control rooms, CB, SHC and self-contained air conditioning units	No more than 1 hour	1	III	--	1	III	--	--
2.11 Replace open type fuse links, replace fuses. In emergency situations, this operation may be conducted without removing the voltage, but with mandatory load disconnection	No more than 1 hour	1	III	As part of ongoing operatio	--	--	--	--

				n				
3. Work in the vicinity of and on live parts without removing the voltage								
3.1 Inspecting and checking the contact connections	No more than 1 shift	1	III	Same	--	--	--	--
3.2 Preventive maintenance of batteries (according to instructions)	Same	1	III	--	--	--	--	--
3.3 Check fuse contacts, action of signal fuses	--	1	III	--	--	--	--	--
3.4 Checking the voltage drop on the PE groups	--	1	III	--	--	--	--	--
3.5 Measurement of supply voltage ripple on main busbars	--	1	III	--	2	III	By order	--
3.6 Checking the fuse and emergency lighting network	--	1	III	--	--	--	--	--
3.7 Tuning of ID, inverters, secondary circuits of ABS, NVD	--	1	III	As part of ongoing operation	1	IV+III	By order	Available
3.8 Start-up of stationary DPP at idle and under load	--	1	III	--	1	IV+III	--	Available



**Annex 10**  
*(compulsory)*  
**Form of work permit for work in electrical installations**  
**Outfit for work in electrical installations**  
(front side of the outfit)

The company \_\_\_\_\_

Unit \_\_\_\_\_

WORK PERMIT NO.\_\_\_\_

Work category \_\_\_\_\_

To the works head \_\_\_\_\_ allowing \_\_\_\_\_

To the person in charge of the work \_\_\_\_\_ to the monitor \_\_\_\_\_  
with members of the team

entrusted to \_\_\_\_\_

Start work: date \_\_\_\_\_ time \_\_\_\_\_

Finish the work: date \_\_\_\_\_ time \_\_\_\_\_

Emergency preparedness time \_\_\_\_\_

Table 1

**Registration of the target instruction**

The briefing was conducted by		Instruction received	
The person who issued the outfit	_____ (signature, name, initials)	Work head (workman, head)	_____ (signature, name, initials)
Allowing	_____ (signature, name, initials)	Team Leader Team members Job head (head)	_____ _____ _____
Responsible work head producer (head)	_____ _____ _____	Foreman Team members	_____ _____ _____

Table 2

**Measures to prepare workplaces**

Name of electrical installations, where disconnections and earthing are to be conducted	What shall be disconnected and where grounded
---	---

1	2

Separate instructions \_\_\_\_\_

Outfit issued: date \_\_\_\_\_ time \_\_\_\_\_

Signature \_\_\_\_\_ name, initials \_\_\_\_\_

The outfit has been extended by: date \_\_\_\_\_ time \_\_\_\_\_

Signature \_\_\_\_\_ name, initials \_\_\_\_\_

Date \_\_\_\_\_ time \_\_\_\_\_

Table 3

**Consent to admission**

Approval for admission issued by (position, name, or signature)	Date, time	Signature of the employee who consented to the admission
1	2	3

**(reverse side of the order)**

Workplaces are prepared, energised remains

\_\_\_\_\_

Allowing \_\_\_\_\_ (signature)

Head (workman or head) \_\_\_\_\_ (signature)

Table 4

**Daily admission to work and termination**

The team is instructed and allowed into the prepared workplace					The job is finished, team removed	
Name of workplace	Date, time	Signatures			Date, time	The head (head) of the work (supervising)
		Allowing	The head (head)	Team		

			of the work (supervising officer)	member s		officer)
1	2	3	4		5	6

**Table 5**  
**Changes in the composition of the team**

Introduced to the brigade (name, initials, group)	Discharged from the brigade (name, initials, group)	Date, time	Approved (signature)	Received safety briefing (signed by a member of the team)
1	2	3	4	5

Work completely finished, team removed, groundings installed by team removed,  
reported to (whom) \_\_\_\_\_  
(position) ( name)

Date \_\_\_\_\_ time \_\_\_\_\_

Site Head

Work head or head \_\_\_\_\_  
(signature) (signature)

**Annex 11**  
*(compulsory)*  
**Form for the logbook of work orders and work orders**

Logbook for work orders and work orders

---

(organisation, name of facility)

Launched \_\_\_\_\_ 20\_\_

Finished \_\_\_\_\_ 20\_\_

Order number	Number of the work order	Place and name of work	Workman or head (name, initials)	Member of the ordering team (name, initials)	Person who gave the order (name, initials)	Start of work (date, time)	Work completed (date, time)
1	2	3	4	5	6	7	8

**Annex 12**

*(compulsory)*

**Form of work permit for crane operations in the vicinity of overhead power lines**

\_\_\_\_\_ (the name of the company in the office)

**Work permit no.** \_\_\_\_\_

A permit is issued for work less than 30 m from the outermost wire of an electric line with a voltage of over 42 V

1. To the crane operator

\_\_\_\_\_ (surname, first name, patronymic)

\_\_\_\_\_ (type of crane, registration number)

2. Allocated to work \_\_\_\_\_

(the organisation that allocated the crane)

3. At the site \_\_\_\_\_

(the organisation to which the crane has been issued, the place of work, the building site, the warehouse, the workshop)

4. Transmission line voltage \_\_\_\_\_

5. Terms and conditions of work

\_\_\_\_\_ (the need to de-energise the power line, the shortest permissible horizontal distance from the outermost wire to the nearest parts of the crane, the method of moving the load and other safety measures)

6. Crane travel conditions \_\_\_\_\_

(boom position and other safety measures)

7. Getting started \_\_\_\_\_ h \_\_\_\_\_ min " \_\_\_\_\_ " \_\_\_\_\_ 20 \_\_\_\_\_ .

8. End of job \_\_\_\_\_ h \_\_\_\_\_ min " \_\_\_\_\_ " \_\_\_\_\_ 20 \_\_\_\_\_ .

9. Person in charge of safe working practices \_\_\_\_\_

\_\_\_\_\_ (position, first name, surname, date and number of appointment order)

10. Slinger \_\_\_\_\_

(surname, first name, patronymic)

\_\_\_\_\_ (number of the certificate, date of the last knowledge test)

11. Permit to operate a crane in a protected area \_\_\_\_\_  
(the organisation that issued the permit, the number and date of the permit)

12. The order was issued by the chief engineer (power engineer)

\_\_\_\_\_  
(organisation, signature)

13. The necessary safety measures referred to in clause 5 have been implemented

Person responsible for safe working practices \_\_\_\_\_  
" " \_\_\_\_\_ 20 \_\_\_\_ .

(signature)

14. The crane operator has been instructed \_\_\_\_\_

(signature)

" " \_\_\_\_\_ 20 \_\_\_\_ г.

Notes:

1. The work order shall be issued in two copies: the first shall be given to the crane driver, the second shall be kept by the work head.
2. Item 11 shall be filled in if the crane is working in the protected area of the power line.
3. Overhead power transmission lines also include branch lines.
4. Work in the vicinity of power lines shall be conducted in the presence and under the supervision of the person responsible for the safe handling of loads by cranes.

**Annex 13**  
*(compulsory)*  
**Logbook Form**

Date \_\_\_\_\_ Shift \_\_\_\_\_

Machinist \_\_\_\_\_

Results of the inspection:

№	Name of mechanism, unit, part	Results of the inspection	Name, initials and position of the person who rectified the violation
1	Metalwork		
2	Brakes: cargo winch boom winch travel gear trolley slewing gear travel mechanism crane		
3	Safety devices: load limiter end switches interlock contacts indicators signalling devices		
4	Electrical equipment		
5	Rope: cargo boom boom extension trolley rope		
6	Hook suspension		
7	Lighting, heating		
8	Crane runway		
9	Counterweight, ballast		
10	Grounding		
11	Other remarks made during work		

Took the shift \_\_\_\_\_  
(name, initials and signature of the crane operator)

Shift change \_\_\_\_\_  
(name, initials and signature of the crane operator)

(indicate the condition of the crane)

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

Results of the inspection:

Locksmith \_\_\_\_\_

Electrician \_\_\_\_\_

Person responsible for the good condition \_\_\_\_\_



**Annex 14**  
*(compulsory)*  
**Classification of emergencies**

Emergency situations (ES) are categorised:

by nature of occurrence - natural, man-made, environmental, biological, anthropogenic, social and combined;

by scale of spread of consequences - local, object, local, national, regional, global;

by cause - intentional and unintentional (natural)

by speed of development - explosive, sudden, transient, gradual

preventable - inevitable (natural), preventable (man-made, social), man-made;

by departmental affiliation.

Man-made ES are those emergencies caused by technical facilities: fires, explosions, accidents at hazardous chemical facilities, radioactive releases, building collapses, accidents in life support systems.

Natural ES are those related to the manifestation of natural forces of nature - earthquakes, floods, volcanic eruptions, landslides, mudslides, hurricanes, tornadoes, storms, wildfires, etc.

Environmental ES include abnormal natural pollution of the atmosphere, destruction of the ozone layer, land desertification, soil salinization, acid rain, etc.

Biological ES include epidemics, epizootics, epiphytotics.

Social ES include events occurring in society, such as interethnic conflicts, terrorism, robbery, genocide, war, etc.

Man-made ES are the result of human misconduct.

Local ES are emergencies whose scale is limited to a single industrial plant, an assembly line, a workshop, a small production facility or an individual enterprise system. The resources available at the affected facility are sufficient to deal with the consequences of an emergency.

Site-specific ES are emergencies where the consequences are limited to the territory of a plant, an institution, an educational establishment, but do not extend beyond the boundaries of the facility. Although all the forces and means of the enterprise are involved for their elimination, they are sufficient to cope with the emergency situation.

Local ES - these are emergencies the scale of which is limited to a settlement, city, district or a separate region. For elimination of consequences there are enough forces and means available in immediate subordination of local authority, head of Civil Defense, its Committee on Emergency Situations, as well as in objects of industry, transport, agriculture located on their territory. In individual cases, military units of civil defence and other subdivisions of the Ministry of Emergency Situations may be involved.

National ES - these are emergencies that cover several economic areas but do not extend beyond the country's borders. The consequences are managed by the country's forces and resources, often with foreign assistance.

Regional ES - these are emergencies that extend over several oblasts, republics, or a large region. They are usually dealt with by the regional centres of the Ministry of Emergency Situations or by task forces specially created by the ministry (government). To conduct rescue and other urgent works, in addition to all kinds of formations, units of the Ministry of Emergency Situations, the Ministry of Internal Affairs and the Ministry of Defence are involved.

Global ES - these are emergencies whose consequences are so large that they affect large territories, several republics, territories, regions and neighbouring countries. To eliminate the consequences, the forces of the Ministry of Emergency Situations, the Ministry of Defence and the Ministry of Internal Affairs are involved. As a rule, rescue and other urgent works are conducted by a specially created governmental commission or personally by the Head of the Civil Defense Department of the country - Chairman of the Government.

According to their departmental affiliation, ES are distinguished in the following sectors of the national economy:

- in industry;
- in construction;
- transport;
- housing and utilities;
- in agriculture;
- in forestry, etc.