



## Conference on Integration of Distributed Energy Resources

CIGRE Australian Panel C6 Distribution Systems and Dispersed Generation

### TUTORIAL – Wednesday 19<sup>th</sup> August

**0800 - 0830**

**Registration**

**0830- 1000**

Low Voltage network modelling and measurement, including discussion of phase identification, voltage unbalance and possible mitigation measures.

*Dr Houman Pezeshki, QUT, and Assoc. Prof Geoff Walker, QUT*

**1000 – 1030**

**Morning Tea and Networking**

**1030 – 1100**

Frequency Response and Its Enhancement Using Synchronous Condensers in Presence of High Wind Penetration

*Nahid-AI-Mahoud, UQ*

**1100 – 1130**

Technical Requirements for the Connection of a MW-scale PV Array with Battery Storage to an 11kV Feeder in Queensland”

*Vince Garrone, UQ*

**1130 -1230**

Considerations in installing renewables on the reliability and life of the existing transformer fleet

*Dr. Daniel Martin, UQ*

**12.30 – 1.30**

**Lunch - BMW i3 on show**

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RESOURCES IN THE ASIA PACIFIC REGION



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WEDNESDAY 19<sup>th</sup> August

<p>8:00 am - 1:30 pm      <b>Registration</b></p> <p>8:30 am - 12:30 pm      <b>Tutorial</b></p> <p>Presented by Queensland University of Technology and the University of Queensland</p> <p>=====</p> <p>1:30 pm      <b>Opening - BMW i3 on show</b></p> <p>Welcome and General Greeting Terry Killen, Executive Manager CIGRE Australia</p> <p><i>Conference Opening</i> Ken Ash, Chair CIGRE Australian Panel C6</p> <p><b>Session - Status, Trends and Policy</b></p> <p><i>Investigating the Impact of Emerging Technologies on the NEM</i> Matt Armitage, Australian Energy Market Operator</p> <p><i>The Customer Centric Grid</i> Helen Stewart, Energex</p> <p><i>Clean Energy Council Leading the Way on Renewable Energy Grid Integration in Australia with a Nation-Leading Initiative</i> Tom Butler, Clean Energy Council</p> <p><i>Back to the Future: Off-grid Townships</i> Greg Thorpe, Oakley Greenwood</p> <p><b>Afternoon Tea</b></p>	<p>3:30 pm      <b>Session - Case Studies</b></p> <p>3:30 pm      <b>Session - Case Studies</b></p> <p><i>PSC's Investigation into Charging Electric Vehicles from Distributed Solar Generation</i> Ranil de Silva, PSC Group</p> <p><i>King Island: A Case Study in Achieving High Levels of Renewable Energy in a Hybrid Off-Grid Power System</i> Ryan Willems, Hydro Tasmania</p> <p>4:15 pm      <b>Next Generation Network (NGN) Event</b></p> <p><i>Skill Sets Required for DER</i> Nick Pappapetros, Ergon Energy Mark Paterson, CSIRO Geoff Walker, Queensland University of Technology Tim Quirey, Department of Energy and Water Supply Alexandra Price, Energex</p> <p>5:45 pm - 8:00 pm      <b>Social Event / Networking Dinner</b></p>
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## Conference on Integration of Distributed Energy Resources

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Thursday 20<sup>th</sup> August

8:00 am - 11:00 am

### Registration

8:30 am

#### Session - Energy Storage

*Supply Reliability for Remote Locations via Energy Storage*

Stephen Richardson, Ergon Energy

*The Importance of Control Systems and Information for Management of Energy Storage Systems*

Nicola Wilkins, Sunverge Energy

*Integration of Storage in Australia's Energy Markets*

Dr. Julian Eggleston, Australian Energy Market Commission

*Residential Storage - An Assessment*

Michelle Taylor, Ergon Energy

#### Session - Variable Voltage Transformers

*The Minera SGrid Regulating Transformer*

Max Decker, Schneider Electric

*An Economic Voltage Optimized Distribution Transformer*

Gary Cox, Wilson Transformer Company

### Morning Tea

11:00 am

#### Session - Status, Trends and Policy

*100% Renewables for Australia? Challenges and Opportunities*

Dr. Jenny Riesz, University of NSW

*Distributed PV Generation Estimates from the APVI Live Solar Map*

Navid Haghdadi, University of NSW

**Lunch – BMW i3 on show**

1:30 pm

#### Session - MV & LV Statcoms

*Dynamic Grid Stabilisation Utilising Statcom Technology*  
Devern Hill, Statcom Solutions

*Voltage Regulation of Distribution Networks with High Levels of Residential PV with a Centralised STATCOM*  
Stephen Sproul, Ergon Energy

*LV Statcoms and Storage for Voltage Management in Distribution Systems*

Dr. Mike Wishart, Power IQ

#### Session - Inverters and Grid Interaction

*Smart Inverters - A Smart Grid Study*

Rod Dewar, Fronius Australia

*The New Requirements of AS4777 (2015): Grid Connection of Energy Systems via Inverters*  
Michelle Taylor, Ergon Energy

### Afternoon Tea

4:00 pm

#### Session - Power Quality

*Power Quality Implications of High Penetration of Small Scale Renewable Energy Systems*  
Sean Elphick, University of Wollongong

#### Session - Voltage Control

*A Study into Effects and Mitigation of Increasing DER Penetration on Voltage Regulation in LV and SWER Distribution Systems*  
Dr. Tim Browne, PSC Australia

*Voltage Regulation Challenges in Distribution Networks with Rooftop PV Systems and Possible Mitigation Using Reactive Power Control and Battery Energy Storage*  
Dr. Md Jan E Alam, University of Queensland

*Managing Distribution Voltages in South East Queensland with Increasing Penetrations of Solar DER*  
Peter Kilby, Energex

Closing remarks and summary – Ken Ash, Chair CIGRE Australian Panel C6

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