Wide-Area Measurement, Monitoring, and Control of Future Power Grid

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Abstract

The presentation will start with an overview of the Center for Ultra-wide-area Resilient Electric Transmission Network (CURENT), one of the two Engineering Research Centers on energy research funded jointly by NSF and DOE. Then some of the recent progresses on using power system synchronized phasor measurements for power system monitoring and control assessment will be highlighted. In particular, a possible common platform for approaching “big data” analysis of synchrophasor data will be discussed. Examples for filling in missing synchrophasor data, disturbance triggering, and assessing interarea mode damping contributions processing relative phase angles, will be given.

Bio:

Joe H. Chow received his B.S. degrees in Electrical Engineering and Mathematics from the University of Minnesota, Minneapolis, and MS and PhD degrees, both in Electrical Engineering, from the University of Illinois, Urbana-Champaign. After working in the General Electric power system business in Schenectady, New York, he joined Rensselaer Polytechnic Institute in 1987, and is a professor of Electrical, Computer, and Systems Engineering. His research interests include multivariable control, power system dynamics and control, voltage-source converter-based FACTS controllers, and synchronized phasor data. For Academic Year 2014, he is serving as the Administrative Dean of Engineering.

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