



Consortium for Electric Reliability Technology Solutions
Berkeley 2005 Symposium on Microgrids
June 17, 2005
UC Berkeley Faculty Club, Berkeley CA



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>Microgrids are Low Voltage distribution networks comprising various distributed generators (DG), storage devices and controllable loads that can be operated interconnected or isolated from the main distribution grid as a controlled entity.</i></p>									
<p>Briefly describe your research activities on microgrids.</p> <p><i>Scientific Responsible of EU R&D "Microgrids" project</i></p>									
<p>Please note which of the following technical issues your research addresses (if any):</p> <table border="0"><tr><td>Intentional islanding and resynchronization</td><td><i>Yes</i></td></tr><tr><td>Protection within the microgrid</td><td><i>Yes</i></td></tr><tr><td>Voltage control within the microgrid</td><td><i>Yes</i></td></tr><tr><td>Frequency control within the microgrid during islanded operation</td><td><i>Yes</i></td></tr></table>		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>
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Fast load sharing among microsources (for load changes faster than the ramping rates of the prime movers)	Yes
Heat load matching and load prioritization	No
Economic dispatch of assets	Yes
Meeting environmental constraints	Yes
Other	<i>Blackstart</i> <i>Grounding</i> <i>Telecommunication infrastructures</i> <i>Quantification of Benefits in Power System Operation (reliability, congestion relief, losses)</i> <i>Quantification of Benefits in Power System Planning (deferral of investments)</i> <i>Validation in laboratory Microgrids</i> <i>Demonstration in Actual Microgrids</i>