

CIGRE Study Committee C1

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP (1)

WG* N° C1.30	Name of Convenor : Christian Schorn (Germany) E-mail address: c.schorn@enbw.com															
Technical Issues # (2): 1, 5, 8	Strategic Directions # (3): 1															
The WG applies to distribution networks (4): Yes																
Title of the Group: Technical risks and solutions from periodic, large surpluses or deficits of available renewable generation in a particular area																
<p>Scope, deliverables and proposed time schedule of the Group :</p> <p>Background:</p> <ul style="list-style-type: none"> • RES has increased to such an extent that, in some systems, there are significant issues relating to over and under generation. This has been driven by both small and large scale schemes, and by policies encouraging RES. • Due to the current non-dispatchable/programmable nature of RES the main current technical solutions to deal with the above mentioned issue are storage, fast control energy, load-management and infeed-management. • Consideration is required of whether these tools are sufficient for planners and network operators, given the continued expansion of RES up to 2020 <p>Scope: This working group aims to examine the nature and extent of those proposed or adopted tools to solve the problem of increased RES</p> <ol style="list-style-type: none"> 1. What tools have been successfully deployed to deal with large scale over and under generation issues associated with RES? 2. Has the deployment of tools to deal with over and under generation of RES been incorporated into planning processes, or are unforeseen technical issues addressed on an ad-hoc basis? 3. What tools are available to assist planners and operators with additional expansion of RES and related technical issues? <p>(Note: C1.22, C1.29 and C1.30 consider the impact of increased RES. C1.22 will consider the economic issues, C1.29 [joint with CIRED] concentrates on new planning principles and C1.30 will look at the technical issues, risks and possible solutions. Some overlap is expected and will require liaison between WG conveners.)</p> <p>Deliverables : Report to be published in <i>Electra</i> or technical brochure with summary in <i>Electra</i></p> <table border="0" style="width: 100%;"> <tr> <td>Time Schedule : start : Feb/Mar 2015</td> <td>Final report draft: Jan-Mar 2016</td> </tr> <tr> <td>Agreed ToR: Feb/March 2015</td> <td>SC C1 review: Mar/Apr 2016</td> </tr> <tr> <td>First phone conference of WG: April 2015</td> <td>TB approved: May 2016</td> </tr> <tr> <td>First meeting of WG (in Lund): May 2015</td> <td></td> </tr> <tr> <td>Survey issued: June 2015</td> <td></td> </tr> <tr> <td>Analysis of survey results completed: Fall 2015</td> <td></td> </tr> <tr> <td>2nd/3rd meeting/phone conf of WG: Fall/Winter 2015/6</td> <td></td> </tr> </table>			Time Schedule : start : Feb/Mar 2015	Final report draft: Jan-Mar 2016	Agreed ToR: Feb/March 2015	SC C1 review: Mar/Apr 2016	First phone conference of WG: April 2015	TB approved: May 2016	First meeting of WG (in Lund): May 2015		Survey issued: June 2015		Analysis of survey results completed: Fall 2015		2 nd /3 rd meeting/phone conf of WG: Fall/Winter 2015/6	
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Comments from Chairmen of SCs concerned : The timescale is aggressive but this is a highly topical issue on which the timely provision of guidance is in demand

Approval by Technical Committee Chairman :

Date : 23/04/2015

A handwritten signature in black ink, appearing to read "M. Wald".

- (1) Joint Working Group (JWG) -
- (2) See attached table 1 –
- (3) See attached table 2
- (4) Delete as appropriate

Table 1: Technical Issues of the TC project “Network of the Future” (cf. Electra 256 June 2011)

1	Active Distribution Networks resulting in bidirectional flows within distribution level and to the upstream network.
2	The application of advanced metering and resulting massive need for exchange of information.
3	The growth in the application of HVDC and power electronics at all voltage levels and its impact on power quality, system control, and system security, and standardisation.
4	The need for the development and massive installation of energy storage systems, and the impact this can have on the power system development and operation.
5	New concepts for system operation and control to take account of active customer interactions and different generation types.
6	New concepts for protection to respond to the developing grid and different characteristics of generation.
7	New concepts in planning to take into account increasing environmental constraints, and new technology solutions for active and reactive power flow control.
8	New tools for system technical performance assessment, because of new Customer, Generator and Network characteristics.
9	Increase of right of way capacity and use of overhead, underground and subsea infrastructure, and its consequence on the technical performance and reliability of the network.
10	An increasing need for keeping Stakeholders aware of the technical and commercial consequences and keeping them engaged during the development of the network of the future.

Table 2: Strategic directions of the TC (cf. Electra 249 April 2010)

1	The electrical power system of the future
2	Making the best use of the existing system
3	Focus on the environment and sustainability
4	Preparation of material readable for non technical audience