



March 1<sup>st</sup>, 2011

**CIGRE SC B2**

**OVERHEAD LINES**

**2010 ACTIVITY REPORT**

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## 1. Highlights

- Konstantin O. Papailiou replaced Bernard Dalle as chairman of SCB2.
- At the end of March 2011, SCB2 counts 26 WG (the oldest one having less than 3 years life) and 220 experts are participating to the activities of SCB2.
- Eight Electra articles of which seven linked with seven technical brochures have been published.
- Five tutorials held in 2010 by the WGs : WGB23 (Foundation, in Canada), TAGB2.06 (Mechanical, Behaviour of Conductor and Line Equipments, in USA, Sweden and UK), TAGB2.05 (Towers, in Brazil),
- New technical directions: AC-> DC Lines, real time monitoring, Increase of voltage level, innovative solutions for reducing OHL impacts on the environment.

## 2. SC working bodies: new and disbanded WG since the last March TC meeting

According to the decision of TC, SCB2 is reorganising its activities creating new WG with focused TOR and disbanding non permanent WG.

### 2a. A New working groups

Since March 2010, eight new TOR answering to the needs of our customers and also to the questions raised by TC project on the Network for the future have been approved.

So, in September 2010, two WG have been proposed and approved.

- WGB2.44 untitled "Coating for overhead power network equipment in winter conditions". This WG will look on interesting and promising techniques to protect structures (lines and wind turbines) from ice and snow accumulation..
- WGB2.45 untitled: "Bushfire characteristics' and the potential impacts on OHL performance", it will review the characteristics of wild fires(vegetation types, terrain, fire trips, climatology,etc.) near OHL.

Five new WG have been proposed and approved in December 2010:

- WGB2.46 untitled "Wind induced motion on Bundle conductors (excluding ice galloping)".
- WGB2.47 untitled : "Remedial actions for aged fitting and repair of conductors" ,
- WGB2.48 untitled "Experience with the mechanical performance of new conductor types"
- WGB2.49 untitled "Safedesign tensions for conductors fitting with elastomer cushioned suspension units"
- WGB2.50 untitled "Safe handling of fitting and conductors"

Finally, in January 2011, one WG was approved,

WGB2.51 untitled " Methods for optimized design of overhead lines.

### 2b. WG disbanded

**Six working groups have been disbanded** in 2010:

- WGB2.08 "Transmission Line Structures"
- WGB2.16 "Meteorology for OHL"
- JWGB2/C1.19 "Increase Capacity of OHL"
- WGB2.26 "Guide for Qualifying High Temperature Conductors for Use on OHL"
- WGB2.29 "System for prediction and monitoring ice shedding, anti and de-icing for OHL"
- WGB2.30 " Engineering guidelines relating to fatigue endurance capability of conductor/clamp system.

### 2c. Total number of WG (End of March 2011)

At the end of March 2010, SCB2 counts 26 WG.

### 3. SC publications and tutorials since the last March TC meeting and publication plan for 2011 and beyond

#### 3a - Publications since last TC meeting April 2010

In 2010, SC B2 has produced numerous results among which the publication of 8 Electra articles, including 7 technical brochures:

1. Electra #249 TB #410 - April 2010	Local Wind Speed-up on OHL for Specific Terrain Features (WG-16)
2. Electra #250 TB #416 – June 2010	Innovative solutions for OHL Supports (WGB2.08)
3. Electra #251 TB #425 - August 2010	Increasing Capacity of OHL, needs and Solutions (JWG-B2/C1.19)
4. Electra #251 TB #436 - August 2010	Guide to Evaluating and Accepting New Types of OH Conductor (WGB2.26)
5. Electra #251 - August 2010	Problem with Dye Penetration Test (WGB2.21)
6. Electra #252 TB #428- October 2010	The effect of fabrication and erection tolerances on the strength of lattice steel transmission towers (WGB2.08)
7. Electra #252 TB #429- October 2010	Guidelines relating to Fatigue Endurance Capability Conduc./Clamp (WG-30)
8. Electra #253 TB #438 – December 2010	Systems for prediction and monitoring ice shedding, anti-icing for OHL(WGB2.29)

#### 3b - Publications scheduled in 2011

For 2011, following publications are scheduled, the 6 first ones have already been sent to Cigre Secretariat for publication:

1 - Electra ____TB 2011	Modelling of Aeolian Vibration of Single Conductors (WGB2-31)
2 - Electra ____TB 2011	Evaluation of Advanced Tools for Composite Insulator (WGB2-21)
3 - Electra ____TB 2011	Preparatory studies on specifications for revisions of IEC (WGB2-25)
4 - Electra ____TB 2011	Assessing the performance of aged fitting (WGB2.32)
5 - Electra ____TB 2011	Guidelines for cable/trolley (cycling) safety on old conductor(WGB2.33)
6 - Electra ____TB 2011	Guide for application of direct real time monitoring systems on OHL (WGB2.36)

## 4. Tutorials and workshops in 2010

Five tutorials sessions were held in 2010 by the WG's :

- **WG B2.23**      **T01 : Foundation (N.Cuer, convenor)**
  - Montreal, Canada, WG23 meeting, January 2010 - 30 participants
- **AG B2.06**      **Mechanical, Behaviour of Conductor and Line Equipments (D. Hearnshaw, convenor)**
  - **T.02** : Fatigue of conductors: January 2010, IEEE, Orlando, US  
Presenter D G Havard, 40 Participants
  - **T.03** : Fatigue of conductors: October 2010, AE Technology meeting, Chester,UK  
Presenter W. Troppauer, , 14 Participants
- **AGB2.05**      **T.04 : Recent studies on Tower (J. Da Silva, convenor)**
  - Brazil, CIGRE regional meeting, October 2010 - 90 participants
- **AGB2.04**      **T.05 : Electrical performance (D. Douglass, convenor)**
  - Stockholm, Sweden, TAG04 meeting, February 2010 - 40 participants.

## 5. SC Strategic Plan and Action Plan: status

Three advisory groups dealing with Strategic direction, Customer needs and Publications and Tutorials were defined to ensure better participation from the SC members.

Four Technical advisory groups are created to coordinate WG, prepare new items of work to submit to CAG and SC chairman, to organise tutorials between several WG, to attract new WG members.

The SCB2 Strategic plan and action plan have been reviewed by the new Chairman.

## 6. SC planned meetings in 2011 and beyond

The next Technical and Administrative meetings will be held, in ICELAND in 2011, PARIS in 2012 and in NEW-ZEALAND in 2013.

## 7. SC participation to Regional Meetings and Symposia : in 2010, 2011 and beyond 2011

**2011 – FRANCE- PARIS** : On the 24 & 25<sup>th</sup> of March 2011, a new colloquium on ELF-EMF is scheduled in PARIS. It will be organized by the CIGRE French National Committee and SCB2, SCB1,SCB3, SCB4, SCC3 and SCC4.

## 8. Relations with other Organisations

WGs of SC B2 have regular exchanges with IEC TC 11, TC 36. Some WG are preparing technical reports which are then discussed within IEC MT (e.g: MT1 from IEC) or CENELEC WG ( WG09 from CLTC 11) for publication of new IEC or CENELEC standards.

Links with the Canadian Electric Association may also be pursued.

## 9. Specific actions for the recruitment of young experts

Students have been participated in WGs such as WGB2.29 on Anti- and De-icing Systems for Overhead Lines, JWGB2/C1.19 Increase Capacity of OHL (the secretary of the WG) and WG22 Anti-Cascading Support. Students are invited to tutorial and some are corresponding members of WGs.

## 10. SC website : on-line contents and date of last update

SC B2 has its own web site [<http://www.cigre-scb2.org>] in which all documents are published and may be downloaded. The web site receives 244184 hits in 2010.

SCB2 web site is up dated every 2 months. Last up date is 28<sup>th</sup> February 2011.