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## About SKB EP instruments

Dear Olga Nikolaevna!

In response to your request dated 26.07.2021 No. 27493 "Request for review of instrument operation", I inform you that 7 (seven) instruments manufactured by SKB EP, LLC are in operation in Volgogradenergo, the branch of Rosseti South, PJSC. There are:

1. MIKO-10 - 1 pc. (5 years in operation).

The instrument is used by the power station Department to measure contact resistance of circuit breakers and short-circuiting switches.

Light weight (0.5 kg.), small dimensions (150×110× 55mm) and special fasteners make it possible to place the instrument on the hand, fasten it on the belt or hang it on the neck. It allows you to take measurements and take readings by 1 employee, including work at height, thereby labor costs are saved when performing measurements.

MIKO-10 is quite easy to use. It has a convenient menu and a built-in autonomous power supply unit.

Good specifications, digital display of the instrument allow measurements to be carried out with high precision.

The instrument is reliable, can be used in difficult weather conditions. During operation it showed itself positively, there were no failures in operation.

The disadvantages identified during the instrument operation include the cases of kink of test cables. The kink was located above the soldering point of the wire to the contacts of the connector for connecting the cable to the instrument. No other shortcomings were revealed.

We recommend MIKO-10 to other organizations.

2. PKV/M7 - 3 pcs. (more than 10 years in operation).

The instruments are used by power station Departments for 6-110 kV high-voltage circuit breakers control.

The main advantages of PKV/M7 are: high build quality; high functionality for circuit breakers characteristics control; detection of defects without disassembly of circuit breakers; built-in control unit for electromagnets of a circuit breaker drive; convenient control panel and display; functionality to control many parameters in one test cycle, that is very convenient and significantly reduces the operating time; the use of instrument various connectors, which eliminate personnel errors when connecting; the instrument works effectively at both low and high temperatures.

The high instrument specifications help quickly and correctly determine the condition of the circuit breakers during their control, prevent the occurrence of incidents, if it is necessary, plan repairs or replacement. For example, in 2020, at 110 kV power station of the Branch, when performing a periodic maintenance of SV-110, one PKV/M7 measurement revealed discrepancies from the nominals of the contact travel in three tanks of MKP-110M-20/1000-630 circuit breaker. The discrepancies were quickly eliminated, and the safe equipment operation was restored.

All calculations of the measured characteristics are made by the instrument automatically, information about the circuit breaker state is obtained and we get it immediately on the object. The data with results of the control can be stored in the instrument archive for further analysis and report creation. If it is necessary, it is possible to transfer all data from the instrument to a PC.

During operation, there were no failures in the operation of the instrument.

We recommend PKV/M7 to other organizations.

Acting First Deputy Director  
and Chief Engineer



A.M. Isaev