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Electrical Transient Interaction Between Transformers and the Power System PART 2: CASE STUDIES

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Abstracts

A number of transformer dielectric failures have been attributed to transient overvoltages, even when good practices for insulation design and insulation coordination have been followed. The analysis of these failures and their future prevention requires an in-depth knowledge of the transient interaction between the transformer and the power system. Although previous IEEE and CIGRE working groups have reported important findings on this subject, additional evaluations with a wider scope was found necessary to improve transformer reliability regarding transients. This technical brochure was prepared with this goal and presents different topics in the context of high-frequency transients. It was divided into two parts, 'Part 1: Expertise' which includes, among other subjects, some recommendations on transformer specification with focus on the state-of-the-art of high frequency transformer modelling and 'Part 2: Case Studies' which covers transformer failure analysis, examples of interaction with circuit breakers and different modelling application.