ELIMINATION OF ELECTRICAL ENERGY WASTE IN RESIDENTIAL BUILDINGS OF 10-04 SQUARE METERS

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Abctrakt: In this article, you can get general information about the project, how to create the project , and why the project was created. Information about the first stages of project development, the necessary conditions for 10 and 0.4 kV projects in residential areas is also provided. The basic concepts of electrical design and design are presented.

Key words: power line, Project, transformer, Cable, autotransformers, measuring transformers, tires.

The purpose of electrical projects in residential areas is to provide residents with quality electricity. Because as the length of the electric line increases, the voltage decreases. Therefore, a project is developed, in which the transformer and line lengths are selected with the help of calculation books, according to the population, using table 4.1 , and then the optimal location for the transformer is selected. One of the main reasons for designing is to reduce wastage (waste). These transformers are important in the production and transmission of electricity . When designing power lines, contracts are concluded between the two parties and the design process is carried out. The project development process consists of several stages, in which work is carried out together with regional power networks. An application is submitted to the designing party by regional electric networks. The project site is surveyed and detailed information is obtained about the site. The most important part of the project is to choose the maximum length of the line depending on the location. The reason for this choice is that the waste in the line does not exceed the specified value. This indicator should not exceed 6% in a 0.4 network project. One of the most important aspects is choosing the optimal transformer installation location for the project site. The correctness of this process is to ensure that the length of the line does not exceed 500 meters. The main consideration in the design of line networks is waste.

Placement and installation of electrical equipment 5.1.11. The structure of EMX should allow convenient transportation and installation of equipment at any

height. In the basement of EMX , if its length is more than 1000 m , roads for electric cars and transport trucks should be provided. The clearance distance between the elements of the transported equipment and the elements of buildings or equipment should not be less than 0.3 m vertically and 0.5 m horizontally. 5.1.12. The lightness of transitions between foundations or machine bodies, between machines and parts of buildings or equipment should not be less than 1 m; local narrowing of the passages between protruding parts of machines and building constructions with a length of not more than 0.5 m and up to 0.6 m is allowed. 5.1.13. The clear distance between the machine body and the wall of the building or between the bodies and between the short sides of the machines standing next to each other (if there is a passage on the other side) is less than 0.3 m if the height of the machines is up to 1 m from the roll level. and the height of the machines should not be less than 0.6 m if they are more than 1 m. The width of the service passage between the machines and the front side (facade) of the control panel or the control panel should not be less than 2 m. When the panels are installed in the cabinet, this distance is chosen from the machine to the closed door or wall of the cabinet. These requirements do not apply to the posts of local management of operations. The width of the transition between the machine body and the control panel or the control panel should not be less than 1 m. 5.1.14. The width of the service passage between the rows of electrical cabinets with a voltage of up to 1 kV and parts of the building or equipment should not be less than 1 m, and with the cabinet doors open - not less than 0.6 m. , in the two-row arrangement of cabinets, the width of the passage between them should not be less than 1.2 m, and when the opposite doors are open, they should not be less than 0.6 m. The value of transitions is not less than 0.6 m in light due to the local narrowing of machines with a power of up to 10 kW and small-sized equipment distribution boards, remote controls and other similar distribution equipment up to 1 kV (Installation behind TU) elements is allowed, where the distance from the body of the machine or apparatus to the load-carrying parts of the roof is 4.1.21. b. It should not be less than specified in 2 . The dimensions of service expectations for TU, shields and other equipment must meet the requirements specified in 4.1.21-4.1.23 and 4.2.86. It is envisaged to carry out a cable floor or a cable tunnel in the open passage of more than 350 power and control cables in the basement floor (part) of the EMH or more than 150 power cables in the part of the basement that is most busy with cables need The width of passages in cable constructions should be accepted in accordance with 2.3.123 and 2.3.125. In these facilities, cable lines of cable structures may not form dead ends more than 7 m long. In order to prevent the

occurrence of dead ends, it is allowed to create a passage under the cables, the height of which is not less than 1.5 m above the floor. A reduced distance between planks (racks) of not less than 100 mm is allowed on such a passage, which provides the possibility of disassembling cables . 5.1.15. Open installation of the following directly with EMX is allowed: 1. Oil-filled starting and adjusting equipment for electric machines with a voltage of up to 1 kV and higher with an oil mass of up to 600 kg (autotransformers, reactors, and etc).

14:16 1.6 MV.A, with tanks of high strength and seals that do not allow oil leakage, and gas protection or pressure relay with signal processing (for transformers and autotransformers). measuring transformers and other equipment with oil mass up to 2 t.14:16 It is allowed to install no more than two groups of the indicated transformers (apparatus) together when the distance between individual groups is less than 10 m . 3. Power and number of transformers filled with dry or non-flammable liquid. 4. Metal complete distribution equipment (KTU), substations with a voltage of 1 kV and above, batteries of capacitors or some capacitors. 5. Accumulator batteries of closed type with the condition of carrying out charging (sucking) devices or in special rooms or cabinets. 6. Semiconductor switches. 7. Control, protection, measurement, signaling panels and control units and station panels with devices with open current-carrying parts on the front or back side. 8. Non-insulated current conductors with voltage up to 1 kV and higher. 9. Cooling equipment of electric machines. 5.1.16. In EMX, when electric equipment filled with oil is placed in closed chambers into which EMX is pushed, the mass of oil in electrical equipment installed in one chamber or in a group of adjacent chambers should not exceed 6.5 t, chambers or the distance in light between a group of cameras should not be less than - 50 m. If this distance cannot be ensured, or if the mass of oil in one chamber or in a group of adjacent chambers is more than 6.5 t, the electrical equipment filled with oil in the house is outside or specially designed for this purpose . should be placed in the corridor, or in the cells that can be pushed into the G or D class production room according to KMK. 5.1.17. The height of the upper mark of the surface of the base plates of the non-connected rotating machines (converter, generator, charging units, etc.) should not be less than 50 mm from the mark of the clean floor . The top mark of the surface of the base plates of the rotating machines connected with mechanical equipment is determined by the requirements for their installation . 5.1.18. Pipelines containing explosive gases, inflammable or flammable liquids cannot be passed through the EMX, only pipelines directly related to the equipment installed in it are allowed to be laid in the EMX. Cold

pipelines must be protected from sweating . In areas where personnel or equipment must be protected, hot pipelines must have non-combustible thermal insulation. Pipelines must have a separating rap . 5.1.19. In cases where the top mark of the base plate of the machine is more than 400 mm higher or lower than the mark of the EMX floor, a non-flammable platform with a handle and a step width of not less than 600 mm should be provided around the machine. The service areas (supache) located at a height of up to 2 m from the floor level should be fenced with fences, and at a height of more than 2 m - with fences and board fences. Steps should be provided to access the supachas (courtyards) . 5.1.20. In the case of the presence of a railway network in common use in the enterprise and the delivery of heavy equipment by rail, see the dead-end normal gauge railway branch entering the EMX It is recommended to keep It is necessary to ensure the possibility of removing the equipment from the open platform with the help of EMX lifting devices. If the delivery of the equipment is carried out by a motor vehicle, it is recommended to consider the possibility of entering the range of movement of the EMX with a motor transporter. 5.1.21. Electric machines must be installed in such a way that they do not cause noise above the level of operation and vibration of the machine itself, the foundation or parts of the building.

14:16 5.1.22. Special platforms (assembly platforms) must be provided for the implementation of assembly and repair work on EMX or the heaviest, practically possible, equipment platform that is calculated for the load and is located within the movement of EMX load-carrying devices. The name is distinguished by the color of the outer casing (appearance) compared to other parts of the floor

14:16 standing paint or tile. The sections of EMX where the equipment is being transported should be calculated for the weight of the equipment being transported. These plots should be marked with paint or tiles. The dimensions of the assembly areas are determined by the dimensions of the largest part intended for placement, with a margin of 1 m on each side. In assembly areas, the floors must be designed for the weight of the anchors of large electrical machines and have a separating rap. Installation sites must have records indicating the maximum possible load values. 5.1.23. In EMX, electric lights cannot be placed on open busbars of TU (distribution equipment) and open current conductors. Electric lights intended for floor service cannot be placed on rotating machinery.

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