

performed to analyze conditions of insulation for oil-impregnated paper insulated power transformers and metal oxide surge arrester, instead of XLPE cables, and the duration of PDC measurement were set for durations of 3,000 s and 10,000 s respectively, instead of 1,000 s. Therefore, it can be deduced that the type and geometry of insulation under study, and the duration measurement may to some extent dictate the ideal number of parallel RC branches required to represent the linear dielectric circuit equivalence.

The proposed PDC simulation has been validated against the baseline PDC measurements to a very high precision level, seen by the almost overlapping measured and simulated depolarization current trendlines in all six XLPE cable samples.

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