

**U.S. Department of Energy and  
Sandia National Laboratories  
Utility-Scale Grid-Tied PV Inverter Reliability  
Technical Workshop**

**Phillips Technology Institute Collaboration Center  
Albuquerque, New Mexico**

**AGENDA**

<b>Thursday January 27, 2011</b>		
8:30	- Welcome and Workshop Overview - Purpose of Meeting	Stan Atcitty, <i>Sandia</i> Mike Cliggett, <i>U.S. Department of Energy (DOE)</i>
8:30	Inverter Manufacturer Perspective on Reliability	Jim Perkinson, <i>Satcon</i>
9:00	Integrator Broad Perspective on Reliability – Customer Needs and Field Data	Tom Levitsky, <i>First Solar</i>
9:30	Break	
9:45	Owner/Operator Perspective on Reliability – Customer Needs and Field Data	Tassos Golnas, <i>SunEdison</i>
10:15	Survey Results and Summary	Mike Quintana, <i>Sandia</i>
11:35	Discussion Time for Survey Results	Led by Bryan Pai, <i>SRA International</i>
12:15	Lunch	On-site
1:15	DOE \$1/Watt Workshop and DOE Goals	Mike Cliggett, <i>DOE</i>
1:40	Sandia's Approach to Reliability – Overview	Jennifer Granata, <i>Sandia</i>
2:15	Break	
2:25	IGBT Reliability Issues and Needs	John Donlon, <i>Powerex</i>
2:55	IGBT Si- and SiC-based Switch Reliability Project	Bob Kaplar, <i>Sandia</i>
3:25	Capacitor Reliability Issues and Needs	Andy Ritter, <i>AVX Corporation</i>
3:55	Facilitated Discussion – Approaches to Reliability	
5:05	Second Survey Based on First Day of Discussion	
5:30	Adjourn	

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8:30	Welcome and Recap of Day One	Stan Atcitty, <i>Sandia</i>
8:35	Results of Second Survey	Bryan Pai, <i>SRA International</i>
9:00	Overview of UL 1741	Tim Zgonena, <i>Underwriters Laboratories</i>
9:20	Existing Codes and Standards (Summary) – <i>What codes and standards exist for modules and how do they compare to inverters?</i>	Greg Ball, <i>BEW Engineering</i>
9:40	ALT/Acceleration Factors – <i>Is more work needed in this area? What is currently available and how it is applied to existing systems?</i>	Rob Sorensen, <i>Sandia</i>
10:00	Facilitated Discussion – Codes and Standards <ul style="list-style-type: none"> <li>• What is the single most important code/standard that is <i>not</i> universally accepted but should be?</li> <li>• What are the gaps in codes/standards as applies to utility-scale inverters?</li> </ul>	
10:45	Break	
10:55	Technology Advances to Improve Reliability – Broad View	Diganta Das, <i>CALCE University of Maryland</i>
11:15	Facilitated Discussion – Technology Advances <ul style="list-style-type: none"> <li>• What advances are a “must”?</li> <li>• What advances would be “nice” to have?</li> </ul>	
12:30	Working Lunch  Facilitated Discussion – Wrap-up <ul style="list-style-type: none"> <li>• Action Items- DOE/SNL/ Attendees <ul style="list-style-type: none"> <li>– What are we going to do?</li> <li>– When are we going to do it?</li> <li>– How are we going to do it?</li> <li>– Who else needs to know about these steps and what method(s) can be used to communicate effectively with them?</li> </ul> </li> </ul>	Led by Bryan Pai, <i>SRA International</i>
2:00	Adjourn/Leave for Sandia’s Distributed Energy Technologies Laboratory (DETL)	
2:15	Optional DETL Tour	
4:00	Return to Phillips Technology Institute/Airport	