



## **Study Committee B3 “Substations“**

**Design, construction, maintenance and ongoing management of substations and electrical installations in power stations (excluding generators)**

# SC B3 recent meetings

- **9<sup>th</sup> (48<sup>th</sup>) SC B3 meeting on 18<sup>th</sup> May 2011 in Chicago, together with IEEE/CIGRE colloquium**
- **10<sup>th</sup> (49<sup>th</sup>) SC B3 meeting on 30<sup>th</sup> August 2012 in Paris**

## Activities area AA1 Concepts & Developments

- **WG B3.13 “Reducing Replacement Time of HV Equipment”** (F. Gallon)
- **JWG B3/C1/C2.14 “Circuit Configuration Optimization”** (G. Lingner)
- **WG B3.36 “Special Considerations for AC Collector Systems and Substations Associated with HVDC Connected Wind Power Plants”** (P. Sandeberg)

### **Just disbanded WG:**

**WG B3.12 “Obtaining Value from Condition Monitoring”** (A.J. Mackrell) **TB 462**

**WG B3.26 “Guidelines for the Design and Construction of AC Offshore Substations for Windfarms”** (J.Finn) **TB 483**

***New possible topic : S/S grounding design, DC S/S considerations, S/S environmental footprint, evolution of S/S to 2050***

# Overview of SC B3 running WGs

## Activities Area AA2 Gas Insulated Substations

- **WG B3.25 "SF6 Gas Analysis for AIS, GIS, MTS assessment"** (E.Duggan)
- **WG B3.29 "Field Test Technology on UHV Substation Construction and Operation"** (Guangfan Li) – almost finished
- **WG B3.30 "Guide to Minimize the Use of SF6 during Routine Testing of Electrical equipment"** (S.Stangherlin)
- **JWG B1/B3.33 "Feasibility of Common Dry Type Interfaces for GIS and Power Cables above 52 kV "** (P. Mirebeau)
- **JWG B3/B1.27 "Factors for Investment Decision GIL vs. Cables for AC Transmission"** (H. Koch)

# Overview of SC B3 running WGs

## Activities Area AA2 Gas Insulated Substations

### Just created WG:

**WG B3.24 “Benefits of PD Diagnosis on GIS Condition Assessment”** (M. Reuter)

### Just disbanded WG:

**WG B3.17 “GIS Residual Life Time”** (K.Pohlink) TB 499

### New WG under preparation :

*“Single Line Diagram Layout – Gas Compartments : Optimization and reliability” (D. Fuchse), Other ideas : GIS Interfaces (e.g. Transformers), Extensions of GIS, “Arc killers”in GIS (MV), Maintenance concepts, Requirements on GIS in future power grids, DC GIS, NCIT in GIS*

## Activities Area AA3 Air Insulated Substations

- **WG B3.23 “Guideline for Uprating & Upgrading of Substations”** (H.Imagawa) - TB in issuing process
- **WG B3.31 “AIS design for Sever Climate conditions”** (M. McVey, US)
- **WG B3.32 “Savings through Optimized Maintenance of Air Insulated Substations”** (H. Cunningham, IE)

**Just disbanded WG:**

**WG B3.21 “Turnkey Substations”** (T.Kertezs) TB 439

## **Activities Area AA4**

### **Substation Management**

#### ➤ **JWG B3.06 “Substation Management” (J. Smit) :**

- **B3.06.01 “Maintenance and organization”-contracting**  
(publication at the Doble Conference in Boston, March 25-30, 2012, CIGRE publishing under consideration)
- **B3.06.05 “Practical Application of AM Information Strategies”**  
– almost finished TB “General Principles for AM Information Strategy

#### ➤ **WG B3.34 “Expected impact of the future grid concept on substation management” - new**

**Just disbanded WG:**”**WG B3.10 “Primary /Secondary system interface modeling for total asset performance optimization” TB 472; WG-TF B3.06.04 “Integral Decision Process for Substation Equipment Replacement” TB 486**

# 04/11 to 09/12 publications

## AA1

- ▶ **WG B3.12 : “Obtaining Value from On-line Substation Condition Monitoring”, **TB 462** ELECTRA 256 , June 2011**
- ▶ **WG B3.26 : “Guidelines for the Design & Construction of AC Offshore Substations for Wind Farms”, **TB 483** ELECTRA 259, December 2011**



# 04/11 to 09/12 publications

## AA2

- ▶ **WG B3.17** : “Residual Life Concepts Applied to HV GIS”, **TB 499** ELECTRA 262, June 2012

## AA4

- ▶ **WG B3.06** : “Integral Decision Process for Substation Equipment Replacement” **TB 486** ELECTRA 260, February 2012
- ▶ **WG B3.10** : “Primary/Secondary system interface modeling for total asset performance optimization” **TB 472** ELECTRA 257, August 2011

# Prepared publications

## AA3

- ▶ **WG B3.23 : “Substation Upgrading and Upgrading”**  
circulated for SC commenting

# Other relevant substations AM publications

- SC C1 : “Overview of Cigre Publications on Asset Management Topics” **ELECTRA 262**, June 2012
- WG D1.33 : “High- Voltage On-site Testing with Partial Discharge measurement” **TB 502**  
ELECTRA 262, June 2012



Study Committee SC B3

# SC B3 Paris Session 2012 – Preferential Subjects

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- ✓ **PS1 : Substation Solution Enabling Smart Grids** (role of the HV substations in realizing smart grid [SG], substation management enabling SG implementation, substation automation and communication systems)
- ✓ **PS2 : Future substation developments** (UHV, offshore substations, AC/DC substations, Environmental impact of substations)

# SCB3 future involvements and meetings

- **SC B3/D1 Colloquium (“Managing substation diagnostics and emerging technologies”) and SC meeting in Brisbane, Australia, 7<sup>th</sup> to 13<sup>th</sup> September 2013**

**Thank you for your attention**