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PECULIARITIES OF APPLICATION OF MEASURING TRANSFORMERS IN ELECTRIC ENERGY METERING SYSTEMS

Problems, arising in electric energy industry, related to increasing accuracy and validity of commercial metering of electric energy, are nowadays of very clear economic character. Increasing accuracy and validity of commercial metering of electric energy is not possible without estimating precision characteristics of the electric energy meters and primary scaling converters, i. e. measuring voltage and current transformers.

Due to this fact, measuring voltage and current transformers of various precision classes used for electric energy metering are subject to primary and periodic calibration. However, practically periodic calibration encompasses only electric energy meters and small-sized measuring current transformers that may be dismantled and calibrated in laboratory conditions. Calibration of other measuring means is hardly conducted due to the absence of necessary equipment.

In the article problems concerned with estimation of metrological characteristics of measuring current transformers working in real operating conditions are discussed.

Two mutually exclusive approaches connected to estimating errors of primary scaling converters are investigated and analyzed.

Automatic measuring instrument providing estimation of metrological characteristics of measuring current transformers (MTC) of power lines from 6 kV to 750 kV during its exploitation in the line without disconnecting and deenergizing of primary windings is recommended.