



**Study Committee C6**  
**Distribution Systems and Dispersed Generation**

**Action plan for the period**  
**2009-2010**

(last update July 2009)

## Introduction

In 2006 the SC developed – under the chairmanship of Angelo Invernizzi - a new Strategic Plan aimed to cover, in agreement with CIGRE practice, the next decade.

This Action Plan is aimed to identify the actions to be taken in the period 2009-2010 – under the new chairmanship of Nikos Hatziargyriou - on the basis of the guidelines stated in this Strategic Plan.

## SC strategies and future activities

The Strategic Plan, agreed in the 2006 SC Meeting, 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.*

## SC working forces

### List of existing working forces.

Type	Number	Title	Name of Convenor	Created	Disbanded
WG	C6.04	Connection and protection practices for dispersed generation	N. Hatziargyriou (Greece)	2003	2006
TF	C6.04.02	Computational tools and techniques for analysis, design and validation of distributed generation systems (1)	K. Strunz (Germany)	2003	2009
WG	C6.05	Technical and economic impact of DG on transmission and generation systems (1)	G. Strbac (UK)	2003	2009
WG	C6.08	Integration of a large share of fluctuating power (1)	H. Weber (Germany)	2004	2009
WG	C6.09	Demand side response (1)	A. Baitch (Australia)	2004	2009
WG	C6.10	Technical and commercial standardisation of DER/microgrids components (1)	J. M. Oyarzabal (Spain)	2006	2009
WG	C6.11	Development and operation of active distribution networks	C. D'adamo (Italy)	2006	2009
WG	C6.13	Rural Electrification (2)	G. Dagbjartsson (Switzerland)	2006	2008
JWG	C6.14/C3.05	Environmental impact of dispersed generation	T. Smolka (Germany)	2006	2009
WG	C6.15	Electric Energy Storage Systems	Z. A. Styczynski (Germany)	2007	2009

WG	C6.16	Technologies employed in rural electrification	T. Gaunt (South Africa)	2008	2010
JWG	C1/C2/C6.18	Coping with limits for very high penetrations of renewable energy	Frank Groome (Ireland)	2008	2010
AG	C6.01	Strategic advisory group	A. Invernizzi (Italy)	2002	Permanent
AG	C6.12	Tutorial advisory group	T. Gaunt (South Africa)	2006	Permanent
AG	C6.17	Rural electrification advisory group	A. Zoomers (the Netherlands)	2008	Permanent

- (1) The working group is concluding its work; it should be disbanded in 2010.
- (2) The working group concluded its work with full achievement of the objectives. Publication of results as was done (technical brochure and summary on ELECTRA) and strategy paper on rural electrification is published on C6 web page.

### New proposals

The number of active working forces has to be consistent with the actual availability of experts to be proposed by the SC members and with the actual capability of the SC to control and manage the progress of the working forces and the respect of the planned schedule.

In conjunction with the end of some existing working forces new ones may be started, following the guidelines stated by the TC and the CIGRE Central Office (i.e., preparation of ToR, discussion within the SC, presentation of proposal to the TC, waiting for approval).

It is envisaged to set up new WG on the following topics:

- Planning and optimization methods for active distribution systems
- Electronic vehicles
- Microgrids
- Smart Metering

In all existing WGs it turned out that there is currently no common language for world-wide solutions in Distribution Systems and Dispersed Generation; different terms with different meanings are used. It is planned to set up an advisory group to identify SC C6 terminologies.

### **SC meetings**

In 2010 the SC will meet in Paris during the CIGRE Conference.

### **Participation to CIGRE events**

In 2009 the SC is participating to the organisation, together with the Canadian National Committee, of a 3 days Colloquium (July 29-31) on *“Integration of wide-scale renewable resources into the delivery system”*.

### **Participation to non CIGRE events and links with other organisations**

The Chairman is collaborating with SG and TC Chairman in maintaining contact with EURELECTRIC, CIRED, and IEA. The USA member is charged to assure the adequate link with IEEE Committees and WGs active on topics of interest of the SC.

A number of SC members are involved in some international projects (mostly EC funded); during the 2007 TC meeting the SC was asked to coordinate a group of SC Chairmen (B3, B5, C1, C2, D1, D2) charged to monitor the EU initiatives in the field of power system (for instance, the Technology Platform SmartGrids) and to make recommendations to the TC on the work to be done.

## Publications

### Recent publications

- *ELECTRA*, June 2006, “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

### Plan for 2009 publications and beyond

- *ELECTRA* report “Active Distribution Networks: general features, present status of implementation and operation practices – Update of CIGRE C6.11 Working Group Activities”, by April 2009
- *ELECTRA* report "The challenge of rural electrification, CIGRÉ’s strategy and organizational approach", A.N. Zomers (Netherlands), G. Dagbjartsson (Switzerland), On behalf of Study Committee C6, by April 2009
- *ELECTRA* report "Rural Electrification: a scoping report by G. Dagbjartsson (Switzerland), C.T.Gaunt (South Africa), A.N.Zomers (Netherlands) with contributions from members of Cigré Working Group C6-13 “Rural Electrification” , by April 2009
- Technical brochure and summary for ELECTRA on results of TF C6.04.02, “Benchmark Modeling and Simulation for Analysis, Design, and Validation of Distributed Energy Systems”, by July 2009
- Technical brochure and summary for ELECTRA on results of WG C6.05, “Technical and Economic impact of DG on Transmission and Generation Systems”, by December 2009
- Technical brochure and summary for ELECTRA on results of WG C6.09, “Demand Side Response”, by December 2009