Smart Metering and Demand Side Management

12th – 13th November 2012, Sydney

This two day Continuing Professional Development (CPD) course in smart metering and demand side management is presented by the Endeavour Energy Power Quality and Reliability Centre (EEPQRC) and the Sustainable Buildings Research Centre (SBRC), at the School of Electrical, Computer and Telecommunications Engineering, University of Wollongong, with support from the NSW Government Energy Efficiency Training Program.

Course Objectives

With increasing costs of electricity, smart metering applications can empower customers to improve their energy efficiency through access to information on energy usage and billing. Smart metering also enables utilities to offer incentive based schemes for demand side management and/or directly control allocated customer equipment. Improving energy efficiency and controlling network demand ultimately reduces energy loss and carbon emissions.

This course focuses on existing and future smart metering applications and state-of-the-art knowledge of other demand side management strategies and associated evaluation tools. This course also introduces the latest industry practices in implementing demand side management strategies to electrical distribution networks from the customer and utility viewpoints.

Course Benefits

On successful completion of the course you will have gained knowledge and skills to assist you in the following:

- Demonstrate knowledge of and understanding about the broad range of real-time, communications technologies associated with a modern electricity grid and the role they play in the operation of the electrical energy distribution network,
- Knowledge of Australian electricity market structures, pricing options, and customer behaviour,
- An understanding of traditional load management, demand side management and resource planning techniques,
- Skills to analyse benefits and barriers of demand side integration in relation to the various stakeholders including infrastructure investment curtailment,
- An understanding of modelling and analysis of both active and passive electrical loads and how such loads, when combined with the electrical energy transmission and distribution network, unite to define the basis of the generation scheduling problem,
- Exposure to specific case studies on smart metering and demand side management incentive schemes, and
- Empowerment to liaise with vendors, consultants and utilities on demand side management related projects at concept and implementation stages.

Who Should Attend?

Managers, network and distribution engineers, senior technical staff, plant designers, plant and building managers and building service engineers who wish to improve their understanding or advise customers on smart metering and demand side management solutions within the residential and commercial sectors. Personnel working in all areas of electricity network design who wish to understand the various aspects of electricity network efficiency, smart metering, and demand side management.

The Venue

The course will be held at the University of Wollongong’s Sydney Business School, Circular Quay. Venue details will be announced in due course.

About the Speakers

Associate Professor Sarath Perera is Technical Director of the Endeavour Energy Power Quality and Reliability Centre and an Associate Professor in the School of Electrical, Computer and Telecommunications Engineering. His research interests include power quality, distribution system reliability, EMC and power system simulation techniques.

Dr. Duane Robinson is a Senior Lecturer with the Sustainable Buildings Research Centre in the School of Electrical, Computer and Telecommunications Engineering. His research interests are energy efficiency, renewable energy and power quality.

Dr. Alex Baitch is Principal of BES (Aust) and is a Visiting Professor at the University of Wollongong. He has extensive experience in the power system industry.

Other Invited Industry Speakers may be included to provide case studies and practical experience of smart metering, demand side management and energy efficiency improvement projects.
Course Outline

The course is conducted over two days commencing at 9:00 am on Monday 12th November, 2012 and comprises lectures and case studies. The proposed course outline is provided below.

Day 1

Time & Topic
9:00 am Registration
- Introduction and overview – market and network structures, smart metering and demand side management; aims, drivers and barriers.  
  Morning Tea
- Modelling and analysis – active and passive electrical loads and their impact on electricity distribution network power quality, reliability and security.  
  Lunch
- Demand side management - traditional demand side management and demand side integration.  
- Customer behaviour – adaptation to market and education based incentives/schemes.  
  Afternoon Tea
- Case studies and discussion – smart metering and demand side integration initiatives and examples.  
  5:00 pm Conclusion Day 1

Day 2

Time & Topic
9:00 am Start Day 2
- Smart metering – automation and communication requirements for effective demand side management including review of existing and future systems.  
  Morning Tea
- Implementation and evaluation – demand side integration initiatives, minimising network losses, reducing network demand, and infrastructure investment curtailment.  
- Renewable and distributed generation – impact and control of renewable and distributed generation and energy storage requirements as demand side integration.  
  Lunch
- Case studies and discussion – smart metering and demand side integration initiatives and examples including tariff and regulatory requirements to drive efficiency.  
  Afternoon Tea
- Emerging technologies and initiatives and course review.  
  5:00 pm Conclusion Day 2

Training Investment

The course investment provides for an inclusive industry related training package with course notes, lunches and morning and afternoon tea. Course fee per person is AUD$ 980 including GST.

Extended Course Program

This continuing professional development (CPD) course is one of several offered as part of the Energy Efficiency Training for Engineers program (eete@UOW) at the University of Wollongong in 2011-2012. Other courses included in the program are:

<table>
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<tr>
<th>Course Title</th>
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<tr>
<td>Renewable and distributed generation</td>
<td>24-25 Nov 2011</td>
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<tr>
<td>Energy efficiency enhancement in domestic buildings</td>
<td>17-18 May 2012</td>
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<tr>
<td>Energy auditing and de-carbonization of the built environment</td>
<td>24-25 May 2012</td>
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<tr>
<td>Energy efficiency in electrical energy utilisation</td>
<td>6-7 June 2012</td>
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<tr>
<td>Electricity network energy efficiency enhancement</td>
<td>18 June 2012</td>
</tr>
<tr>
<td>Energy auditing and efficiency in industrial systems</td>
<td>2-3 Aug 2012</td>
</tr>
<tr>
<td>Energy efficiency enhancement through retrofitting of commercial buildings</td>
<td>1-2 Nov 2012</td>
</tr>
<tr>
<td>Smart metering and demand side management</td>
<td>12-13 Nov 2012</td>
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<tr>
<td>Improving energy efficiency in industrial processes</td>
<td>22-23 Nov 2012</td>
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Organisations or individuals registering as a group or in one or more of the above courses within the energy efficiency training for engineers program may be entitled to a group or multiple course discount. Please contact registration enquiries below for details.

Accommodation

Arrangements for accommodation are the responsibility of participants and costs are not included in the course fee. A list of hotels and motels in the Circular Quay area will be supplied to participants upon registration. Daily travel to venue is convenient by public transport.

Enquiries

Registration enquiries:

Please call Ms Rachel Weine at the Faculty of Engineering, University of Wollongong.
Phone: (02) 4221 4566
Fax: (02) 4221 5474
Email: rweine@uow.edu.au

Course enquiries:

Please call Dr Duane Robinson at the Sustainable Buildings Research Centre, University of Wollongong.
Phone: (02) 4221 4530
Fax: (02) 4221 3236
Email: duane@uow.edu.au
Please enrol me in the two-day course “Smart Metering and Demand Side Management” to be held in Sydney, Australia from 12th – 13th November 2012.

Cost per person:    AUD$ 980 inclusive of GST

Please register before 31st October 2012 (please see Note below).

Surname:………………………………………………………  Given Name:…………………………………………………………
Organisation:………………………………………………………  Job title/position……………………………………………………
Postal Address……………………………………………………………………………………………………………………………………
State………………………Postcode……………………Country…………………………………………………………………………
Telephone……………………………………………………………Fax……………………………………………………………………………………
Mobile……………………………………………………………………………………………………………………………………………….
Email………………………………………………………………………………………………………………………………………………

Special dietary requirements………………………………………………………………………………………………………………

Pre-Course Questionnaire

To assist us to tailor the course to your experience please answer the following (please circle the appropriate weighting).

My knowledge in the field of smart meters and demand management is:

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<th>4</th>
<th>5</th>
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<tr>
<td>Very limited</td>
<td>Very Extensive</td>
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My project experience in the field of smart meters and demand management is:

| 1 | 2 | 3 | 4 | 5 |

My organisation’s objectives in the field of smart meters and demand management are:

| 1 | 2 | 3 | 4 | 5 |

My organisation’s project experience in the field of smart meters and demand management is:

| 1 | 2 | 3 | 4 | 5 |

My engineering or other professional discipline is: …………………………………………………………………………….

Methods of Payment

☐ If you wish to pay by credit card, please fill out the details below and fax to +61 2 4221 5474 or scan and email to rweine@uow.edu.au

Please debit (circle):    Bankcard    Visa    Mastercard
Card number:
Expires:    /    in the amount of
AUD$………………………………………………………………………………
Name on card: …………………………………………………………………………………
Signature: …………………………………………………………………………………
Email for receipt: …………………………………………………………………………………

☐ Cheque payable to “The University of Wollongong”

Mail to:    Attention: Ms Rachel Weine  Payment Enquires:    Ms Rachel Weine
            (CPD Course Registration)    Industry Liaison Officer
            Faculty of Engineering    Faculty of Engineering
            University of Wollongong, NSW, 2522, Australia    Ph: (02) 4221 4566
            Email: rweine@uow.edu.au

Note: There is no guarantee that economic participation levels for this course can be achieved. Registrants will be notified on the 2nd November 2012 if the course cannot proceed due to insufficient numbers. The program may be changed at any time due to unforeseen circumstances. If the course cannot proceed for any reason, UOW will not accept liability of whatsoever kind for expenses incurred by any person or corporation with the sole exception of the course investment, which will be refunded in full.