

Workshop on Advanced Modeling for Distribution Planning and Operations

Location: Room 1400, Memorial Student Center (MSC) at Texas A&M, April 19, 20, and 21, 2017.

Address: 275 Joe Routh Blvd., College Station, TX 77843

Sponsors: CenterPoint Energy, Electric Power Research Institute (EPRI), and Texas A&M.

With support from Texas A&M and CenterPoint Energy, EPRI is conducting a Workshop on distribution planning and operations analysis techniques considering the requirements of the modern integrated power grid. The Workshop will address both conventional planning analysis as well as advanced techniques for modeling such things as distributed generation and energy storage. The Workshop will utilize the EPRI Open-source Distribution System Simulator (OpenDSS) program to demonstrate the concepts presented. OpenDSS is a comprehensive electrical system simulation tool with special features for multiphase electric utility distribution systems analysis.

OpenDSS is EPRI's main tool for research into distribution system analysis. The program supports all *rms* steady-state (i.e., frequency-domain) analyses commonly performed for utility distribution systems. In addition, it supports many new types of analyses that are designed to meet future needs, many of which are being dictated by the grid modernization efforts of US utilities and other electric power distribution companies worldwide. Many of the features found in the program were originally intended to support analysis of distributed generation on distribution systems. Other features support analysis of power delivery energy efficiency, solar photovoltaic generation, and harmonics analysis. OpenDSS is designed to be indefinitely expandable so that it can be easily modified to meet future needs.

Besides utility distribution engineers, this Workshop is highly recommended for electric power engineering students. The OpenDSS solution engine can be driven from a variety of software platforms favored by students such as MATLAB and Python, making the program particularly useful for graduate research. OpenDSS will be introduced on the first day and then used in the examples for the rest of the Workshop. It is available on-line through links at <http://smartgrid.epri.com/SimulationTool.aspx>.