



Specialist Consultants
to the Electricity Industry

PSC NEWS

News and Views from the team at PSC

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PSC - Major Sponsor of EEA Conference 2014

PSC New Zealand is pleased to continue its major sponsorship of the 2014 Electricity Engineers' Association (EEA) Conference & Exhibition to be held in Auckland from the 18 - 20 June 2014.

Operating for over 75 years, the EEA provides the New Zealand electricity supply industry with leadership, expertise and information on technical, engineering and safety issues affecting the electricity industry.

PSC as specialist consultants to the electricity industry has positioned itself in the global market and has a growing reputation as a provider of choice for specialist support. We see our commitment to the New Zealand electricity industry as part of this reputation and are proud to continue the sponsorship of the EEA conference for the fourth year running.

The 2014 conference is the premier power engineering event for the New Zealand electricity supply industry. The aim of the conference is to provide a national forum for engineering practitioners and technical

experts to examine and discuss industry issues, developments and technologies in the field of power engineering. The theme for 2014 is 'Invest for Tomorrow – People, Process & Plant' and will cover a number of key challenges in the future. Delegates will also be able to visit the trade exhibition that will present technology, services and equipment from national and international companies.

A team of delegates from PSC will be in attendance at the conference to be held at the SkyCity Convention Centre and we hope to meet those of you also attending. For further information on PSC in regard to our electrical engineering capability or follow-up information from the EEA Conference please contact:
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eea

Electricity Engineers'
Association

EEA CONFERENCE

SkyCity Convention Centre
Auckland, New Zealand
18-20 June 2014



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PSC's Membership in the Smart Grid Consumer Collaborative (SGCC) is tackling the challenge

PSC North America Vice President Randy Berry is serving an active role on the Smart Grid Consumer Collaborative Board of Directors, striving to educate consumers on the benefits of the Smart Grid.

The Smart Grid Consumer Collaborative (SGCC) is a 501c3 nonprofit organization chartered to be the trusted source representing consumers, advocates, utilities, and technology providers in order to advance the adoption of a reliable, efficient, and secure smart grid and ensure long-lasting sustainable benefits to consumers. SGCC's output ranges from its extensive consumer-friendly Resource Library to Industry Collaboration via membership, conference participation and webinars.

SGCC also have a Smart Grid website targeting consumers, www.whatissmartgrid.org. The website

includes accessible info-graphics, data sheets, short videos, lesson plans for teachers and more. The information is designed to present consumers and stakeholders with the benefits of modernizing the United States electrical system with renewable and efficient energy solutions.

"Our studies show that while investments in smart grid technologies result in billions of dollar value, most Americans have never even heard of the terms Smart Grid and Smart Meter. Our hope is that our educational and research materials will advance American's understanding of grid

modernization and why it's important," explains Patty Durand, Executive Director of SGCC.

PSC North America Vice President Randy Berry remarks, "Participating in SGCC in consumer facing issues including advancements in making energy affordable, sustainable and attainable is really exciting. The industry is on the precipice of how consumers interact with the power grid." Randy has served on the SGCC education and outreach committees, as well as the executive committee. PSC has also been an active sponsor of the SGCC annual symposiums.

PSC supports Power System Academics

PSC actively supports Power System programs at Universities. In North America, PSC is active at Washington State University (WSU) as a member of the College of Engineering and Architecture Executive Leadership Board. PSC is also a Power Engineering Partner with WSU's Electrical Engineering and Computer Science Department. Here are some of the activities involving PSC employees and new programs that are making a difference for power system engineering students.

Power Engineering Practicum

For the last two years, WSU, under the leadership of Professor Robert Olsen, has provided students a one week short course – practicum – to connect students with industry. This year PSC participated in the practicum to help students better understand power system planning and HVDC engineering.

Marc Brunet-Watson, PSC North America's Electrical Engineering Business

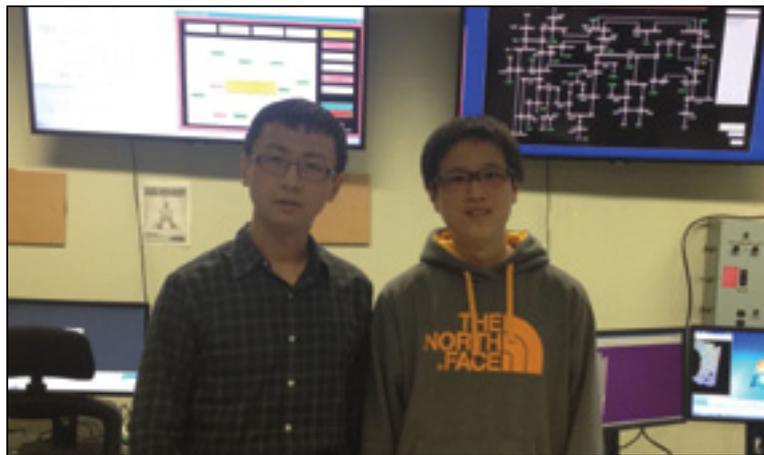
Unit Manager, led a one day course involving lecture, discussion and a quiz. The students gained valuable insight in the role that power system engineers play in our society from professionals in the field. The experience was well worth it for the students as evidenced by several comments:

"...the practicum gave me a chance to see more of the transmission planning

and design, and really reinforced for me that those are career paths I would like to explore..."

"In just a few days, I learned such valuable information about real world engineering...and the really cool work I may be doing one day..."

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WSU Electrical Engineering and Computer Science students at the Energy Systems Innovation Center

Energy Systems Innovation Center

Washington State University's ESI Center brings together research faculty, business leaders, and governmental organizations to address and educate power engineering students on the world's most pressing technological challenges – demand for clean, reliable energy.

The center's focus areas include: renewable energy; social and economic incentives; information collection, delivery, and analysis; decision support; efficient use of right-of-way and associated economic issues; and cyber security of the smart grid. The ESI Center includes hardware and software

platforms that allow WSU students the opportunity to model power system and related cyber security infrastructure.

Alice Springs Model Development, Validation and Generator Testing

Power and Water Corporation owns and operates the power system for Alice Springs in the Northern Territory of Australia and had identified the need for a dynamics simulation model to be able to effectively define the technical operating limitations of the system and make improvements in the operational reliability of the Alice Springs power system.

Power and Water Corporation engaged PSC to develop the dynamics simulation model for Alice Springs based on available information and documentation, but recognised that site testing of the generators would be required to derive model parameter information and validate the simulated responses from the model against actual tested responses from the generators.

PSC also recommended and scoped a number of tests to be carried out on-site at the three power stations in Alice Springs that would enable sufficient information to derive parameters and validate the dynamics model.

To carry out the generator testing services, PSC partnered with Genassure Ltd. Genassure Ltd are a New Zealand based company that provide specialist test engineering and data acquisition expertise and generator automatic voltage regulator (AVR) and governor testing. Genassure Ltd are the developer of the genassure® test set and also a service provider to conduct tests using the genassure® test set (specially designed for automation of standard generator AVR and governor testing and data acquisition). In addition to the genassure® test set, Genassure Ltd were able to provide a custom solution



Left to right: Anttoni Nurkka – Senior Test Engineer (Genassure Ltd.), Peter Brown – Managing Director (Genassure Ltd.) and Mark Parker – Principal Engineer (PSC Australia).

to automate the test control and data acquisition for the standstill frequency response testing on the synchronous machines. This enabled the test duration time and manual operator intervention time required for the test to be minimised.

PSC and Genassure Ltd tested the generators in the Alice Springs power system – representing the different types of manufacturer and sizes. Once the generator test results were available, PSC processed the results and compared the actual generator responses with the simulated responses. PSC were able

to initially provide and then improve and validate the Alice Springs dynamics model, to give PWC the confidence that the model can be used to establish the technical limitations of the system and provide a basis for future planning studies and investigations. PSC in partnership with Genassure Ltd, was able to offer a complete modelling and testing solution for Power and Water Corporation.

Ross Gaspard celebrates 10 years of excellent service with PSC

PSC would like to congratulate Ross Gaspard who recently completed 10 years of excellent service with the company. Ross joined PSC as a Senior Consultant in 2004 and specialises in SCADA, Energy and Distribution Managements systems, Substation Automation systems, and Railway Traction and Train Control systems.

Ross has been involved in a large number of projects associated with the New Zealand electricity industry since joining PSC. He has worked on the project management and technical leadership for SCADA design, implementation, upgrade and replacement for RealFlex 6 and Siemens Power TG SCADA projects for our distribution clients. He was also heavily involved in the Traction SCADA and Centralised Train Control System projects for KiwiRail New Zealand.



PSC CEO Warwick Glendenning congratulates Ross Gaspard.

In 2008, Ross joined the PSC management team as Control and Market Systems Manager for PSC New Zealand. He currently has a key role for PSC with the Meridian Energy Generation Control System (GCS)

upgrade project. PSC congratulates Ross on achieving this important milestone.

Margaret Archer celebrates 10 years of excellent service with PSC

Margaret Archer is a Systems Studies Engineer and has recently completed 10 years of excellent service with PSC. Since joining PSC, Margaret has been involved in a large number of projects for several clients in New Zealand. She has extensive experience in system studies including load flow, short circuit and stability analysis for AC and HVDC systems. These studies have been completed using the PSS/E Power Transmission System Planning Tool and DigSILENT Powerfactory and Transient Security Assessment Tool.

Margaret has provided power system analysis for transmission development opportunities in the New Zealand power system and has also completed power system reviews of grid upgrade plans.



PSC Director Ranil de Silva congratulates Margaret Archer

Her most recent work has been assisting the Transpower System Operator with planning analysis and review for several policy documents. The PSC Management

team congratulates Margaret on her excellent service with PSC and her dedication and commitment over the past 10 years.