

V SIPDA

V International Symposium on Lightning Protection

17th - 21st May, 1999

São Paulo - Brazil

VOLTAGES TRANSFERRED TO THE LOW-VOLTAGE SIDE OF DISTRIBUTION TRANSFORMERS DUE TO LIGHTNING DISCHARGES CLOSE TO OVERHEAD LINES

Alexandre Piantini

Caius V. S. Malagodi

Institute of Electrotechnics and Energy (IEE/USP)

University of São Paulo, Brazil

Av. Prof. Luciano Gualberto, 1289, 05508-900, São Paulo-SP, Brazil. E-mail: piantini@iee.usp.br

Abstract – In this paper, firstly the voltages induced by nearby lightning discharges on the HV windings of a typical distribution transformer are calculated, for some realistic situations, by means of the "Extended Rusck" model. Then, by making use of a transformer model developed specifically for this purpose, the voltages transferred to the secondary side, under no-load conditions, are determined. The obtained results enable an evaluation of the basic characteristics of the transferred voltages.