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LECTURE SERIES

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A PUBLIC LECTURE PRESENTED BY THE WATERLOO INSTITUTE FOR SUSTAINABLE ENERGY

CO-HOSTED WITH ELECTRICAL & COMPUTER ENGINEERING

Tuesday June 18, 2024
10:30 am – 11:30 am (EST)

Venue: Centre for Environmental and Information Technology (EIT) Room no. 3142

ZOOM LINK:
https://us02web.zoom.us/s/4640082022?omn=82941557672#success

OVERVIEW OF ELECTRICITY MARKET OPERATION

Dr. Hong Chen, Principal Engineer, PJM Interconnection

Electricity markets are functioning around the world. This talk will cover fundamentals of wholesale electricity market operation, focusing on integrated power system and electricity market operation, using PJM market as an example. Hot topics, such as uncertainty, gas-electric coordination, renewable, storage, Distributed Energy Resources (DER), and system operation under extreme weather, will also be discussed.

TOWARD A SUSTAINABLE AND RESILIENT GRID TRANSFORMATION

Dr. Jay Liu, VP of Transformation, EXUS Management Partners

Power Grid Transformation has been an evolving process globally, starting from fuel mix change with renewable resources to more advanced sustainable, economical, and resilient infrastructure. Advanced Transmission and Distribution technologies will play critical roles in the next decades to address challenges on excessive amount of new generation interconnection requests, rapid growth of Data Center/AI loads, large scale Off-Shore Wind interconnection, and reliability and resilience threats under climate changes. Regulatory and publicity impacts on energy technology development are also gaining more attentions from engineers and leaders in the industry. At this plain talk, we will use a few use cases to discuss how to be prepared for the next power grid from core technology development perspectives.

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UNIVERSITY OF WATERLOO | Department of Electrical and Computer Engineering

Biography

Dr. Hong Chen is a Principal Engineer at PJM. She is a well-known practitioner on electricity market and power grid operation risk mitigation. In the past two decades, she led the development of many power grid control room applications which have achieved billions of dollars' savings in energy markets. Following her passion for technology innovation, Dr. Chen also serves as an industry advisor for many R&D projects at National Science Foundation, Department of Energy, and Power Systems Engineering Research Center. Dr. Chen, an IEEE Fellow, has been actively leading IEEE PES Technical Activities at various capacity for the past decades. She obtained her bachelor's degree in 1992 and Master degree in 1995, from Southeast University in China, and her Ph.D. degree in 2002 from University of Waterloo in Canada.

Dr. Jay Liu is currently VP of Transmission at Exus Renewables NA. At Exus, Dr. Liu oversees renewable energy resources' grid integration, operation and transmission services. Prior to joining Exus, he worked at PJM and ISO-NE in energy infrastructure development and operation. Jay has been engaging in grid transformation into sustainable and resilient energy infrastructures in the past three decades, with an industry record of adding more than 28,000 MW generation resources and 2000+ Transmission projects ($20B+) in-serviced into the power grids globally. Jay holds a Ph.D. degree (2004) in Electrical Engineering from University of Waterloo, Canada, an MBA degree (2009) from Penn State University, USA, Master (1997) and Bachelor (1992) degrees on Power Systems from Southeast University, China.

ALL ARE WELCOME!

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