

CIGRE ANC Seminar

"The impact of power electronics on network performance and capability"

9th November 2017 to 10th November 2017

University of Queensland – St Lucia Campus

In this program, the presentations are grouped into the following four topics:

- Topic 1 Frequency
- Topic 2 Voltage
- Topic 3 Power Quality
- Topic 4 Power System Security and Generator Grid Connections

DRAFT - PROGRAM

Day One – 9th November 2017

Start Time	Finish Time	Title	Presenter			
9:00AM	9:30AM	Welcome and Keynote speaker	Simon Bartlett University of Queensland			
Frequency						
9:30AM	10:00AM	Comparison of FFR and inertial energy.	Marian Piekutowski (Hydro Tasmania)			
10:00AM	10:30AM	SVC Plus FS presentation.	Volker Hild (Siemens)			
10:30AM	11:00AM	Break				
11:00AM	11:30AM	Impact of a STATCOM with the frequency stabiliser capability (400MWs) on frequency control in the Tasmanian power system.	Marian Piekutowsk Hydro Tasmania			
Voltage						
11:30AM	12:00PM	Use of STATCOMS to assist with providing network support given the change in generation patterns, technologies and the increase in renewables.	David Roby (or proxy) (ABB)			
12:00PM	1:00PM	Lunch				
1:00PM	1:30PM	Application of solid state synchronous condensers in South Australia.	John Wright-Smith (American Superconductor)			
1:30PM	2:00PM	Implementing STATCOMS to improve voltage profile of electricity distribution network with high levels of renewables.	Yateendra Mishra (QUT)			
2:00PM	2:30PM	D-VArs for wind farm connections.	John Wright-Smith (American Superconductor)			
2:30PM	3:00PM	Break				
Tutorial Sessions						
3:00PM	4:00PM	Connection of Wind Farms to Weak AC Networks.	Mark Davies (TasNetworks)			
4:00PM	5:00PM	Power system operation with high penetration of non- synchronous generation.	Babak Badrzadeh (AEMO)			
5:30PM	8:30PM	Evening dinner/networking event - at UQ				





"The impact of power electronics on network performance and capability"

Day Two – 10th November 2017

Power Quality Harmonic filtering requirements for wind farm – Robert Adams (ElectraNet) 9:00AM 9:30AM Harmonic filtering requirements for wind farm – Robert Adams (ElectraNet) 9:30AM 10:00AM Harmonic resonance issues related to the installation of new SVC Light unit in Queensland – observations and applied mitigations. Rizah Memisevic (Powerlink) 10:00AM 10:30AM Harmonic resonance issues related to the installation of new SVC Light unit in Queensland – observations and applied mitigations. Rizah Memisevic (Powerlink) 10:00AM 10:30AM Harmonic monitoring to establish headroom and probabilistic representation of future renewable generation in Essential Energy's sub-transmission system. Vic Gosbell (University of Wollongong) 10:30AM 11:00AM Break Perin Igor / Rizah Memisevic (Powerlink) 11:00AM 11:30AM The impact on network harmonics following the transition from DC to AC locomotives in one area of Queensland – Analysis and test results that justified disconnection of harmonic filters. Perin Igor / Rizah Memisevic (Powerlink) 11:00AM 12:00PM Impact of non-synchronous generation on the operation of protection relays. Babak Badrzadeh (AEMO) 12:00PM 1:30PM Managing 'system strength' in Tasmania. How fault levels and inertia are currently managed in real time and how are existing processes likely	Start Time	Finish Time	Title	Presenter			
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