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

Start Time	Finish Time	Title	Presenter
Power Quality			
9:00AM	9:30AM	Harmonic filtering requirements for wind farm – experiences relating to the need for filtering to satisfy harmonic allocation limits.	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 allocation issues for renewable generation connected to sub-transmission systems*	Vic Gosbell (University of Wollongong)
10:30AM	11:00AM	Break	
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.	Igor Perin / Rizah Memisevic (Powerlink)
Power System Security – Grid Connections			
11:30AM	12:00PM	Impact of non-synchronous generation on the operation of protection relays.	Babak Badrzadeh (AEMO)
12:00PM	1:00PM	Lunch	
1:00PM	1:30PM	Managing 'system strength' in Tasmania. How fault levels and inertia are currently managed in real time and how are existing processes likely to evolve into the future.	Andrew Halley (TasNetworks)
1:30PM	2:00PM	The role of HVDC and Power Electronics in transitioning to 100% renewable future.	Les Brand (Amplitude Consultants) / Nalin Pahalawaththa (TransGrid)
2:00PM	2:30PM	Possible applications of HVDC transmission in the NEM.	Nadesan Pushparaj (AEMO)
2:30PM	3:00PM	Break	
Panel Discussion and Closing			
3:00PM	4:30PM	**Panel Topic:** "How must the Australian power system evolve and change to prepare for a future of 100% renewable energy and storage".	Chair: TBA Invite 4-5 panel session members
4:30PM	4:45PM	Closing	TBA