



Study Committee No : A3

WORKING BODY FORM

Group No : WG A3.17	Name of Convener : B. Richter
TITLE of the Group : Evaluation of stresses of Surge Arresters and appropriate test procedures	
Scope: Surge Arresters are widely applied in HV and MV a.c. and d.c. systems. They provide over-voltage protection from the generator in the power plant up to the end-user, including protection of substations, overhead-lines, and cables. They are installed in fixed installations and on traction vehicles, e.g. trains, metros, trolleys. During service they are subjected to a wide variety of electrical, mechanical and environmental conditions. In the Surge Arrester community an ongoing discussion can be observed addressing mechanical tests, climatic tests, short circuit tests, impulse current tests, d.c. tests, and long duration tests. The proposed WG will review and report on the following main topics : d.c. application of Surge Arresters (HVDC HV and MV, railway systems, converters, superimposed high frequency stresses) Surge Arresters as integral part of equipment (e.g. in SF ₆ -substations, as line arresters, as suspension or support insulator) energy stresses of Surge Arresters (stresses like lightning current, multiple lightning, switching stresses, line discharges, capacitor discharges) testing of Surge Arresters (relevant parameters and procedures, with respect to energy as well as to different materials and designs) monitoring of Surge Arresters, end of life. Recommendations will be worked out regarding improved, commonly applicable test procedures for Surge Arresters, both as a stand alone apparatus and as an integral part of other equipment. Basis for the work will be CIGRE Brochure # 60, 1990. Deliverables and time schedule The WG will produce papers and reports for discussion during CIGRE sessions in Paris, symposia, colloquia and for publications. The work will be focused towards manufacturers and users of Surge Arresters with particular emphasis on providing guidance for ongoing standardisation work in the IEC. The WG is proposed to be active for a 4 year period, and will have close liaison with IEC TC 37 and the relevant sub-committees of TC 37. Depending on upcoming additional topics the time schedule may be revised. Further activities related power frequency stresses, environmental stresses, ageing and end of life, maintenance, and other upcoming actual topics may be included and submitted for approval to the study committee as appropriate.	

Approval by TC Chairman : *A. Jole* Date : 9/7/03