



## Cigré Study Committee A3 - High Voltage Equipment

### Proposal for the creation of a new Working Group

<b>WG:</b>	A3.30
<b>Proposed Convenor:</b>	Antonio Carvalho (BR)
<b>Working Group title:</b> IMPACT OF OVERSTRESSING OF SUBSTATION EQUIPMENT	

#### Introduction:

In addition to classical, condition based, end of life considerations, a specific aspect of lifetime management is the possibility that, during its operational lifetime, equipment becomes subject to system conditions which exceed its (proven) capabilities; often termed (potential) overstressing. The proposed Working Group will review this aspect of end of life decision making as it applies to high voltage substation equipment.

This is a well known problem for Utilities working in a rapidly changing, deregulated environment where integrated planning of generation, transmission and distribution has been forsaken in favour of market driven planning.

#### Scope:

The working group will focus on the following study items regarding end of life as a result of equipment performance limits:

- Review key network parameters and anticipated stresses affecting equipment capabilities
- Review of methods already in use to assess the risk of operating beyond the performance limits
- Identification of potential failure modes of overstressed equipment and their impacts (safety, reliability, availability)
- Determination of the capabilities of the equipment involved (Standards, Test Protocols, manufacturer's information, re-testing)
- Mitigation techniques
- Impact of overstressing on residual life (where immediate failure is avoided)
- Usefulness of information supplied at type and endurance testing & proposals for enhancements
- Interaction with age and/or condition information

#### Deliverables and time schedule:

A CIGRE Technical Brochure will be produced addressing performance limited lifetime management respectively. It will summarise the findings of the WG and give guidance with regard to management of high voltage equipment which may be subject to overstressing.

The WG will produce other technical papers and tutorial material as appropriate.

The proposed duration of the work is three years from the first meeting with the following outline schedule.

First year: survey/summary report with recent developments in the main areas & refinement of work plan

Second year: ongoing collection of experience, information and data, and analysis

Third year: ongoing analysis and production of Technical Brochure

#### Other SCs concerned by the Work

A2, B3, C1

**Approval by the TC Chairman:** Klaus Fröhlich

**Date:**19/07/2010

