



## 2009 Activity Report

### Study Committee C6

#### 1. Highlights

IEEE Power Engineering Society/CIGRÉ joint symposium on the “Integration of wide-scale renewable resources into the power delivery system” was held in Calgary, Canada, on July 29-31, 2009

4 new WGs with topics:

- "Planning and optimization methods for active distribution systems",
- "Integration of electric vehicles in electric power systems",
- "Smart metering"
- "Microgrids"

One new AG about terminology.

3 WGs finished their work, 3 WGs are expected to finalize their work this year.

SC C6 chairs the “Networks of the Future” WG.

#### 2. Working group changes since the last TC meeting :

##### a. New

- WG C6.19 "Planning and optimization methods for active distribution systems", convened by F. Pilo, Italy, 2010 - 2012
- WG C6.20 "Integration of electric vehicles in electric power systems", convened by Joao Pecas Lopes, Portugal, 2010 - 2012
- WG C6.21 "Smart metering", convened by E. Navarro, Spain, 2010 - 2012
- WG C6.22 "Microgrids", convened by ... (to be decided), 2010 - 2012
- AG C6.23 "Advisory Group on Terminology", 2010 - 2012

##### b. Disbanded

The following WBs have finished their job:

- TF C6.04.02 “Computational Tools and Techniques for Analysis, Design and Validation of Distributed Generation Systems”.
- WG C6.08 “Grid Integration of Wind Generation”
- WG C6.10 “Technical and Commercial standardisation of DER/Microgrids components”

Reports were prepared and circulated among the SC members.

C6.10 provided all documents for publication in e-cigre and in Electra. Publications by WG C6.08 and TF C6.04.02 are expected to be available soon.

WG C6.09 “Demand Side Response”, WG C6.11 "Development and operation of active distribution networks" and WG C6.15 "Electric Energy Storage Systems" are expected to have a final report ready soon.



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### c. Resulting total number of WGs (end of March 2010)

- There are currently 9 active working bodies:
  - WG C6.05 "Technical and Economic impact of DG on Transmission and Generation Systems"
  - WG C6.09 "Demand side response"
  - WG C6.11 "Development and operation of active distribution networks"
  - WG C6.15 "Electric Energy Storage Systems"
  - WG C6.16 "Technologies employed in rural electrification"
  - WG C6.19 "Planning and optimization methods for active distribution systems"
  - WG C6.20 "Integration of electric vehicles in electric power systems"
  - WG C6.21 "Smart metering"\*
  - WG C6.22 "Microgrids"\*
- \* still to be approved by TC
- There are currently 2 joint working groups:
  - JWG C3.05 / C6.14 "Environmental Impact of Distributed generation"
  - JWG C1/C2/C6.18 "Coping with limits for very high penetrations of renewable energy"

### 3. Publications

#### a. Publications since the last TC meeting (April 2009)

*ELECTRA report* "Active Distribution Networks: general features, present status of implementation and operation practices – Update of CIGRE C6.11 Working Group Activities"

*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

*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"

Technical brochure and summary for ELECTRA on results of WG C6.10, "Technical and Commercial standardisation of DER/Microgrids components"

#### b. Publication plan for the coming year

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 2010

Technical brochure and summary for ELECTRA on results of WG C6.08, "Grid Integration of Wind Generation", by July 2010

Technical brochure and summary for ELECTRA on results of WG C6.11, "Development and operation of active distribution networks", by August 2010



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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 2010

Technical brochure and summary for ELECTRA on results of WG C6.15, “Electric Energy Storage Systems”, by August 2010

Technical brochure and summary for ELECTRA on results of WG C6.09, “Demand Side Response”, by December 2010

#### 4. Tutorials and workshops in 2009

none

#### 5. Strategic Plan and Action Plan : status (to be reviewed, updated, re-written or still valid)

Both, Strategic Plan (2007 - 2016) and Action Plan (2009-2010) are still valid. The AG on strategy is reactivated. It will meet in August in Paris providing a new strategic plan taking into account the outcome of the “Networks of the Future” WG.

#### 6. Planned SC meetings (in 2009 and next)

- 2010, August, Paris, CIGRE general session
- 2011, Italy, in combination with a C6 Symposium

#### 7. Participation to Regional Meetings, colloquia and symposia :

##### a. In 2009

IEEE Power Engineering Society/CIGRÉ joint symposium on the “Integration of wide-scale renewable resources into the power delivery system” was held in Calgary, Canada, on July 29-31, 2009

##### b. In 2010 and beyond

2011, Italy, details to be decided

#### 8. Relations with other organisations

The SC C6 chairman is strongly involved in European smart grids technology platform.

Close connections to CIRED and IEEE exist due to activities of SC C6 members; they were demonstrated in 2008 Paris meeting.

CIGRE 2009 C6 Symposium was organised in cooperation with IEEE/PES, and C6 meeting was held in parallel with PES general meeting 2009 in Calgary.

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

Young experts are especially invited to participate in WGs.



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

SC website contains all current information, last update on April, 12<sup>th</sup> 2010

### **11. Miscellaneous**