

SUBSTATIONS 2019

Renewables and digitalisation driving future direction



Hobart Tasmania, 7 - 8 November 2019

DAY 1 – Thursday, 7 November 2019	Presenter	Company	
Conference Registration			0745 - 0830
Welcome & Introduction to Conference.			0830 - 0845
Welcome from Bess Clark, General Manager Project Marinus, TasNetworks			0845 - 0850
Welcome from Steve Davy, Chief Executive Officer, Hydro Tasmania			0850 - 0855
Introduction to Guest Speaker			0855 - 0900
Key Note Address: Hon. Guy Barnett - Minister for Primary Industries & Water, Minister for Resources, Minister for Energy			0900 - 0920
Futuristic Networks: Grid Collection Substations	Anurag Gupta	GHD	0920 - 0940
Integrating Synchronous Condensers into Renewable Generator and Grid Substations	Peter Berry	CPP	0940 - 1000
Connecting Renewable Generation Sources – Now a Network Issue	George Bergholcs	ElectraNet	1000 - 1020
Questions and Answers			1020 – 1030
Morning Tea			1030 - 1050
DERMS – The Future of DER Operation in Microgrids	Lee Ucich Perry Tonking	Horizon Power	1050 - 1110
Introduction to Seminars of Day 2			1110 - 1115
- Low Cost Substation Design Solutions (for Developing Countries)	Perry Tonking	CIGRE	
- Current Interruption in Atmospheric Air"	David Peelo	IEEE	
- Substation Earthing System Design Optimisation Through the Application of Quantified Risk Analysis (QRA)	Steve Palmer	Safearth	
- Workshop – High Power, Grid Forming Inverters enabling tomorrow's high renewables NEM	Stephen Sproul	ABB	
The possibilities of hydrogen technologies in direct network support applications	Mark Jackson	Mark G Jackson Consulting	1115 - 1135
Integration of a Large BESS to a Brownfield Substation	Dorin Costan	ElectraNet	1135 - 1155
Isolation techniques and guarding against the risks of back feeding	Faraz Mirzaagha	DNV GL	1155 - 1215
Questions and Answers			1215 - 1230
Lunch			1230 - 1300
Panel Discussion: Challenges Associated with the Connection of Renewables to Existing Substations	John Szmalko	Jacobs Engineering	1300 - 1400
Paradigm Shift in Power Transformer Asset Management by "Digitizing" & "Digitalizing" Temperature Measurements	Bhaba Das, Naser Hashemnia	ABB	1400 - 1420
Managing technical and non-technical challenges in the transition to a digitalised substation	Lara Kruk	Jacobs Engineering	1420 - 1440
Experiences with TransGrid's Journey to Substation Digitisation	Mark Jones	TransGrid	1440 - 1500
Earthing Systems and Substation Digitisation-issues, investigations and solutions	Stephen Palmer	Safearth	1500 - 1520
Modernising Substation Delivery through the use of BIM	John Fallow	Beca (NZ)	1520 - 1535
Questions and Answers			1535 - 1540
Afternoon Tea			1540 - 1550
Point on Wave Switching of Power Transformers	Alan Crombie	UGL	1550 - 1610
End of Life Strategies for Substation Gantry Steelwork and Foundations	Evan Lamplough	TransGrid	1610 - 1630
Developments in the use of non-SF ₆ gases and gas mixtures for a more sustainable grid	Terry Krieg	Power Network Consulting	1630 - 1650
Questions and Answers			1650 - 1700
Close of Day 1			
Cocktail Reception & Networking Function – Trade display area, Wrest Point Casino			1730 - 2030

DAY 2 – Friday, 8 November 2019	Presenter	Company	
Welcome			0830 - 0835
Tutorial - Low Cost Substation Design Solutions (for developing countries) This tutorial presents the work of CIGRE WG B3.43 and the technical brochure 740 published in August 2018 and presents a contemporary approach to the design of high voltage substations. The work provides a good basis for the many considerations involved with design and is just as applicable for developed as it is for developing countries.	Perry Tonking	Convenor of WG B3.43 CIGRE	0835 - 0935
Questions and Answers			0935 - 0945
Morning Tea			0945 - 1000
Introduction			1000 - 1005
Tutorial - Current Interruption in Atmospheric Air David Peelo is an international expert on switching in high voltage networks with particular expertise in current interruption using air-break disconnectors. The tutorial explains the behaviour of free burning arcs in air as related to the interruption of transformer magnetizing, capacitive charging and loop currents with a view to achieving safe operating practices.	David Peelo		1005 - 1100
Questions and Answers			1100 - 1110
Tutorial - Substation Earthing System Design Optimisation Through the Application of Quantified Risk Analysis (QRA) This tutorial presents and explains the creation and application of CIGRE TB 749. It shows the staged use of QRA in a practical and robust earthing system design approach which can reliably produce a balance between cost, practicality and management of risk for the resultant earthing system.	Stephen Palmer Bill Carman	Safearth	1110 - 1210
Questions and Answers			1210 - 1220
Lunch			1220 - 1250
Introduction			1250 - 1255
Workshop – High Power, Grid Forming Inverters enabling tomorrow’s high renewables NEM This workshop will detail and discuss some of the key network services provided by the BESS, including issues such - BESS - Virtual generator - Stability and synthetic inertia services - Reliability and microgrid functionality - Power quality support (frequency and voltage) - Fault current provision - Integration of renewable energy sources: centralised and distributed - Non-convention control methods to increase hosting capacity - Future developments and applications as sizing, system strength and capability, and will include discussion of the learnings from design, installation and testing of BESS in substations.	Stephen Sproul	ABB Australia	1255 - 1500
Questions and Answers			1500 - 1510
Thanks and Conference Close			1510 - 1515

CIGRE Australia acknowledge and thank the following sponsors who have helped stage this event:

