



Challenges for Electric Power Supply Reliability and Resiliency in a Changing Environment

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OVERVIEW

The grid is evolving with increasing distributed generation, controllable loads, and continued electrification while its performance challenged by cyber/physical threats, natural hazards and increasing uncertainty in power supply and consumption patterns. There is a demonstrated need to closely monitor this evolution, and ensure that processes and solutions are in place to maintain the reliability and resiliency of electric power supply. Reliability and Resiliency both have various aspects to them but fundamentally imply a need for coordinated planning, understanding the broad spectrum of impacts from loss of electricity, recognizing the increasing interdependency between electric grid and other infrastructures, and preparing for possible outcomes learnt through scenario-based analyses. This talk will discuss impacts of key factors such as the transition from central to distributed generation, increase in cyber/physical attacks and natural disasters, and the value of scenario-based, coordinated planning to maintain reliable and resilient electricity.

BIO

Venkat Banunarayanan is the Vice President of Integrated Grid at Business & Technology Strategies at the National Rural Electric Cooperatives Association. He has twenty-five years' experience in leading and executing energy-related projects involving power system analysis, data analytics, grid optimization, renewables integration, techno-economic feasibility and benefit-cost studies. At NRECA, his role is to lead the development of tools, resources and partnerships for member cooperatives to successfully evaluate opportunities for distribution grid optimization and value extraction, enabling reliable and cost-effective grid operations with high penetration of distributed energy, and business models for cooperatives to function as the trusted energy advisor for their communities. Venkat holds a doctorate in Electrical Engineering and an M.B.A in Finance, is certified as a Project Management Professional (PMP®), has worked previously at the United States Department of Energy, ICF International, and General Electric in their Energy division.

