

# 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
<b>Welcome &amp; Introduction to Conference.</b>			
<b>Welcome from Bess Clarke (TasNetworks)</b>			0830 - 0840
<b>Welcome from Steve Davy (Hydro Tasmania)</b>			0840 - 0850
Futuristic Networks: Grid Collection Substations	Anurag Gupta	GHD	0850 - 0910
Connecting Renewable Generation Sources – Now a Network issue	George Bergholcs	ElectraNet	0910 - 0930
Deployment of a Distributed Energy Resource Management System (DERMS) to the Onslow Microgrid	Lee Ucich	Horizon Power	0930 - 0950
Integrating Synchronous Condensers into Renewable Generator and Grid Substations	Peter Berry	CPP	0950 - 1010
Questions and Answers			1010 - 1030
Morning Tea			10.30-10.50
Introduction to Seminars of Day 2			1050-1100
Introduction to "Low Cost Substation Design Solutions (for Developing Countries)" Seminar	Perry Tonking	CIGRE	
Introduction to "Current Interruption in Atmospheric Air" Seminar	David Peelo	IEEE	
Introduction to Substation Earthing System Design Optimisation Through the Application of Quantified Risk Analysis (QRA)	Steve Palmer	SafeEarth	
Introduction to Workshop - Battery Storage – the missing piece in the renewables jigsaw!	Stanislav Cherevatskiy	ABB	
Introduction to Guest Speaker			1100-1105
<b>Key Note Address</b>	<b>Guy Barnett –Minister for Primary Industries &amp; Water Minister for Resources Minister for Energy</b>		1105 - 1120
The possibilities of hydrogen technologies in direct network support applications	Mark Jackson	Mark G Jackson Consulting	1120 - 1140
Integration of a Large BESS to a Brownfield Substation	Dorin Costan	ElectraNet	1140 - 1200
Isolation techniques and guarding against the risks of back feeding	Faraz Mirzaagha	DNV GL	1200- 1220
Questions and Answers			1220 - 1230
Lunch			1230-1300
Case Study/Panel Discussion			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
Questions and Answers			1520 - 1530
Afternoon Tea			1530-1550
Performance and Operational Experiences of High Voltage GIS with clean air insulation and digital features	Chris Gonzales	Siemens	1550 - 1610
Point on Wave Switching of Power Transformers	Alan Crombie	UGL	1610 - 1630
End of Life Strategies for Substation Gantry Steelwork and Foundations	Sam Murali	TransGrid	1630 - 1650
Developments in the use of non-SF <sub>6</sub> gases and gas mixtures for a more sustainable grid	Terry Krieg	Power Network Consulting	1650 - 1710
Questions and Answers			1710 - 1720
Close of Day 1			
<b>Cocktail Reception &amp; Networking Function – Trade display area, Wrest Point Casino</b>			1730 - 2030

DAY 2 – Friday, 8 November 2019		Presenter	Company
Welcome			0830 - 0835
<b>Tutorial - Low Cost Substation Design Solutions (for developing countries)</b> 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	WG Convenor of B3.43 CIGRE
Questions and Answers			0935 - 0945
Morning Tea			0945-1000
Introduction			1000 – 1005
<b>Tutorial - Current Interruption in Atmospheric Air</b> 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	
Questions and Answers			1100 - 1110
<b>Tutorial - Substation Earthing System Design Optimisation Through the Application of Quantified Risk Analysis (QRA)</b> 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	SafeEarth
Questions and Answers			1210 - 1220
Lunch			1220-1250
Introduction			1250 - 1255
<b>Workshop - Battery Storage – the missing piece in the renewables jigsaw!</b> This workshop will detail and discuss some of the key network services provided by the BESS, including issues such <ul style="list-style-type: none"> <li>-BESS - Virtual generator</li> <li>- Stability and synthetic inertia services</li> <li>- Reliability and microgrid functionality</li> <li>- Power quality support (frequency and voltage)</li> <li>- Fault current provision</li> <li>- Integration of renewable energy sources: centralised and distributed</li> <li>- Non-convention control methods to increase hosting capacity</li> <li>- 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.</li> </ul>			1255 - 1500
Questions and Answers			1500 - 1510
Thanks and Conference Close			1510 - 1515

**CIGRE Australia would like to acknowledge and thank the following sponsors who have helped stage this event**

