

# TECHNICAL REQUIREMENTS FOR DOCUMENTS

**Astanaliev Elmurod Tursunali oqli**

*“Department of Automation and telemechanics of Tashkent state transport university” Master’s student*

*Tashkent state transport university*

**Abstract.** The article describes the technical requirements for automation devices. Requirements for electrical interlocking devices, mandatory instructions for all employees, schedule of interconnection of signals and routes and the content of technical documentation, connection of electrical wiring of station equipment and roads, instructions on technical documentation information is given.

**Keywords:** technical documentation and maintain signaling devices, signaling and communication, checking, schematic plans, cable networks.

Throughout its existence and functioning, railway transport works in close connection with other sectors of the national economy of the Republic of Uzbekistan. One of its main tasks is to meet the needs of the economy in providing timely freight and passenger traffic.

According to the requirements of the Rules of Technical Operation of the Republic of Uzbekistan:

Electrical interlocking devices must provide:

- mutual closure of arrows and traffic lights;
- control of the turnout incision with the simultaneous closing of the traffic light enclosing this route;

- control of the position of the switches and the occupation of tracks and switch sections on the control apparatus;
- the possibility of routing or separate control of arrows and traffic lights, the production of shunting movements according to the indications of shunting traffic lights, if necessary, the transfer of arrows to local control.

Electrical interlocking devices must not allow:

- opening the entrance traffic light when the route is set on a busy track;
- transfer of the arrow under the rolling stock;
- the opening of traffic lights corresponding to the given route, if the arrows are not put in the proper position;

Centralized switch actuators and contractors must:

- to ensure, at the extreme positions of the arrows, a snug fit of the pressed point to the frame rail and the movable core of the crosspiece to the guardrail;
- do not close the arrowheads.

The instruction on the content of technical documentation for signaling, centralization and blocking devices set out the rules for the content, requirements for drafting and making changes, as well as the procedure for agreeing and approving technical documentation for signaling, centralization and blocking devices. The requirements of this instruction are mandatory for employees who maintain technical documentation and maintain signaling devices

The use of atypical solutions by the design organization must be approved by the signaling and communication service of Uzbekistan Railways. This is a schematic plan of a station with signaling and a table of interdependence of arrows, signals and routes, which or a list of routes must be approved by the company's management in triplicate in the form of blueprints before the development of working drawings and its approval, schematic plans of crossings made on separate

drawings, composition and volume of project documentation, etc. obligatory for employees of all design organizations designing signaling devices.

Technical documentation for all operating signaling devices must contain:

- a copy of a site — at an electromechanical site;
- a copy of the distance — in the group of technical documentation for the distance (control copy);
- a copy of the service — in the group of technical documentation of the road laboratory of automation and telemechanics.

In the distance, the engineer on duty to ensure the operation of automation, telemechanics and communication devices must have route plans for the stages and schematic plans of stations, as well as have access to other technical documentation for operating signaling devices. All copies of technical documentation must be in the form of blueprints. The place and procedure for storing a copy of the distance, spare diagrams and an archive of technical documentation shall be established by the head of the signaling and communication distance.

At the electromechanical section, at the centralization posts for station and railway devices, there should be the following documentation with authentic signatures or certified blueprints indicating the coordinating and approving persons: a schematic station plan with signaling, a table of interdependence of arrows, signals and routes or a list of routes with a table of inter dependencies of signal indications train station traffic lights, including repentance, two-line plan of the station and the tracks with the indication of the normal of the track circuits, the scheme of passing the traction current in accordance with the current instructions, the appearance of control devices and displays, electrical schematic and wiring diagrams of station devices and tracks, cable networks of switches, signals, supply and relay transformers, corresponding to the executive cable network, the executive cable plan of the station and the tracks with the laying routes and with the

necessary cable ties relative to the main structures of the station (track), en power supply of signaling devices with indication of feeders, power distribution, power supply panels with reference to devices and with indication of fuse ratings, switching circuits of switches and isolated, sections with preservation of the use of signals, wiring diagrams of cable couplings, an album of relay blocks (for block systems, normal of maintained track circuits, instructions on how to use devices, other guidelines and reference materials necessary for the maintenance of signaling devices.

The signaling and communication service must have a copy of the technical documentation for operating signaling devices (except for wiring diagrams), typical design solutions, instructions and guidelines from the foreign university, track chain normal, reference books and other instructions and guidelines regarding technical documentation.

Verification of the conformity of the operating devices to the approved technical documentation. The team of technical documentation of the signaling center distance and its head carries out:

- periodic checks of the state of technical documentation at the sections and at least once every three years according to the schedule approved by the head of the signaling center distance, verifying a copy of the project documentation of the site with a copy of the signaling distance;
- providing production sites with approved project documentation, keeping records of its issuance;
- content in order and according to the inventory control copy of design documentation and archive of the signaling distance;
- timely updating of technical documentation, delivery of obsolete and replaced to the archive;

- checking the completeness and quality of design documentation for new construction and modernization of devices;
- control over the introduction of changes (corrections, exceptions, additions) in the design documentation in accordance with the requirements of this instruction when adjusting newly introduced devices;
- provision of assistance to senior electromechanics in checking the compliance of the current installation with the approved schemes;
- making changes to the design documentation and their approval in the management of signaling and communication.

When inspecting devices using technical documentation, personnel shall comply with the technical requirements. By constantly monitoring the devices, a list of devices and their operation is formed. By updating the technical documentation with new information, work efficiency will increase.

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