

## SC C6, "Distribution Systems and Dispersed Generation"

### Activity Report

#### Highlights

In the period 2002-2006 the activity of SC C6 was driven by the guidelines stated in the Strategic Plan prepared by the SC in 2002-2003. After careful consideration of the achievements attained in this first period, the SC started, late 2005 and 2006, the preparation of a new Strategic Plan aimed to cover, in agreement with CIGRE practice, the next decade. During the 2006 SC meeting in Paris the new plan was finally agreed

The plan indicates some basic guidelines to drive the activity of the SC in the next years. They are:

- ✓ *to study the connection and the integration of dispersed generators, including related devices such as storage, electronic base interfaces and systems; to adopt the concept of Dispersed Energy Resources (DER)*
- ✓ *to study the application of the DG concept as a part of the medium long term evolution of distribution systems, i.e. creation of active distribution networks able to contribute to the improvement of the overall performances of electric power systems.*
- ✓ *to examine the opportunity to extend the SC activity to study the evolution of distribution networks including subjects that are not strictly related to the application of DG concept.*
- ✓ *to continue to study the subject of rural electrification.*

A number of technical subjects are identified and detailed in the new Strategic plan.

Some actions undertaken by the SC in 2006 (revitalisation of the WG on *Rural Electrification*, the creation of two new WGs and of the AG on *Tutorials*) were based on the aforesaid technical subjects. Similar actions shall be undertaken in 2007 and 2008.

#### SC working bodies

List of working forces still active after the 2006 TC meeting.

Type	Number	Title	Name of Convenor	Created	Disbanded
WG	C6.03	Operating dispersed generation with ICT (Information & Communication Technology) (1)	S. Odagiri (JP)	2003	2004 Disb. end 2006
WG	C6.04	Connection and protection practices for dispersed generation (2)	N. Hatziargyriou (GR)	2003	2006
TF	C6.04.01	Connection criteria at the distribution network for distributed generation (1)	N. Hatziargyriou (GR)	2003	2005 Disb. end 2006
TF	C6.04.02	Computational tools and techniques for analysis, design and validation of distributed generation systems (3)	K. Strunz (US)	2003	2005
WG	C6.05	Technical and economic impact of DG on transmission and generation systems (3)	G. Strbac (UK)	2003	2005
WG	C6.08	Integration of a large share of fluctuating power	H. Weber (DE)	2004	2006
WG	C6.09	Demand side response	A. Baitch (AUS)	2004	2007

WG	C6.10	Technical and commercial standardisation of DER/microgrids components	J. M. Oyarzabal (E)	2006	2009
WG	C6.11	Development and operation of active distribution networks	C. D'adamo (I)	2006	2009
WG	C6.13 (ex07)	Rural Electrification	G. Dagbjartsson (CH)	2006	2008
JWG	C6.14/C3.05	Environmental impact of dispersed generation	T. Smolka (DE)	2006	2009
AG	C6.01	Strategic advisory group	A. Invernizzi (IT)	2002	Permanent
AG	C6.12	Tutorial advisory group	T. Gaunt (ZA)	2006	Permanent

- (1) The working force concluded its work with full achievement of the objectives; it was disbanded at the end of 2006. Publication of results (technical brochure and summary on ELECTRA) is in progress.
- (2) The WG shall be disbanded in 2007 together with TF C6.04.02
- (3) The working force is concluding its work; it should be disbanded in 2007.

## SC publications

- ELECTRA, June 2005, “*SC C6 2005 Colloquium: Electrification and dispersed generation*”, by A. Invernizzi and T. Gaunt
- ELECTRA, February 2007, “*Operating dispersed generation with ICT*”, Summary of the Technical Brochure of WG C6.03
- Technical brochure, Ref. 311, 2007, “*Operating dispersed generation with ICT*”, Final report of WG C6.03

The plan for 2007 publications and beyond is as follows.

- Technical brochure and summary for ELECTRA on results of TF C6.04.01, “*Connection criteria at the distribution network for dispersed generation*” to be published soon
- Technical brochure and summary for ELECTRA on results of TF C6.04.02, “*Computational tools and techniques, design and validation of DG systems*” to be published late 2007 or beginning 2008
- Technical brochure and summary for ELECTRA on results of WG C6.05, “*Technical and economic impact of DG on transmission and generation systems*” to be published late 2007 or beginning 2008
- ELECTRA, report on SC C6 2007 Colloquium, “*Electricity for rural socio-economic development*”, to be published during 2008.

## SC website

The SC website was rebuilt using the tools provided by the Central Office and in agreement with the general guidelines stated by the General Secretary. The SC website is currently updated by the SC Secretary. Last update March 2008.

## SC Strategic Plan and Action Plan

The Strategic Plan prepared in 2003 was revised in 2006 by the Strategic Advisory Group (AG C6.01); it was circulated among all the SC members, discussed during the SC meeting in Paris and

finally approved. Copy of the Strategic Plan is sent to the TC Chairman and Secretary before the 2007 TC meeting. The relevant Action Plan shall be modified accordingly; it shall be discussed at the next SC meeting.

## **SC meetings**

The SC shall meet on May 2, 2007 in Langkawi, Malaysia, under invitation of the Malaysian National Committee. An informal invitation to meet in Brazil in 2009 was advanced by the SC Brazilian member; the invitation has still to be finalised.

## **SC participation to Regional Meetings and Symposia**

In 2007 the SC is participating to the organisation, together with the Malaysian National Committee, of a 2 days Colloquium (May 3 and 4) on “*Electricity for rural socio-economic development*“. The Colloquium is organised with the support of Asia-Oceania Regional Council (AORC-CIGRE), HAPUA (Head of ASEAN Power Utilities and Authorities) and CIRED Malaysia.

2009 activities have still to be finalised.

## **Relations with other organisation**

Relations with EURELECTRIC, CIRED and IEA are well established through the action of the Chairman and of some members who are also active in those associations; a link is also assured with IEEE Committees and WGs active on topics of interest of the SC by the action of the USA member.

The Chairman is invited to chair a round table on “European regulators and the experience of introduced regulations” during the 2007 CIRED Conference.

Three members of the SC are members of the Advisory Council of the European Technology Platform SmartGrids, stated in 2005. The Chairman was invited to attend the 1<sup>st</sup> General Assembly of the TP in 2006.