

SANDIA NATIONAL LABORATORIES PV PERFORMANCE MODELING WORKSHOP

AGENDA

Phillips Technology Institute Collaboration Center
on Maxwell Ave SE, one block north of Gibson Blvd SE
Kirtland Air Force Base, Albuquerque, NM

Wednesday, September 22, 2010		
9:00	Welcome and Purpose	Chris Cameron, SNL
9:15	A Review of System Performance Models	Bradley Hibberd and Tarn Yates, Borrego Solar
9:35	Needs and Issues in System Performance Modeling - Manufacturer/Integrator	Ben Bourne, SunPower
9:50	Needs and Issues in System Performance Modeling - Manufacturer/Integrator	Adrienne Kimber, First Solar
10:05	Needs and Issues in System Performance Modeling - Independent Engineer	Jeff Newmiller, BEW Engineering
10:20	Break	
10:35	Recent Studies of PV Performance Models	Steve Ransome
11:00	A Proposed Approach to PV Performance Model Validation	Josh Stein, SNL
11:30	Results of Model Inter-Comparison - Predicted vs. Measured System Performance	Josh Stein, SNL
12:00	Lunch Luncheon Presentation: Overview of PV*SOL and Plans for US Market	Paul DeKleermaeker, Valentin Software
1:00	An Overview of the Module Model in PVsyst	André Mermoud, PVsyst
1:20	Improvements to the CEC/Wisconsin n-Parameter Model	Bill Beckman
1:40	Overview of the Module Model in PVWatts	Bill Marion, NREL
2:00	Overview and Background on the Sandia PV Array Performance Model	David King
2:20	Modeling and Measuring Normal Cell Operating Temperature	Matt Muller, NREL
2:35	Modeling Module Temperature in the System Environment	Ty Neises, U. of Wisconsin
2:50	Break	
3:05	Understanding Modeling Errors for Module Models Using Residual Analysis and Application to the Results from Model Inter-Comparison	Josh Stein
3:50	Facilitated Discussions of Results	
	<ul style="list-style-type: none"> • What must be done to improve module performance modeling? 	
4:30	<ul style="list-style-type: none"> • Prioritization of future efforts, roles, and responsibilities 	
5:00	Adjourn	

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8:30	Beyond the Module - Modeling System Performance - Introduction	Chris Cameron, SNL
8:40	Modeling Systems Losses in PVsyst	Andre Mermoud, PVsyst
9:05	Characterizing Shading Losses and the Impact of Sub-array MPPT	Chris Deline, NREL
9:25	Modeling and Evaluating Sub-Array MPPT	Sara MacAlpine, U. of Colorado
9:45	Modeling Needs for Very Large Systems	Josh Stein, SNL
10:00	Break	
10:20	How Does Uncertainty in Input Parameters Affect Model Output?	Cliff Hansen, SNL
10:40	Facilitated Discussion	
	<ul style="list-style-type: none"> • Industry-led Market Transformation: FY2011 Performance/Finance Framework (Doug Payne, SolarTech) • Validating models and inputs - are new standards needed? • Should uncertainty be included in model outputs? • Ensuring quality in model inputs • Validating model accuracy and uncertainty • Prioritization of future efforts to model system losses 	
11:40	Closing Discussion and Action Items	
12:00	Lunch	
1:00	Depart by Bus ONLY for Tours of Sandia Inverter and Outdoor Module Test Laboratories <i>Please note: All tour participants must travel by bus. Cell phones and other electronics are not permitted on the tour and cannot be left in the meeting room. They can be left on the bus, which will remain at the tour location. The group will return to the Phillips Technology Institute Collaboration Center at the end of the tour.</i>	
~3:30	End of Tours and Workshop	