

Diagnostic of Silicon Carbide Surge Arresters using Leakage Current Measurement

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Nowadays, the zinc oxide surge arresters (ZnO) are widely used in power systems, however, a large number of silicon carbide surge arresters (SiC) are still in service in the utilities. On the other hand, it is not possible to replace all SiC surge arresters in a short time period, being necessary to review the maintenance program taking into account the surge arresters that are more degraded. In this context, a research project was established between the University of São Paulo and the electrical utility CTEEP, aiming the investigation of its SiC surge arresters. This work shows that the leakage current measurement, a diagnostic method for the ZnO surge arresters, can provide useful information related to the condition of the SiC surge arresters. Analysis of the amplitude and distortion of the leakage current, also considering thermovision measurements, resulted in better evaluation of the SiC surge arresters.