ECE Distinguished Lecture

Smart Grid Applications, Standards Development and Recent Deployments

by

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The concept of a Smart Grid has matured to the point of reality with the recent advances in communication, IT and control technologies. This ability to modernize the electrical grid has now entered the vital stage of developing a set of standards to allow grid stakeholders to maximize interoperability of all major components of the Smart Grid initiative. Mr. McDonald will present an overview of Smart Grid applications with their value propositions, the NIST roadmap and the role of the SDOs (Standard Development Organizations). A description of recent Smart Grid deployments will also be presented.

John D. McDonald, P.E., is General Manager, Marketing for GE Energy T&D. In his 35 years of experience in the electric utility industry, John has developed power application software for both Supervisory Control and Data Acquisition (SCADA)/Energy Management System (EMS) and SCADA/Distribution Management System (DMS) applications, developed distribution automation and load management systems, managed SCADA/EMS and SCADA/DMS projects, and assisted Intelligent Electronic Device (IED) suppliers in the automation of their IEDs.

John received his B.S.E.E. and M.S.E.E. (Power Engineering) degrees from Purdue University, and an M.B.A. (Finance) degree from the University of California-Berkeley. John is a member of Eta Kappa Nu (Electrical Engineering Honorary) and Tau Beta Pi (Engineering Honorary), is a Fellow of IEEE, and was awarded the IEEE Millennium Medal in 2000, the IEEE PES Excellence in Power Distribution Engineering Award in 2002, and the IEEE PES Substations Committee Distinguished Service Award in 2003. In his twenty-one years of Working Group and Subcommittee leadership with the IEEE Power & Energy Society (PES) Substations Committee, John led seven Working Groups and Task Forces who published Standards/Tutorials in the areas of distribution SCADA, master/remote terminal unit (RTU) and RTU/IED communications.

John teaches a SCADA/EMS course at the Georgia Institute of Technology, a SCADA/Substation and Feeder Automation course at Iowa State University, and substation automation, distribution SCADA and communications courses for various IEEE PES local chapters as an IEEE PES Distinguished Lecturer. John has published thirty-one papers in the areas of SCADA, SCADA/EMS, SCADA/DMS and communications, and is a registered Professional Engineer (Electrical) in California, Pennsylvania and Georgia.

John is co-author of the book Automating a Distribution Cooperative, from A to Z, published by the National Rural Electric Cooperative Association Cooperative Research Network (CRN) in 1999. John was Editor of the Substations Chapter, and a co-author, for the book The Electric Power Engineering Handbook, co-sponsored by the IEEE PES and published by the CRC Press in 2000. John is Editor-in-Chief, and Substation Integration and Automation Chapter author, for the book Electric Power Substations Engineering, Second Edition, published by Taylor & Francis/CRC Press in 2007.