

## POTENTIAL TE PROJECT WORKSHEET

PROJECT DEVELOPMENT AREA for TRANSACTIVE ENERGY / MODELING AND SIMULATION			
<b>Title:</b> <b>Demonstration of Transactive Control for Energy Management in Microgrid Systems</b>	<b>Brief Description:</b> Write 2-3 sentences/bullets to describe the project development area and the necessary partnerships <ul style="list-style-type: none"> <li>Scalability – Account for devices inside of building to full external market</li> <li>Theoretical grounding – transactive</li> <li>Graceful degradation</li> </ul>	<b>Challenges:</b> Identify the anticipated challenges for creating a workable demonstration or testbed for the concept <ul style="list-style-type: none"> <li>Formal simulation experience</li> <li>Larger test bed – Alstom - Gridstar</li> </ul>	
PROJECT APPROACH			
<b>Major Tasks:</b> Describe a possible approach to developing the project, including 3-5 major tasks <ul style="list-style-type: none"> <li>Conduct requirements gathering scenarios               <ul style="list-style-type: none"> <li>Performance targets</li> </ul> </li> <li>Develop theory/design/simulate</li> <li>Develop software/test</li> <li>Refine above</li> <li>Conduct analysis of regulatory aspects</li> </ul>	<b>Major Milestones with dates:</b> Define 3-5 milestones that can be used to measure progress (what markers can we use to measure and assess progress in development?) <ol style="list-style-type: none"> <li>Requirements</li> <li>Design</li> <li>Develop</li> <li>Test</li> <li>Analyze</li> </ol>	<b>Performance Targets:</b> Identify 1-5 (quantitative) performance targets that define a successful outcome. <ul style="list-style-type: none"> <li>Graceful degradation</li> <li>Microgrid as participant</li> <li>ADR</li> <li>Measure of load following signal</li> <li>Improve achieved value of microgrid</li> </ul> <b>Limits:</b> What parameters should be used to define the realistic limits to use of the system/platform <ul style="list-style-type: none"> <li>Extent of automation needed</li> <li>Flexibility of system</li> </ul>	
PROJECT IMPACTS and DEMONSTRATION			
<b>Impacts:</b> Describe the anticipated economic benefits (new products, jobs, economic growth, exports, tax base, etc.) as well as impacts on energy, health, safety, environment, and other quality of life aspects <ul style="list-style-type: none"> <li>Overall reduce carbon footprint</li> <li>Lesser initial capital expenditure</li> <li>Changed perception of Transactive business model               <ul style="list-style-type: none"> <li>Improvements to the regulatory process</li> </ul> </li> </ul>	<b>Demonstration vehicle:</b> Describe how you might demonstrate the project concept (physical or virtual) <ul style="list-style-type: none"> <li>Simulation</li> <li>Physical Grid Demonstration</li> </ul> <b>Status of Commitment:</b> Please advise on the current status of the CPS idea detailed on this worksheet (underline/circle one): <u>LAUNCHED</u> Ready for Public Announcement In Deliberations / Negotiations <u>Concept only Stage / No partners yet</u>	<b>Team Lead:</b> <ul style="list-style-type: none"> <li>Jennifer Worrall, Cleanspark – Project Management, Software Development</li> </ul> <b>Participants and Roles:</b> <ul style="list-style-type: none"> <li>Allen Jones, Independent Consultant – Requirement development</li> <li>Jorge Camacho – Regulatory analysis</li> <li>Paul Heitmann, IEEE – Interconnection, testing development</li> <li>Li Song, Univ. of Oklahoma</li> </ul>	<b>Participants and Roles: (continued)</b> <ul style="list-style-type: none"> <li>William Cox, Energy Mashup Lab – Architecture <u>key???</u>/design</li> <li>Larisa Dobriansky, General Microgrids– Regulatory analysis</li> <li>Ranjeet Vaishnan, Tata Consultancy– Technical</li> <li>Thomas Nudell, MIT – Algorithm development and methodology</li> </ul> <b>Additional Notes:</b> <ul style="list-style-type: none"> <li></li> </ul>