



The IEEE PES/IAS chapters and the IEEE Northern Canada Section invite you on Thursday, September 28<sup>th</sup> for a one-day seminar "Power System Basics". The presented seminar is part of the IEEE PES distinguished lecturer program. There will be a registration fee of \$200.00 that includes, continental breakfast, lunch and copies of seminar materials.

## **IEEE NCS IAS/PES Meeting**

### **Power System Basics Seminar**

**Thursday, September 28<sup>th</sup>, 2006, 9:00AM to 4:00PM**  
**German Canadian Cultural Centre**

The Power System Basics seminar is designed to give non power system engineers, technicians and technologists an understanding of how power systems are planned, designed, fit together and operate. The seminar will be of interest to engineers wishing to gain a better understanding of the concepts used by power system engineers in the planning, design and operation of power systems.

The seminar is divided into two parts. The first part covers the power system components; generators, transformers, transmission lines and loads. The second part covers how the components fit together and function together. Included in the second part is a model power system that is used to illustrate the concepts and give an overview of power system studies and operation. Additional material on measurements of power system performance including losses and reliability is presented.

#### Part 1:

- Some basics on electricity and magnetism
- Generators – salient and cylindrical pole, control
- Transformers – two/three winding, autotransformers
- Lines – surge impedance loading
- Loads – types
- Breakers – live and dead tank designs

#### Part 2:

- How the components fit and work together
- Basics of controlling the power system
- Introduction to stability – two machine model
- Power flows – including a simple model power system
- Overview of protection
- Phasor Measurement Units – what they do and why
- Losses
- Reliability
- Overview of the Western System

Concepts are emphasized and mathematics is kept to a minimum. Basic concepts on vectors and phasors, power and energy, real and reactive power and magnetism are included.

Speaker:  
**W.O. (Bill) Kennedy, P. Eng., FEIC**  
Consulting Engineer, Electrical Power Systems  
**b7kennedy & Associates Inc.**

W.O. (Bill) Kennedy, has over 35 years experience as a power system engineer with both utilities and consulting firms. He has consulted both nationally and internationally. He has been involved in the deregulated electric industry in Alberta since 1997. Bill is Principal of his own consulting company. The seminar is illustrated with real life examples from his career.

*Attendance Provides 6 'Formal Activity' PDH Towards  
APEGGA Professional Development*

**Power System Basics Seminar**  
Location: **German Canadian Cultural Centre**  
8310 Roper Road (51. Ave), Edmonton, Alberta, Canada.

**Date:** Thursday, Sept 28<sup>th</sup>, 2006.

<b>Schedule:</b>	<b>Registration:</b>	<b>07:30</b>	<b>AM</b>
	<b>Breakfast:</b>	<b>08:00</b>	<b>AM</b>
	<b>Seminar Part I:</b>	<b>09:00</b>	<b>AM</b>
	<b>Lunch Break:</b>	<b>12:00</b>	<b>Noon</b>
	<b>Seminar Part II:</b>	<b>01:00</b>	<b>PM</b>
	<b>Questions &amp; Answers</b>	<b>03:30</b>	<b>PM</b>

**Registration:** by Thursday, Sept 14<sup>th</sup> 2006

<b>Seminar Fee:</b>	<b>IEEE Members</b>	<b>\$200</b>	<b>(\$250 after Sept. 14<sup>th</sup>)</b>
	<b>IEEE Non-Members</b>	<b>\$250</b>	<b>(\$300 after Sept. 14<sup>th</sup>)</b>
	<b>IEEE Life &amp; Student Members</b>	<b>\$75</b>	<b>(\$100 after Sept. 14<sup>th</sup>)</b>

**(Payable by cash or check)**

Please have your **IEEE membership card** ready to obtain the discount or sign up for the IEEE at the registration booth and receive member's price

Email: [sgabr@ece.ualberta.ca](mailto:sgabr@ece.ualberta.ca) or [sergio.bertani@matrikon.com](mailto:sergio.bertani@matrikon.com)  
Phone: Sami Abdulsalam at (780) 492-0163 (email preferred)  
Phone: Sergio Bertani at (780) 448-1010 ext. 4654 (email preferred)

<http://www.ewh.ieee.org/r7/northern-canada/ias-pes/>

