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REPAIR OF A LOW-OIL SWITCH

In design and construction of thermal power stations, nuclear power plants and hydro power plants, as well as transformer substations of energy systems, industrial enterprises, switchgear of internal and external installations are widely used. Low-oil switches are used in switchgear and designed for operational switching on and off of individual electrical circuits.

Switches in which oil is used only as a gas-generating substance for extinguishing the arc when currents are turned off are called low-volume oil or low-oil switches. These switches are used in both closed and open switchgear. Low-oil switches have smaller dimensions, mass and oil content than tank oil switches, which facilitates repair and maintenance, as well as reduces the risk of oil explosion and ignition.

Switches repair and maintenance can be preventive or capital. Preventive maintenance is performed according to the following operations: preparatory; external inspection, checking the condition of structural elements; electrical measurements; taking and checking an oil sample; verification of commutations. During capital repairs, maintenance is performed according to preventive repair operations, and the following operations are also added: dismantling of switch poles; repair of switch elements; electrical strength test; adjustment and installation of the switch; oil filling; painting of switch elements.

After preventive repair and maintenance operations are performed, the low-oil switch is turned off during capital repairs. Repair of switch elements includes: repair of insulators, contacts, arc extinguishing device of each pole, drive mechanism; repair or replacement of worn parts. It is carried out using locksmith tools.

Next, the switch is tested for electrical strength using an electrical stand. Electrical strength of the insulation is checked between conductive and grounded elements. Test is carried out three times in a row for each set of elements.

After the tests, the frame with the switch is installed on the trolley of the cabinet; the switch is turned on together with the drive. Oil is poured into the poles of the switch, current-conducting and grounding busbars on which the coatings were damaged are painted.