

1.07. MONITORING SYSTEM OF SF6 CIRCUIT BREAKERS



The system is intended for continuous monitoring of the present parameters and predicted calculation of the main technological values of high-voltage SF6 circuit breakers. Also, it is designed to determine and provide information to the duty staff on an occurrence, development and nature of emergency processes.

The system has a two-level structure: a lower level consists of electrical cabinets with the devices for analog and discrete signals input, and an upper one consists of computation module, which performs analysis (calculation) of the parameters from all electrical cabinets and further transmission of the information to the SCADA system.

The system provides information in real time or on demand.

With the 1.0 sec discreteness of data update, the following happens:

- control of the switch position;
- control of the sliding contact;
- control of SF6 gas pressure reduction;
- control of the drive readiness;
- control of a readiness time of the drive;
- measurement of gas mixture density and temperature with trend analysis (SF6 and CH4);
- measurement of a temperature in the monitoring cabinet, electric drive cabinet, and the environment;
- calculation of a number of switching operations in normal and emergency modes.

More than 100 of similar systems are successfully operated at energy facilities.