



In collaboration with
ABB

United Kingdom National Committee Conference and Technical Visit

UK and European T&D network solutions to the challenge of increasing levels of renewable generation

**Newcastle-under-Lyme College, Staffordshire, UK
March 14th – 15th 2012**

Background and scope

The UK Government has set ambitious targets for the proportion of electricity to be generated from renewable sources by 2020. The majority of this renewable generation will be in the form of offshore wind. Very high levels of wind generation on the UK transmission system will introduce new technical and system balancing demands. New transmission connection arrangements which both cost effectively integrate offshore and onshore wind into the UK transmission system along with interconnectors with the rest of Europe will be required to ensure current levels of reliability and energy security levels enjoyed by the UK are maintained. New design configurations of onshore transmission and distribution networks will be required to manage intermittent renewable and maintain system stability. CIGRE UK is responding to its members' needs by providing low-cost high-value conferences and events in this and associated fields. The new and dynamic energy system will require the large scale application of power electronics devices. The equipment and network design required to accommodate this will be discussed at this conference, building upon the success of the previous event held in Stafford. This conference will address:

- Multi terminal HVDC systems
- DC Breaker Technology
- Developments in high capacity DC Cable Technology
- Energy Storage Systems
- Series Compensation
- Distribution Network Voltage Control devices
- Regulatory issues of creating an integrated secure European energy network

Programme Of Events

- Day One see below
- Day Two details will be available shortly

Programme 14th March

Time		Conference Programme		
Start	Finish	Title	Authors	Company
08:00	09:00	Coffee		
09:00	09:05	Welcome and Welfare		
09:05	09:15	ABB Introduction	Colin Green Head of Regulatory Affairs & Technology	ABB
09:15	09:45	Key Note Speaker	Dimitri Chaniotis System Development Manager	ENTSO-E
SESSION 1				
09:45	11:15	Network Infrastructure - System Operation with very high intermittent renewable generation	Dr. Cristiano Marantes Sotiris Georgiopoulos Lynne McDonald Dave Openshaw	UK Power Networks
		Risk based approach for offshore grid development	Tore Langeland, Christopher Greiner Carl Ohlen	DNV STRI
		A comparison of the SuperNode and MT-HVDC concepts for application within a Supergrid	Jonathan Stevens	Cardiff University
		Requirements and Challenges for Transmission Connections from a Round 3 Offshore Wind Developers Perspective	Stuart Dawson, Andrew Hardcastle	Smartwind Sinclair Knight Merz
11:15	11:45	Coffee / Poster Session		
SESSION 2				
11:45	12:45	UK and European T&D network solutions to the challenge of increasing levels of renewable generation	Carl Barker	Alstom Grid
		Implications of the DC Voltage Control Strategy on the Dynamic Behaviour of Multi-terminal HVDC following a Converter Outage	F. Gonzalez-Longatt, V. Terzija J. Roldan M.Burgos-Payán	The University of Manchester, Universidad de Sevilla
		The Moray Firth Offshore HVDC Hub	Andrew Robertson Paul Neilson	Scottish Hydro-Electric Transmission Limited
12:45	13:45	Lunch / Poster Session		
13:45	14:15	Key Note Speaker	Mike Calviou Director of Asset Management	National Grid
SESSION 3				
14:15	15:45	Multi-Terminal HVDC for Offshore Networks	Vinod Matta, Anna Ferguson	Atkins
		Proposed Iceland/UK (Peterhead) 1.2 GW HVDC Cable	Thomas J. Hammons Egill Benedikt Hreinsson Piotr Kacejko	University of Glasgow University of Iceland Lublin University of Technology, Poland
		Hybrid DC breaker for interregional DC grids	Frans Dijkhuizen Jyoti Sastry Anders Blomberg	ABB
		A Method for Increasing Wind Turbine Reliability by Reduced DC Link Voltage Operation.	Sarath B Tennakoon Upendra Dayaratne Noel Shammass Jeremy Knight	Staffordshire University Convertteam UK Ltd
15:45	16:15	Coffee / Poster Session		
SESSION 4				
16:15	17:45	Measurement and control of Energy Storage on an 11kV feeder	Dr Neal S Wade, Prof Philip C Taylor	Durham University
		TCSC for improved power transmission over long AC interconnectors	Jorgen Soderberg	ABB
		Anglo-Scottish Power Transfer Improvement using Series Compensation	Vandad Hamidi	Mott MacDonald / National Grid
		Effects of TCSCs on Subsynchronous Resonance in a Series Compensated GB Transmission Network	C. E. Ugalde-Loo J. Ekanayake R. King, N. Jenkins	Cardiff University Alstom Grid
17:45	19:00	SESSION 5		
Poster and Networking Session				