PUBLIC LECTURE SERIES

Waterloo Institute for Sustainable Energy

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Sustainable Electric Power Systems in the 21st Century: *Requirements, Challenges and the Role of New Technologies*

Thursday, May 20, 2010
5:30 – 6:30P
Centre for Environment & Information Technology (EIT) room 3142

Complimentary refreshments will be served at 5:00P

Presented by the Waterloo Institute for Sustainable Energy
University of Waterloo

Public Lecture with Prabha Kundur

Sustainability of electric power systems requires balancing the business across three areas: economic, social and environmental. This will have a profound impact on how power systems will be planned, built and operated in the future. In the evolving electricity supply industry environment, the challenges are to produce, transmit, and use energy in an environmentally friendly manner, to reduce costs by improving operating efficiency and business practices, and enhance the reliability and quality of power supply. In particular, there will be increased focus on improving the security and reliability of power systems while addressing environmental concerns, such as greenhouse gas emissions and global warming issues. There will also be greater emphasis on "smart" management and use of energy. Research, development and application of new technologies will play a major role in shaping the future directions of power systems in this regard.

This presentation will describe these changes affecting the electric power industry and identify new technologies that will influence the changes.

Dr. Prabha S. Kundur holds a Ph.D. in Electrical Engineering from the University of Toronto and has nearly 40 years of experience in the electric power industry. He is currently the President of Kundur Power Systems Solutions Inc., Toronto, Ontario. From 1994 to 2006 he served as the President and CEO of Powertech Labs Inc., the research and technology subsidiary of BC Hydro. Prior to joining Powertech, he worked at Ontario Hydro for nearly 25 years where he held senior positions and was involved in the planning and design of power systems.

He has also served as Adjunct Professor at the University of Toronto since 1979 and at the University of British Columbia since 1994. He is the author of the book *Power System Stability and Control* (McGraw-Hill, 1994), which is a standard modern reference on the subject. He has performed extensive international consulting related to power system stability and has delivered technical courses for utilities, manufacturers and universities around the world.

Dr. Kundur has a long record of service and leadership in the IEEE Power & Energy Society (PES). He has chaired numerous committees and working groups of the PES, and was elected a Fellow of the IEEE in 1985. He is currently the PES Vice President for Education, and a member of the PES Executive Committee. He is also active in CIGRE, and served as the chairman of the CIGRE Study Committee C4 on System Technical Performance from 2002 to 2006. He is currently a member of the CIGRE Administrative Council and the Chairman of the Canadian National Committee of CIGRE. He is the recipient of the 1997 IEEE Nikola Tesla Award, the 1999 CIGRE Technical Committee Award, the 2005 IEEE PES Charles Concordia Power System Engineering Award, and the 2010 IEEE Medal in Power Engineering.

Dr. Kundur has been awarded two honorary degrees: *Doctor Honoris Causa* by the University Politechnica of Bucharest, Romania in May 2003 and *Doctor of Engineering, Honoris Causa* by the University of Waterloo in June 2004.