

SC B4 Action Plan

Draft Version

September 2013

**Prepared by
B4 Strategic Advisory Group (B4 AG01)**



1 SC B4 ACTION PLAN

This Action Plan defines the path SC B4 will take in the short term, enabling it to achieve its Strategic Plan and CIGRE's long-term goals.

The Strategic Plan of the SC B4 is the foundation for this Action Plan, which covers a **three-year** period of time. The Action Plan is thus the operational map of the Study Committee while the Strategic Plan gives the context and the overall goals.

The present Strategic Plan covers the period of ten years from 2010-2020. This action plan covers the time period from 2012 through 2014 but with emphasis on 2012. The action plan is scheduled to be updated at the end of 2013.

2 SC B4 TECHNICAL ADVISORY AND WORKING GROUP FOCUS

The SC has three Advisory Groups:

- AG01 focuses on the management of SC B4 and its activities, and on the strategic direction of B4.
- AG02 focuses on communications including the management of the SC B4 website.
- AG04 acquires and disseminates information about the performance of HVDC systems.

The WGs performs the technical study work that produces the technical information to be delivered to the SC members, engineering (technical) community and other target audiences as defined in the Strategic Plan.

SC B4 seeks to achieve a good balance of the Membership and Convenorship of AGs and WGs between countries, expertise and interest groups. It may be possible to accommodate new members in a WG, subject to the status of the work being undertaken, and anyone interested in joining a WG should contact his RM, who will contact the SC Chairman or Secretary.

Table 1 below provides a list of AGs and WGs, which are operational at the time of this action plan being prepared. The Terms of reference of each of these can be found on the SC B4 website <http://b4.cigre.org>



Table 1 - Currently Active AGs and WGs in SC B4



Number	Title	Convenor Name	Created	Target date
AG01	Strategic Advisory Group	B. Andersen (UK)	2009	2014
AG02	HVDC Grid Coordinating Group	Mohammed Rashwan (CA)	2013	Cont.
AG03	Communication and Website	N. Phalawatta (AU) E. Prieto (ES)	2012	2014
AG04	HVDC System Performance	N. Dhaliwal (CA)	1970	Permanent
B4-51	Study of Converter Voltage Transients Imposed on the HVDC Converter Transformers	Y. Fu (NL)	2009	2013
WG B4.53	Guidelines for procurement and testing of STATCOMs	Dan Kell (CA)	2010	2013
WG B4.54	Guidelines For Life Extension of Existing HVDC Systems	R. P. Sasmal (IN) Les Recksiedler (CA)	2010	2013
WG B4.55	HVDC connected Wind Power Plants	Hamid Elahi (US)	2010	2013
WG B4.56	Guidelines for the preparation of "connection agreements" or "Grid Codes" for HVDC grids.	Philippe Adam (FR)	2011	2013
WG B4.57	Guide for the development of models for HVDC converters in a HVDC grid	Randy Wachal (CA)	2011	2013
WG B4.58	Devices for load flow control and methodologies for direct voltage control in a meshed HVDC Grid	Kerstin Linden, (SE)	2011	2013
JWG B4/B5.59	Control and Protection of HVDC Grids	Kees Koreman (NL)	2011	2013
WG B4.60	Designing HVDC Grids for Optimal Reliability and Availability performance.	Norman MacLeod (UK)	2011	2013
WG B4.61	General Guidelines for HVDC Electrode Design	Jingxuan (Joanne) Hu (CA)	2011	2013
WG B4.62	Connection of Wind Farms to Weak AC networks	Nalin Pahalawaththa (AU)	2013	2015
WG B4.63	Commissioning of VSC HVDC Schemes	Les Brand (AU)	2013	2015
WG B4.64	Impact of AC System Characteristics on the Performance of HVDC schemes	Carl Barker (UK)	2013	2016
JWG B4/C1.65	Recommended voltages for HVDC grids	Alexandre Parisot (FR)	2013	2015
JWG A3/B4.34	Technical requirements and specifications of state-of-the-art DC switching equipment	Christian Frank (CH)	2013	2015



3 IMPLEMENTATION OF OBJECTIVES AND STRATEGIES

The following tables 2 to 4 summarises the action to be undertaken by the SC in order to ensure the Strategic Plan would be implemented. It should be noted that whilst the Technical Committee Network of the Future Project has been taken into account in this plan, the project is not explicitly mentioned.

Table 2 - B4 Action Plan – Management & Strategic Direction.

<i>Action Plan in the area of SC B4 Management and Strategic Direction</i>					
	Objectives	Strategy	Action Plan	By Whom/What	By Date
L1	Strategic Direction of SC B4	Monitor developments in the technologies and market place. Identify and track the needs of the various Target Groups.	Develop an internal B4 questionnaire to be issued at the SC meetings to those present. Develop database of the answers, and publish the results biannually.	SC B4 Chairman to create a AG01 TF for the preparation of the Questionnaire	1st Questionnaire by 2013
L2	Active participation of Regular Members, Experts and WG members	SC B4 members take active role in linking with local experts to receive active contributions.	SC B4 members to demonstrate their role in linking SC to local experts.	All Members via Annual Report to SC B4	Ongoing
			Maintain B4 and B4 WG member roster of individual member skill level information	AG-01 TF 1	Ongoing
L3	Improved communication with target groups	Publications of technology and application updates through CIGRE, Tutorials and Website.	Appropriate selection of preferential subjects for Paris Sessions and Colloquia to address economical, socio-environmental and technical issues.	SC B4 Chairman, B4 & AG-01	Ongoing
			B4 Meeting with colloquium in India 2015	RM in India	Ongoing
			Support National Conferences and tutorials as per member requests	SC B4 Chairman, B4 AG-01	As required
L4	Update TBs that are out of date and in need of revisions	Review the list of old TBs, prioritize the update objectives	Review the list, revise the list as needed	ASG01 and Study Committee Members	Annually

Table 3 - B4 Action Plan – HVDC Systems.

<i>Action Plan in the area of HVDC Systems.</i>					
	Objectives	Strategy	Action Plan	By Whom/What	By Date
H1	Provide unbiased information about HVDC environmental impacts	Publications of technology and application updates through CIGRE, Tutorials and Website.	Review the TBs already produced. Update/revise where necessary. Identify the need for other TBs and initiate WG.	AG 01 TF	Ongoing
H2	800 kV and above DC systems	Assess early performance of UHV DC systems	Establish TF under AG-04	Regular member of India/China	Paris 2014
H3	Voltage Sourced Converter HVDC (VSC HVDC) systems	Assess performance of VSC converter based HVDC systems	Establish in AG04 to investigate the possibility of collecting the relevant data.	AG-04 Report – need to publish the CIGRE performance reporting process document	2013
		Assess the needs for technical information for the development of new standards covering VSC HVDC systems	Establish TF under AG-01 to propose which technologies should be standardized and by when.	AG 01 TF Report	2013
H4	Facilitate the development of HVDC Grids	Provide the technical information needed for Standards to be developed for HVDC Grids	Additional WGs have been set up to look at specific issues as relevant, considering converter performance requirements, control and protection, communication protocols and signals, etc.	WG B4-56 WG B4-57 WG B4-58 WG B4-59 WG B4-60 Plus additional WGs to produce TBs as required.	Ongoing
H5	AC and HVDC lines operating in parallel or on the same tower	Interactions between the two systems	Consider for a new WG	SC meeting 2013	

Table 4 - B4 Action Plan – AC Power Electronic Systems Systems.

<i>Action Plan in the area of AC Power Electronics Systems.</i>					
	Objectives	Strategy	Action Plan	By Whom/What	By Date
F1	Help planners to assess the benefits and issues associated with the use of FACTS in ac networks (2a, 2b)	The SC to identify the needs for various studies that should be performed at various stages for application of FACTS systems in AC transmission system's lifecycle and develop application guides to meet these needs.	Develop ToR and set up WG to develop appropriate Application Guide. Provide planners with methods and guides with, comparative technical benefits and assessment of environmental effects. Prepare guides explaining methods of analysis, empirical solution techniques, and example cases.	AG-01 to establish TF to develop the ToR for appropriate WGs Note: Similar to B4-38	2013
F2	FACTS applications for deregulated Electrical Supply Infrastructure (2a, 2b, 2c)	Identify new areas of Commercially viable applications, and present economic analysis of these application/projects for consideration by investors. Provide documented test cases and sample applications. Provide information about technology trade-offs to assist planners in developing specifications for FACTS systems	Investigate the possibility of future WGs with C1 and C2 or Economics of FACTS Devices Note: Similar to B4-46	Chairman/Secretary to liaise with C1/C2	2013



Table 5 - B4 Action Plan – Environment.

<i>Action Plan in the area of the Environment</i>					
	Objectives	Strategy	Action Plan	By Whom/What	By Date
E1	Provide unbiased and balanced information about the environmental impact of HVDC and AC Power Electronic Systems.	Develop a guideline document for HVDC Ground Electrodes	Monitor the progress of B4-61	AG-01 B4.44 has a good bibliography	2013
		Define studies to be performed with respect to HVDC systems and the environment	Discuss with the SC during the 2013 meeting		

4 PERFORMANCE EXPECTATIONS

It is essential that the output from SC B4, be it Technical Brochures, Tutorials, Special Reports, Electra Papers etc, meets the high and exacting standards expected of CIGRE documents. The B4 policy in respect of its documents is summarised in the following bullet points:

- **It shall meet customer Target Group(s) demands**
 - It is topical and timely (the document address potential and relevant issues including information gaps in industry)
 - It provides good coverage of topics (addresses a wide range of topics)
 - It satisfies the need of the recognised audience(s) (Governments, Policy makers, Standards institutes, universities, public awareness, business and investors)
- **It is unbiased**
 - It shall be produced by multiple parties representing all parts of the B4 community
 - The document shall capture contribution with varying points of view, where relevant
 - The document shall be critically analysed and subject to challenge by peers prior to publication
 - There shall be no commercial twist or bias to the document.
- **The Document shall be of high quality**
 - It shall be produced with expert inputs
 - It shall be rich with contents
 - It shall be Peer reviewed
 - It shall be tested for accuracy to the extent possible within the publication process.