

UI-ASSIST WEBINAR: Design Guide for Microgrid Protection with Deep Deployment of DER, Inverters and Other Digital Devices and Systems



U.S. INDIA COLLABORATIVE FOR SMART DISTRIBUTION SYSTEM WITH STORAGE



Thursday, January 26, 9:00 am PT (10:30 pm IST)

Presenters: S.S. (Mani) Venkata (Venkata Consulting Solutions)

The character of emerging distribution systems has dramatically changed in the past two decades due to the infusion of DER, new digital protective devices, intelligent sensors, modern communication, computing and control systems and others at both the primary and secondary distribution levels. These are becoming looped and may be networked in the future to improve system performance. In fact, the entire distribution system should be considered as one comprehensive system. The IEEE-SA sponsored guide (P2030.12) is the subject of the seminar. It covers the design and selection of protective devices and the coordination between them for various modes of operation of the microgrid. They include grid-connected, islanded modes and transitions between modes. This guide will facilitate the deployment of protection systems, given the challenge of protecting equipment and assets in the different modes of operation of the microgrid. The guide proposes different approaches: centralized and decentralized, passive and active, detection and taking proper actions to protect the microgrid dependably and securely and its equipment to assure resiliency, reliability, safety, and other performance measures. The seminar presentation will cover the following topics: definition, types, and structures of microgrids, objectives and challenges, design configurations and considerations, system studies, control system coordination, requirements for Advanced Distribution Management System (ADMS) including Microgrid Energy Management System (MEMS), communication structures and system testing. This is an on-going effort, and the status of current progress will be discussed.

Please join our monthly UI-ASSIST webinar on January 26, 9am – 10 am PST.

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S. S. (Mani) Venkata is President of Venkata Consulting Solutions LLC (VCS). He provides R&D support and services for electric power industry and training for future engineering personnel. He was with GE Power/Alstom Grid Inc. from January 2011 to September 2017 as Principal Scientist. He was Vice President with KEMA Inc. for six years during 2005-2010. He was the founding Dean and Distinguished Professor of Wallace H. Coulter School of Engineering at Clarkson University, Potsdam, New York during 2004-2005. In 2003, he was the Palmer Chair Professor of Electrical and Computer Engineering Department at Iowa State University (ISU), Ames, Iowa. From 1996 to 2002, he was Professor and Chairman of the Department at ISU. Before joining ISU, he was with the University of Washington (UW), Seattle, Washington where he taught since 1979 and he continues with his affiliation. Prior to joining the UW, he taught at West Virginia University and the University of Massachusetts, Lowell for eight years. Dr. Venkata is a Life Fellow of the IEEE. At the IEEE level, he served as a member of the IEEE Fellows Committee for six years during 2010 to 2015 and 2021. He also served on the Power and Energy Society (PES) Board as Vice-President, Publications during 2004-07. In addition, he served the PES at various levels for the past 55 years. In 2016 he received the Robert M. Janowiak Outstanding Leadership and Service Award from ECEDHA. He also received the IEEE PES Douglas M. Staszkesky Distribution Automation Award in 2015. In 2000 he received the Third Millennium Award from the IEEE. In 1996 he received the Outstanding Power Engineering Educator Award from the IEEE Power Engineering Society.