



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

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<p>What is your working definition of a microgrid? How is it different from the following working definition?</p> <p>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.</p> <p><i>A microgrid is a cluster of loads and distributed resource(DR) units serviced by a distribution voltage class grid and capable of</i></p> <ul style="list-style-type: none"><i>a- operation in a grid-connected mode,</i><i>b- operation in an autonomous (islanded) mode,</i><i>c- rid-through between the above two modes.</i>	
<p>Briefly describe your research activities on microgrids.</p> <ul style="list-style-type: none"><i>a- Development analytical tools (small-signal dynamics) for microgrid analysis</i><i>b- Development of control and power management strategies for micrgrid DR units, particularly for electronically- interfaced Rr units</i><i>c- Investigation of DR units on protection of microgrid</i><i>d- Fault and islanding detection</i><i>e- Investigation of single-phase load and unbalance on the microgrid operation</i>	

Please note which of the following technical issues your research addresses (if any):

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