



Consortium for Electric Reliability Technology Solutions
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Participant Contact Information and Research Activities

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What is your working definition of a microgrid? How is it different from the following working definition? A microgrid is an integrated power delivery system consisting of interconnected loads and DER which, as an integrated system, can operate in parallel with the grid or in an intentional island mode. The integrated DER are capable of providing sufficient and continuous energy to a significant portion of the internal demand, and the microgrid possesses independent controls and can island and reconnect with minimal service disruption.	
Briefly describe your research activities on microgrids. <i>My research focuses on the economics of microgrid operation. I examine topics such as the investment and generation of DER, the effects of DER with CHP capabilities on carbon emissions and system efficiency, optimized installation of separately packaged generators and heat exchangers, the effects of heat storage on DER investment and generation, and microgrid operation under stochastic market prices and unreliable DER.</i>	
Please note which of the following technical issues your research addresses (if any): Intentional islanding and resynchronization <i>No</i>	

Protection within the microgrid	<i>No</i>
Voltage control within the microgrid	<i>No</i>
Frequency control within the microgrid during islanded operation	<i>No</i>
Fast load sharing among microsources (for load changes faster than the ramping rates of the prime movers)	<i>No</i>
Heat load matching and load prioritization	<i>Yes</i>
Economic dispatch of assets	<i>Yes</i>
Meeting environmental constraints	<i>Yes</i>
Other	<i>Reliability concerns</i>