

Technical Committee Report

1. TC meetings

1.1. Meetings since October 2010

- **November 4th and 5th, 2010 in Athens, Greece (informal meeting)**
As usual the purpose of this informal meeting was discussions on technical issues rather than administrative matters. The meeting was well attended despite its informal character. A significant part of the time was spent on careful elaboration of the preferential subjects for the 2012 Session. The two Admin.Council members, Jorgen Christensen and Ray Brown, contributed very actively to the meeting.
- **March 30th and 31st in Rio de Janeiro, Brazil (regular annual meeting)**
All SCs were represented. One SC chairman, unable to attend (for health reasons), asked the SC Secretary to stand in for him. The active participation of the two Admin.Council members was noted. As usual, discussions were lively and the team spirit amongst the TC members continues to be excellent.

1.2. Next TC meetings:

- **Informal meeting on Nov. 3rd and 4th, 2011 in Perth, Australia**
Prior to the TC meeting, on Nov. 2nd an SC Chair panel session will be organised by the Australian CIGRE colleagues.
- **Regular meeting end of March, 2012 (precise dates tbd) most likely in Spain**

2. Highlights from the TC with reference to the Admin.Council

2.1. TC key activities

As already indicated in previous reports a number of key actions are to on the TC agenda. For the time being this list remains unchanged as all the actions have medium-to long term character.

- TC Projects:
 - The network of the future
 - Energy efficiency
 - UHV issues

- System aspects including MV and LV networks
- Improvement of internal TC processes

More details are given in the following sub-clauses.

2.1.1 TC Projects:

- **“Network of the Future” – TC Project:**

In 2009 an extended TF (consisting of 9 SC chairmen) was set up under the guidance of SC C6 in order to identify CIGRE’s involvement on the topic of the future electric power system. The group has successfully finished the preparation of an extensive report. Two models for future network development were identified:

- Large networks for bulk transmission and large centralized renewable generation
- Emergence of clusters of small largely self contained distribution networks including local generation, energy storage and active customer participation

The two models are not exclusive and there is agreement within the TC that a blend of both is the most likely shape of the future network development. From this top-down consideration a list of ten key technical issues (TI) was elaborated. Current and future necessary involvement for the various SCs was drawn from these ten TIs. A final draft of an executive summary is ready for publication in Electra. A full report will be published on the TC web site indicating assignment/involvement of the various SCs. A white book, understandable also for people outside CIGRE, is due by end of May 2011. The Task Force continue to be in charge for the time being in order to keep a maintaining role in this field.

- **Efficiency of the power system – TC project**

The chairmen of C1 and C3 elaborated a very useful document on “power efficiency” (working title) indicating how CIGRE’s involvement should be. Information from the various SCs was collected indicating to what extent the subject is already dealt with at SC level. Initial difficulties and confusion challenged the group as different views and definitions on the term power efficiency emerged. This was found also within other institutions, which made first attempts at cooperation, i.e. with EPRI difficult. Distinction between equipment and system aspects clarified the topic and a roadmap is now visible.

Basically two aspects will be followed up:

- Energy efficiency of the equipment, e.g. for transformers
- Best utilization of the power system with regard to economic and environmental aspects

These topics yield a list of key factors, namely:

- System component efficiency
- Network loss reduction

- Improvement of efficiency of operation by consideration of network losses for the same generation despatch profile
- Use of storage to support intermittent generation

A position paper is drafted to be published at the CIGRE Symposium in Bologna, 2011. Also an executive summary is in preparation for Electra. In line with the procedure for the future network issue an extensive report will be elaborated giving the full details, either as a TB or on the TC website.

- **UHV**

In order to handle UHV issues (above 1000 kVAC and 800 kVDC) SC A3 is coordinating all activities within CIGRE. For the time being the topic is kept as a (small) TC Project.

2.2. System aspects including MV- and LV networks

In particular, considering future system development it becomes evident that CIGRE's activity has to be enhanced in medium voltage - and low voltage system aspects. Involvement of the SCs is currently analysed. With the assistance of the new Admin.Council delegates Jorgen Christensen and Ray Brown both with MV/LV backgrounds new WGs should be identified under the leadership of C6. (It should be mentioned that this activity is not aimed at competition with CIREN as this institution has no working groups in the field.)

2.3 Improvement of CIGRE's image

- **ELECTRA**

As reported already a new section in Electra is being planned, to include excellent and reviewed scientific and/or technical contents. Each SC nominated a few experienced experts and a pool of reviewers is available for the CO. A chief editor is nominated (Olav Fosso, chairman C5). Details on the procedures were worked out by the new Secretary General and the project is ready to start. (More details to be given by Francois Meslier).

- **Annual reports of each SC**

In 2009 it was decided that in future each SC will put forward a short activity report each year for publication in Electra. This practice is established, although some reports are sent in too late. All SCs should endeavour to meet the required deadline.

- **More tutorials and workshops**

It is noted that on the average the efforts of the SCs have been enhanced. SC chairmen are repeatedly motivated to organize such events.

2.4. Improvement of internal TC procedures

Borderlines between SCs

The new practice of circulating the TORs for each new Working Group within the TC has proved very successful. Circulation and feedback are organized very efficiently through the internet tool called “doodle”. Overlaps are identified and uncertainties on the responsibility between neighbouring SCs normally lead to an easy agreement between the SC Chairmen concerned. As can be seen from Fig. 2 not too many joint Working Groups exist. The reason is that JWG are accepted only on two conditions:

- The overlap is significant or the topic is strongly interdisciplinary so that two or more SCs have to contribute in the same proportion
- All chairmen agree to create a JWG (in case of disagreement the TC chairman has a decisive say)

In case of a normal WG (no JWG) the corresponding SC invites participation of one or more experts from other SCs into that group for coordination and knowledge transfer.

Other tasks

- Discussions with the following institutions for better coordination/exchange of experience:
 - IEC (pending)
 - IEEE (July 2011 in Detroit)
 - CIRED (pending)
- In order to publish extended reports from the TC, e.g. full length reports on the current TC projects it was decided to extend the TC website to a public sector.

3. Performance of the various SCs

The team spirit is very good. The lively discussions and the work output shows the TC as an effective working body including representatives of the Admin.Council who contribute actively.

Currently the SCs show a satisfactory performance. The new SC chairmen who took up their functions in 2010 are doing a very good job. The incoming Chairmen have started the review process for new strategic plans.

In general there are no other exceptions which worthy of mention here.

4. Statistics

4.1. Total number of working bodies (WBs):

Fig. 1 shows the evolution in the number of working bodies over the period April 2010 to April 2011. Since April 2010, 54 new WGs were created and 34 WGs were disbanded. The result at present is thus a total of 210 WGs. The creation and disbanding dynamics are still certainly high which evidences the buoyancy of the technical activities. The total increase in WGs is certainly an indicator that the Association at present is in good shape.

4.2. Distribution of WGs over the various SCs:

Fig. 2 illustrates the distribution of WBs over the various SCs. As already pointed out in previous reports, there is some asymmetry between the SCs, which to some extent reflects the tradition of an SC. The newer ones by nature have more difficulties establishing. The number of JWGs is comparably small. This is in line with the philosophy that JWGs only be set up in cases where a work body deals with a real interdisciplinary topic (as also pointed out in chapter.2.4).

4.3. Publications of the various SCs:

Fig. 3 gives an idea on the publication activity of the various SCs. The number of publications reflects more or less the size of an SC, but not necessarily. The numbers also indicate long established SCs (more publications) and newly created ones which are still in a starting phase (C3, C5 and C2, respectively).

In total the publication activity is at its highest peak since 2002 (Fig.4).

4.4. Number of conveners from various countries:

Fig. 5 shows the distribution of Working Body Conveners in 2010; there has been little change since the last report.(GB now exceeds the US figure).

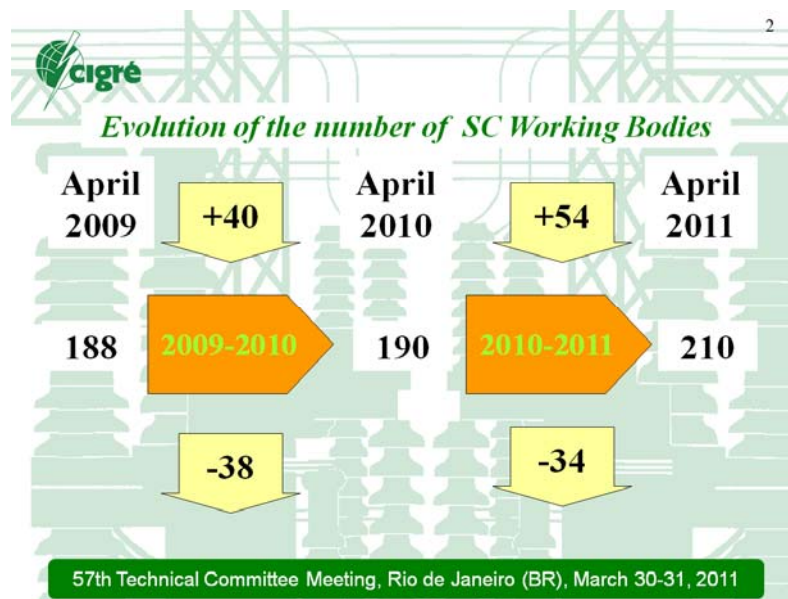


Fig. 1: Evolution of number of working bodies (March, 2011)

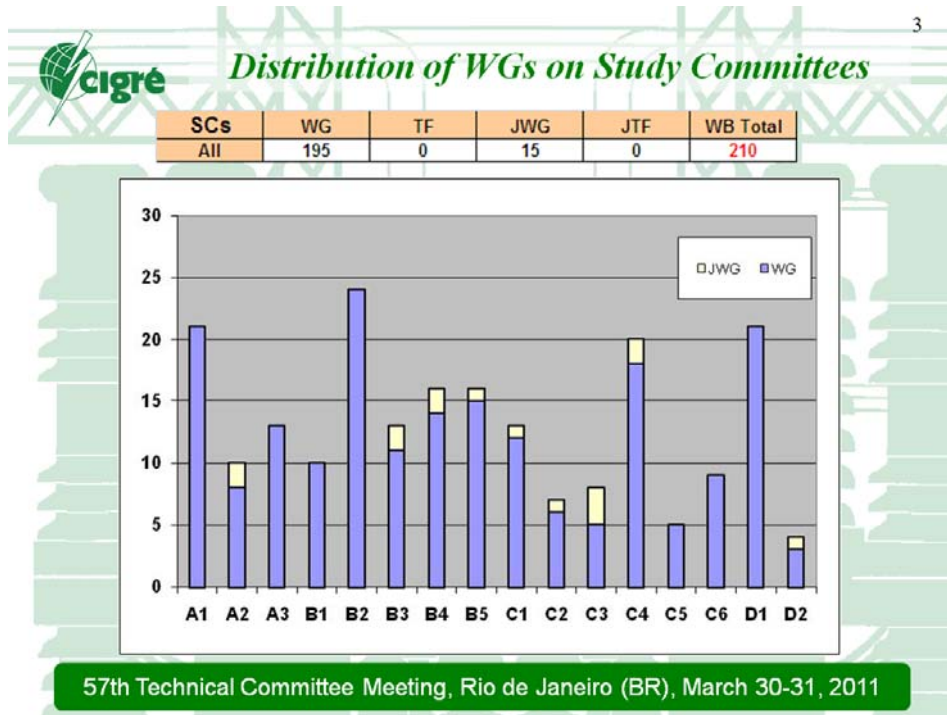


Fig.2: Number of Working Groups in the various SCs (March, 2011)

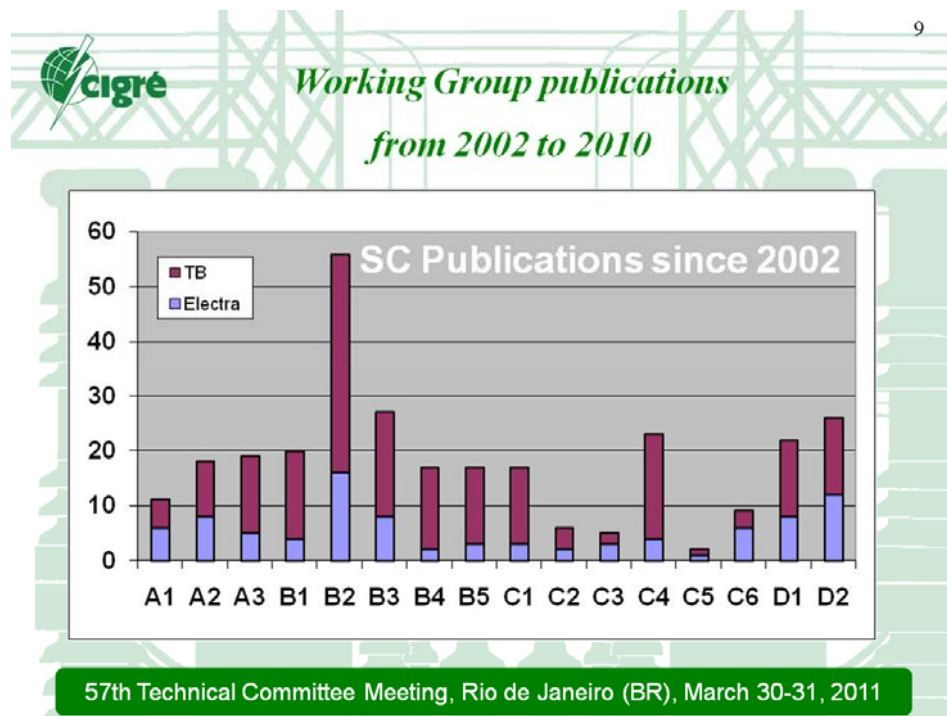


Fig. 3: Number of publications for the various SCs (April, 2011)

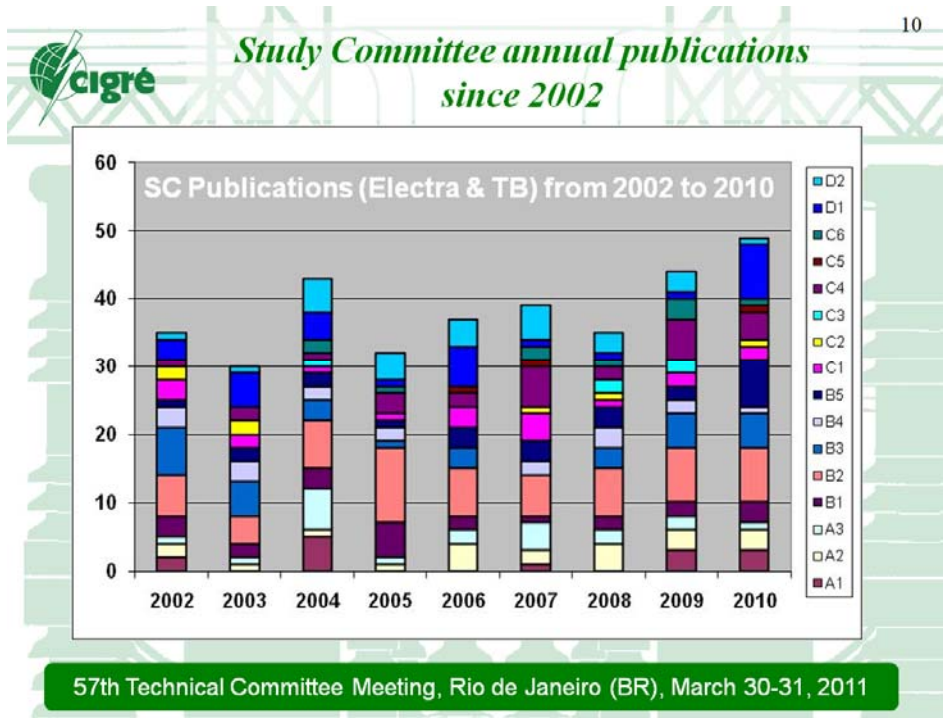


Fig.4: Total number of publications in the period between 2002 and 2010

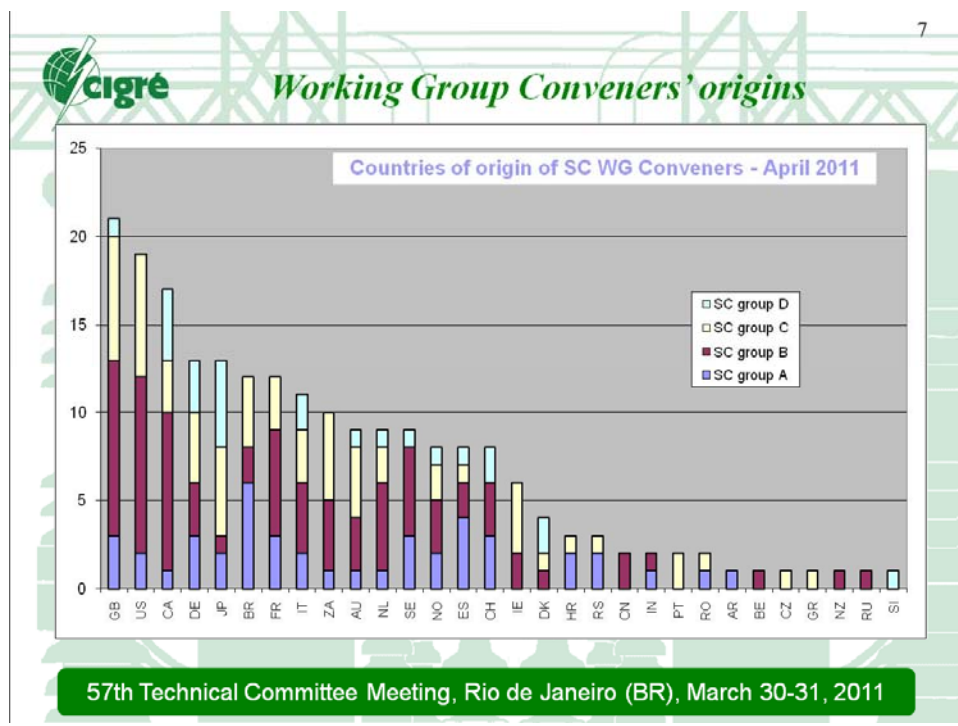


Fig. 5: Distribution of WG conveners according to countries (March, 2011)