PSCAD Technical Workshop

EMT Studies including support to Renewable Integration

Brisbane (11–13 February 2019)

Location: Karstens Training Rooms,
Level 24/215 Adelaide Street,
Brisbane Queensland Australia

Cost: AUD$1600 (includes GST)

This three-day course is delivered by the engineering team from Manitoba Hydro International Ltd. (MHI), Canada in conjunction with the Australian Power Quality and Reliability Centre (APQRC) of the University of Wollongong, Australia.

It is intended for practicing engineers in power systems working in utilities, manufacturing, consulting, and academia who are interested in developing an in-depth understanding of the modern tools available for electromagnetic transient studies. Practical examples, based on the extensive experience of the staff at MHI will be specifically presented to provide a practical aspect to the course topics.

APQRC
AUSTRALIAN POWER QUALITY AND RELIABILITY CENTRE

UNIVERSITY OF WOLLONGONG AUSTRALIA

Manitoba HYDRO INTERNATIONAL

PSCAD

UOW.EDU.AU #THISISUOW

COURSE OUTLINE

DAY 1

- Introduction to electromagnetic transients in power systems and simulations:
  - Local oscillation of lumped L-C elements
  - Travelling waves in lines, cables, and bus bars
  - Damping of transients

- Introduction to PSCAD:
  - Important component models and features
  - Creating simulation cases using PSCAD

- Development of an AC system model suitable for:
  - Temporary over voltage studies
  - Switching over voltage studies
  - Network resonance and SSR studies
    - Representation of power system elements such as lines and cables, transformers, and shunt devices;
    - Representation of surge arresters;
    - Network equivalences
  - Model validation
  - Discussion of prior outage and contingency conditions
  - 'Multiple run' feature of PSCAD for parametric studies

- Application of EMT simulations for renewable integration — A technical presentation and discussion

DAY 2

- Renewable integration including wind and solar:
  - Wind farm fault recovery and grid code compliance study
  - Application of FACTS for renewable integration
  - Harmonic interaction studies
  - Control Interaction between fast acting dynamic devices – discussion and example
  - Solar PV integration
  - Energy storage

- Tools and techniques for large-scale power system simulation studies using PSCAD:

DAY 3

- Motors and generators:
  - Induction motors starting, including flicker and voltage dip problems
  - System black start study cases
  - Sub synchronous resonance study example
  - Application of synchronous condensers to improve dynamic performance of HVDC/Wind integration

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$1600 including GST**. Participants may count course hours towards their continuing professional development requirements.

NOTE: Arrangements for accommodation are the responsibility of participants and costs are not included in the course fee.

REGISTRATION

To register please click on the link below:

https://uow.onestopsecure.com/OneStopWeb/PSCADWrkshp

Note: There is no guarantee that economic participation levels for this course can be achieved. Registrants will be notified 2 weeks prior to course 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

ENQUIRIES

Please contact Ms Raina Lewis
Faculty of Engineering and Information Sciences
University of Wollongong
Ph: 02 4221 3335
Email: Raina_Lewis@uow.edu.au