

Presentation # 12

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Title: AEP's Virtual Power Plant Simulation

Abstract

AEP Distribution is gathering data and modeling the impacts of various forms of new technology active sources that will be connected to the Distribution System (wind, solar, storage and other forms of DG) as well as demand reduction through customer programs and utility activated volt var control. As more data is developed, the overall strategy is to be able to use all these active sources (both company and customer owned) and demand reduction capabilities as a virtual power plant. The benefits of this approach would be to reduce electrical system losses, improve customer reliability and reduce emissions. This presentation will describe the models being developed and the challenges to the planning process including how to account for and optimally utilize these active sources and demand reductions, how to operate the system in real time and how to assure the safety of the system for the public as well as utility workers.