



WORKING GROUP FORM

Study Committee: B3 Substations

WG number: B3.30	Name of Convener: Silvio Stangherlin
Title: Guide to minimize the use of SF ₆ during routine testing of electrical equipment	
Terms of reference	
Background: <p>The SF₆ emission of electric power equipment is controlled and reported according to national regulations or international recommendations. State of the art electric power equipment and SF₆-handling procedures already ensure a low equipment emission rate and low handling losses. Furthermore there is no industrially viable alternative gas to SF₆ regarding insulation and arc quenching. However environmental friendly gases are available which, although not meeting the performance of SF₆, might substitute it for isolated and particular routine tests on electrical equipment or components like density monitors or pressure vessels. Such replacement gases (e.g. Helium for tightness tests) could be utilised during routine testing for the purpose of revealing faults in material or in construction. Practical experience, which has already been gained, should be considered and reviewed. Possible recommendations should always come in conjunction with experience and/or a appropriate scaling laws to evaluate the performance of the equipment when filled with SF₆. Target of the guide is to assure even lower SF₆-emission due to innovative routine testing of SF₆ electric power equipment.</p>	
Scope: <p>The aim of the work is to:</p> <ul style="list-style-type: none">• investigate the feasibility of the idea;• identify the environmental friendly gases and their relative properties;• identify which tests could be modified;• define the modifications in the test procedures;• identify which practical test and/or simulation and/or technical know how is required to have a sound basis;• evaluate positive and negative aspects of the proposed approach;• suggest modifications to be introduced into the current Standards in force, if any.	
Deliverables and time schedule: <p>The work will be finalized with a brochure and a short report in ELECTRA. After its approval and the constitution the WG will start working. The brochure can be available within approx. 3 years.</p>	
SCs /Target Groups concerned: <p>Asset managers / staff in Utilities and electricity producers, original equipment manufacturers, consultants, testing managers / staff, IEC and IEEE standard maintenance teams</p>	
Approval by TC Chairman: Klaus Fröhlich	Date: 18/08/2010

