

New Technologies for Modernizing the Electric Grid the 21st Century

29 May 2015 – ME LECTURE HALL – 1300

With Guest Lecturer Dr. Merwin Brown

Co-Director, Electric Grid Research (EGR) for the California Institute for Energy and Environment (CIEE), University of California

Abstract:

This lecture will briefly review the prior lecture that covered the significant events and trends in the electric industry community that over the last 5 decades exerted a compounding influence of growing complexities and uncertainties for our electric institutions, and their infrastructure and its operation. The role of new technologies in modernizing the electric grid will be explained. Examples of specific electric grid problems and key new technologies being developed as solutions will be described. The need to balance new “smart” grid technology adoption with technologies for improving the physical infrastructure will be examined. The challenges of integrating new variable renewable generators will be used as a framework for discussion.



Dr. Merwin Brown

Biography:

Dr. Merwin Brown, is Co-Director of Electric Grid Research (EGR) for the California Institute for Energy and Environment (CIEE), University of California. EGR conducts technology research to modernize electric grids for implementing California’s environmental policies. Dr. Brown currently manages a team of experts at CIEE who are helping to develop and commercialize new technologies for the modern electric grid needed to meet California’s aggressive energy-policy goals. The team develops, administers, and conducts R&D programs for reliable, safe, affordable, and environmentally sound transmission and distribution systems. Dr. Brown’s comprehensive knowledge of electric utilities and of new and emerging utility technologies is derived from 40 years of experience with firms such as Pacific Gas and Electric Company, Arizona Public Service, Pacific Northwest National Laboratory, and the National Renewable Energy Laboratory. He has managed private and public-interest technology R&D programs valued at up to \$50 million per year with groups as large as 100 scientists and engineers. He has managed individual R&D projects as large as \$20 million. Dr. Brown has extensive training and experience in strategic business planning and has held advisory positions for many electricity industry organizations. He is a member of the US Department of Energy Advisory Committee (in 2nd term) and chairman of Energy Storage subcommittee. He has served as an Arizona Solar Energy Commissioner, on the Board of the American Council for an Energy Efficiency Economy, and with groups from the Electric Power Research Institute and the National Renewable Energy Laboratory. He has numerous technical publications and presentations to his credit, and holds B.S. and Ph.D. degrees in nuclear engineering from Kansas State University.



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