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Alice Springs: A holistic blueprint for the future

Hosted by Electrical Branch & EESA

As a microcosm of larger power systems, Alice Springs is positioned well to demonstrate what the future grid could look like. With renewables currently providing 8% of annual energy in Alice Springs, there is some way to go before the 50% by 2030 target is reached. Despite this low energy penetration, there are a number of issues such as system strength, voltage control and minimum demand already affecting the Alice Springs power system- providing valuable insights into the future of the NEM. Alice Springs is not your standard off-grid system: it has a range of stakeholders, market participants, a relatively "long and stringy" network and follows the NER rules. However, due to its small size, implementing solutions into Alice Springs can be done at a fraction of the cost, allowing for rapid prototyping.

This talk will illustrate the current state and characteristics of the NT power system before examining a number of projects that demonstrate how large-scale uptake of renewable energy sources may be integrated into the system. The learnings gained from the Alice Springs power system will be applicable to the National Electricity Market, which will face similar constraints in the coming years. With a strong solar history, Alice Springs provides the ideal collaborative platform to demonstrate what the ideal power system looks like, producing a holistic future grid blueprint that includes customer, power system, industrial and regulatory components.

Sara Johnston, General Manager of the Intyalheme Centre for Future Energy



Intyalheme was established in 2017 to foster partnerships and collaboration, building on the strength of the existing renewable energy technology and knowledge in Alice Springs to test new ideas that facilitate greater renewable energy uptake. Sara has almost 10 years' experience in the renewable energy industry in the Northern Territory including project management, stakeholder engagement, strategic planning and policy.

Clare Paynter, Electrical Engineer Ekistica



Clare is an experienced engineer and AEMO graduate programme alumni with extensive power system modelling capabilities and experience, and well-developed communication and leadership skills underpinned by a broad knowledge base covering connection studies, electricity metering, congestion modelling, SCADA, remote power systems and project management. Clare has also worked in engineering roles for Power and Water Corporation and ABB. With Ekistica, Clare provides design engineering, data analysis and project delivery services to a variety of clients and projects.

VENUE

Engineers Australia Newcastle
Suite 3, Tonella Commercial Centre
125 Bull Street
Newcastle West NSW 2302
(entry via Dick Street)

DATE & TIME

Wednesday 13 February 2019
5.30pm for 6.00pm start (AEDT)

**Please note there is the option to view this event by Webinar along with the usual option to attend the event in person at the EA Auditorium. Please choose from the available options when registering online. Webinar commences 6pm AEDT.*

TICKETS (incl. GST)

EA Member: free
EESA member: free
Non-Members: \$30

Light refreshments will be provided by an affiliate company.

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Newcastle Division

Electrical Branch and ITEE Program 2019

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The following table outlines the 2019 program as it stands on 12/12/2018.

Date	Topic
13/02/19	Generation Facilitating Large Scale Uptake of Renewables <i>Sara Johnston and Clare Paynter</i>
13/03/19	Advanced Unmanned Aerial Vehicle (UAV) Systems <i>Dr KC Wong</i>
10/04/19	Is Rapid Earth Fault Current Limiting (REFCL) Technology the Correct Choice? <i>Dr Bill Carman</i>
8/05/19	Newcastle Light Rail: Overhead Live Wiring versus On Board Energy Storage <i>Patrick Lehane</i>
12/06/19	Concentrated Solar Thermal: A Case Study
10/07/19	Embedded Systems Smorgasbord <i>Brenton Schulz</i>
14/08/19	Forecasting in the National Electricity Market
11/09/19	Wave Energy: A Case Study
9/10/19	Micro Grids in Remote Communities <i>Vi Garrod</i>
13/11/19	Could the Electricity Network withstand an Earthquake? (including Annual Meeting)

If you have any questions or suggestions, please contact
Peter Stepien (Electrical Branch Chairman) on 0421 194 014.

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