



PSERC WEBINAR

Distribution System Resilience: Modeling and Optimization

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Extreme weather events threaten the power delivery infrastructure causing an extended disruption of electricity supply to the critical services. Recent fire-related damages caused by high-voltage transmission lines coupled with dry weather are costing billions of dollars annually, with the only practical solution being de-energizing the lines and disrupting the power supply to millions of customers. Most impacts are observed at the mid and low voltage distribution systems due to inadequate incorporation of resilience at the distribution level. The changing nature of the grid and extreme weather events motivate new mechanisms to manage grid operations by leveraging smart grid technologies. For example, the recent extended outage in Texas due to resource adequacy concerns from an unusual cold front motivates new operational solutions to partially support critical and non-critical services. This tutorial will introduce the approach to model and quantify the impacts of extreme weather events on the power distribution grid and discuss planning and operational solutions to improve the distribution grid resilience. The use cases will be demonstrated using standard distribution test feeders.

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[LINK TO WEBINAR](#)

2:00-3:00 P.M. EDT

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Dr. Anamika Dubey received her Ph.D. degree in Electrical and Computer Engineering from the University of Texas at Austin in Dec 2015. She is currently an Assistant Professor in the School of Electrical Engineering and Computer Science at Washington State University, Pullman, WA. Her research is focused on the model-based and data-driven methods for decision-support in large-scale electric power distribution systems for improved efficiency, operational flexibility, and resilience. She is a recipient of the National Science Foundation (NSF) CAREER Award. She serves as the Associate Editor for IEEE Transactions on Power Systems, IEEE Power Engineering Letters, and IEEE Access. She is the current secretary of IEEE PES Distribution Systems Analysis Subcommittee and serves as PES Chapter Chair for the IEEE Palouse Section.

