





**CIGRE General Session, Paris 2008**  
**Group Meeting SC B1 Insulated Cables, 27th August, 2008**  
**Results of Questionnaire**

## 2 What did you think of the SCB1 Session ?

2.1 Is the balance right between the long presentations of selected papers ( 10 mins for each – one in the morning and one in the afternoon) and the many formal contributions ( 3 minutes max for each)? *Approximately 70% of those attending thought the balance was right, and SCB1 plan similar for 2010.*

2.2 If you attended the Poster Session, do you consider it should be organized during the next 2010 Session?. *Again approximately 70% of those attending thought the Poster Session was worthwhile and should be repeated. SCB1 will have a Poster Session in 2010.*

2.3 Suggestions for Session format to make it more interesting ( Strategic Advisory Group reply in italics):-

### 2.3.1 Poster Session

- i) Allow more floor space and time for the Poster Session. All papers should be presented at the same time.- consider a full day.
- ii) Having the Poster Session simultaneously with the plenary session is not a good idea.

*2008 is the first year that we have had a Poster Session and there is very limited time and space in the Palais de Congres to cater for this innovation. However we will keep the position under review.*

### 2.3.2 Main Session

#### 2.3.2.1 Overall Organisation

- (i) For discussion Group Meeting would prefer to have 3 min presentation of each paper by author, not just the conclusion and problems .*The format is decided by Technical Committee and must generally be similar to other Study Committee's format*



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- (ii) Is it possible to reduce the number of Preferential Subjects from 3 to 2 and start the Session with a short summary of the received papers (5 min summary for each paper)? From 08.45 to 10.00 there should be time for the key words and 10 presented papers. The remaining papers could be put to the Poster Session and presented the same day in front of the meeting hall so that there is a chance to have a look on that poster during the breaks .*The format is decided by the Technical Committee. SCB1 has posted the papers at the Poster Session and had two long presentations on major topics at the main Session. Will be kept under review by SAG.*
- (iii) Suggest a warm up session at the start – ask the audience questions about cable experience – to encourage discussions questions. *deemed too general and likely to be unfocussed.*
- (iv) The time allocated to formal contributions is a little bit short. It should be better to have 5 mins max and to limit the number of contributions. *The format is decided by the Technical Committee. It is a balance between allowing many views, and depth of information.*
- (v) One extra 10 min presentation in order to have one long presentation for each PS. *The format is decided by the Technical Committee. It is a balance between allowing many views, and depth of information. SCB1 has posted the papers at the Poster Session and had two long presentations on major topics at the main Session.*
- (vi) The long presentations should be extended to 15 to 20 mins. *The format is decided by the Technical Committee. It is a balance between allowing many views, and depth of information. SCB1 has posted the papers at the Poster Session and had two long presentations on major topics at the main Session*
- (vii) Shorter presentations, like what is being done now, makes the Session more active. *Ok noted*
- (viii) Session is very well organised with a good balance between introduction, papers, contributions and discussion. *Ok noted*
- (ix) Definitely keep the time for questions/discussions after every Preferential Subject/ Question – *ok noted*
- (x) CD of all presentations and texts as soon as possible after Session. *Noted, but presently not planned.*



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- (xi) What of national presentations during SC meeting ?. Regret their disappearance. *This is done every odd year where the time allowed for the meeting is extended. However during the meetings held in Paris (even years), this will unfortunately not be possible due to time limits.*
- (xii) Try to have prepared contributions accepted up to the start of the Session, instead of stopping about 1 week before. *If a contribution is not submitted in time, then it can usually be presented as a spontaneous contribution from the floor.*
- (xiii) Ask open questions allowing other topics to be addressed . *This is difficult to manage in practice with such limited time at the Session, but can be done by spontaneous contribution from the floor*
- (xiv) GIL should be within B1. *The question has been considered within Technical Committee, and it has been decided that SC B3 deals with GIL.*
- (xv) Invite presentations from other SCs (e.g. D1- nanocomponents) or something on Network Management or other subjects still related to cables. *This is difficult to manage in practice with such limited time at the Session*

#### **2.3.2.2 Timing**

- i) Try to avoid B1,B4 and D1 schedule. *Timing of SCB1 is set by the Technical Committee.*
- ii) Session timing not clear – some delegates missed morning Session. *Noted. Will be improved to next Session.*

#### **2.3.2.3 Subjects/Quality**

There was some criticism of the quality of some papers and the English ability of some speakers. *In general SCB1 has had high quality papers over the years and allowance must be made for non-English speaking authors and presenters to participate. SCB1 encourages new and young authors.*

#### **2.3.2.4 Facilities**



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There was some criticism of the Palais de Congres and its facilities. *Given the number of delegates and the need for large lecture halls for parallel sessions and its location with respect to hotels, restaurants, transport, etc, it is difficult to see a more suitable conference centre being found.*

**3.1 The present work of SCB1 deals with**

- WG B1.08 Cable Systems in multipurpose or shared structures
- WG B1.09 Remaining life of existing HVAC cable system
- WG B1.10 Update of service experience of HVAC systems
- WG B1.11 Upgrading/Uprating of underground cable systems
- WG B1.21 Third party damage on underground and submarine cables
- WG B1.22 Cable accessories workmanship
- WG B1.23 Impact of EMF on current ratings and cable systems
- WG B1.24 Test procedures for transition joints
- WG B1.25 Advanced design of laminated coverings
- WG B1.27 Test recommendations on XLPE AC submarine cables form 170kV to 500kV
- JWG B3/B1-09 Application of long high capacity Gas Insulated Lines in structures
- TF B1.28 On-site partial discharge detection



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TF B1.29      Review of HV cable accessories performance

TF B1.30      Cable Characteristics

#### **4 Suggestions for new work within the scope of SCB1**

The following is the suggestions made by Questionnaire respondents for new work. These have been considered by the Strategic Advisory Group in April 2009 and underlined items have been added to the priority list of future work areas – some items have been already covered by Working Groups and these are also identified as they do not require further work.

##### **4.1 cable system design**

- i)      Pre qualification of cable and accessory providers . *Already covered by previous WGs*
- ii)     Aerial bunched cables
- iii)    Generation at high voltage ( now at 157kV) in Sweden, Japan, etc, is a rather new technology, where the high voltage generator and motors is directly connected to the grid. In this technology XLPE cable replace the normal rectangular insulated conductors. It is planned in the near future to generate at 240 and 440 kV. This would depend on the development in XLPE cable manufacture being able to produce flexible cables for bending at the rather short spans of the generator slots.
- iv)    Interpretation of long HV cable line and system
- v)     Due to large increase in wind power and other gas fired units there will be large grid extensions. In the past months and years a public discussion arose on the use of “underground systems” e.g. cables or GIL for that grid. I am not sure if there is experience somewhere in the world on how to build up very long 400kV AC cables or cable grid
- vi)    DTS in HV/EHV cables – applications, experiences, value to customer - consider also under all headings below *Already covered by previous WGs*
- vii)   Protection of cables –mechanical. *Being done by WG B1.21 and B1.10*



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- viii) Recommendations for induced voltage limits on long lengths which are becoming more prevalent
- ix) Cable characteristics *Being done by TFB1.30*
- x) Compensation system for long distance transmission
- xi) Thermo mechanical design of cable systems, particularly those with large conductors and how expansions/contractions and thrusts are catered for.
- xii) Hydraulic designs for LPFF cables including sealing ends design where high pressure may be experienced ( e.g. at the bottom of cable shafts ) – the experience in this area is fast disappearing.

**4.2 testing:**

- i) PD testing at site *Being done by TFB1.28*
- ii) Update test recommendation on AC submarine cables up to 170kV. Referenced to IEC 60840 and IEC 60502( medium voltage as for MRC in HVDC systems)
- iii) On site testing commissioning tests *Being done by TFB1.28*
- iv) Conductor joint strengths – in lv/mv specifications, but not in HV
- v) Routine testing and factory acceptance testing of long extruded HVDC cables. Connection to B1.27 possibly that might run into similar problems of RT/FAT testing of long HVAC cables
- vi) DC cables greater than 250kV *Being done by WG B1.32*
- vii) Specification and recommendation for testing HTS cable systems *Being done by WG B1.31*



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- viii) Short lengths of cables ( e.g. 20-50 m) in substations in service (e.g. HT cables between transformer and metalclads) where it is not possible to use PD methods and resonance( noise)
- ix) Influence of short circuit on cable and accessories quality and interface
- x) Methodology for AC high voltage test with PDM at commissioning to be guided (IEC lacks methodology) *Being done by TFB1.28*

#### **4.3 Installation**

- i) long length AC cable and long underground cable link
- ii) Method to reduce installation costs to make ug cable more competitive to OH lines

#### **4.4 Operation**

- i) update cable rating

#### **4.5 maintenance**

- i) On Line continuous sheath monitoring to eliminate annual outage
- ii) Fire extinction techniques in manholes

#### **4.6 diagnostic techniques**

- i) pre commissioning tests and diagnostic testing for bench mark based on different tests *Being done by TFB1.28*
- ii) DTS guidelines for system performance – *already covered by previous Working Group*
- iii) Optimisation of cable circuits survey



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- iv) PD testing on site *Being done by TFB1.28*
- v) Gather information and give safe recommendations concerning diagnostic measurements and their analysis with respect to remaining life *Being done by TFB1.28*

**4.7 Other**

- i) Environmental Impact Assessment