

July 29th, 2005

## Study Committee B3 “Substations”

### Terms of Reference Working Group B3-13

**Title: Reducing replacement time of HV Equipment**

**Convenor:** François Gallon

**Members:** to be nominated

#### Background

In recent years, due to the liberalization of energy markets worldwide, the international energy transmission is becoming more important. As a result of several, recent major black-outs, the system operators are cautious to allow long intervention periods for maintenance, repair or replacement of HV equipment in substations. The high “allocation” prices of the HV international links and the loss of revenue in case of non –availability of the link are direct economical drivers to limit the permitted outage time

The objective of this Working Group is to investigate engineering concepts, equipment assemblies and working methods which could considerably reduce the replacement time.

#### Scope

The Working Group will:

1. Identify the **trends** of the replacement policies, taking into account the life cycle of HV equipment presently on the market , skills of the workforce and comparative cost for repair versus replacement
2. Identify **engineering** concepts which may facilitate the replacement in the future
3. Identify the present **equipment** concepts (AIS, GIS, Compact, modules) which will provide the best facilities for complete or partial replacement in the future.
4. Identify **working** methods (for example live working, by-passes..) in order to optimize the outage time and the associated intervention cost.

#### Deliverables/time schedule

- Electra report or Technical brochure depending upon volume of content which defines the benefits to be obtained by combination of good engineering and design , good selection of equipment concepts /assemblies and working methods.
- Interim report by mid 2007, final report either as Electra paper or technical brochure to be issued by mid 2008.

#### Customers

Engineering consultants, Utilities and contractors.

Indirectly manufacturers.

Approval by TC Chairman : Aldo Bolza

Date : August 25, 2005

Updated 01-01-2008 New Convenor François Gallon