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# Progress Update on Publishing requirements using IEC 61853-1



# The 23 Power Rating Conditions

**$P_{max}$ ,  $I_{sc}$ ,  $V_{oc}$ , and  $V_{max}$  versus Irradiance and Temperature**

Irradiance (W/m <sup>2</sup> )	Spectrum	Module Temperature (C)			
		15	25	50	75
<b>1100</b>	AM1.5	NA	#1	#2	#3
<b>1000</b>	AM1.5	#4	#5	#6	#7
<b>800</b>	AM1.5	#8	#9	#10	#11
<b>600</b>	AM1.5	#12	#13	#14	#15
<b>400</b>	AM1.5	#16	#17	#18	NA
<b>200</b>	AM1.5	#19	#20	#21	NA
<b>100</b>	AM1.5	#22	#23	NA	NA



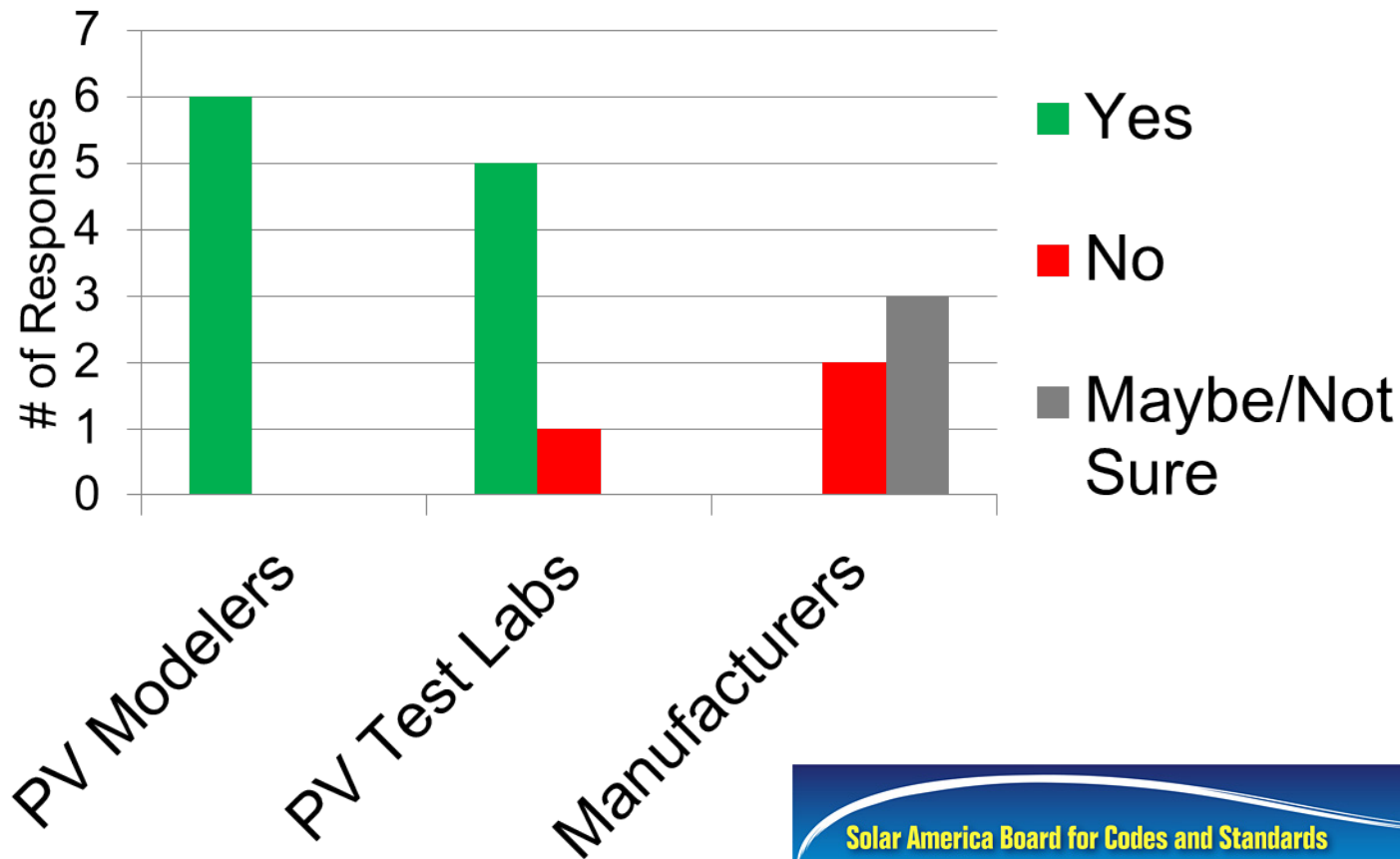
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# Survey of Key Stakeholders

- Early-2012 Web-based Survey of:
  - PV Modelers (8):
    - NREL, Sandia, Draker, Pvsyst SA, etc
  - PV Test Labs (7):
    - UL, TUV Rheinland PTL, NREL, Intertek
  - PV Module Manufacturers (7):
    - Suntech, Solaria, First Solar, SunPower, Trina Solar, 2 anonymous



“Do you think that it is a good idea for the Solar ABCs to make recommendations that may lead to IEC 61853-1 data being available to modelers?”



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# Summary of Results of Web Survey of Key Stakeholders

- **PV Modelers**
  - Good value in making IEC 61853-1 test data available
  - Currently too much variability of test results
- **PV Test Labs**
  - Generally supports encouraging or requiring IEC 61853-1
  - Standard is very new and still lots of unknowns of its value
- **PV Module Manufacturers**
  - Sees some value in IEC 61853-1 data, but not requirement
  - Lot of variation in results between test labs
  - Market should drive performance testing required



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# Summary of results from the March 18<sup>th</sup>, Stakeholders Meeting in San Jose

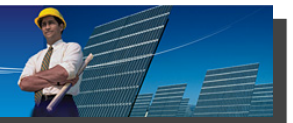
- Discussion of the “Name plate & Datasheet Requirements”
  - How the data could be used by modelers
  - How the data could be used by array designers
- Discussion of the use of the data in the application of IEC 61853-1 in performance testing



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# IEC 61853-1 Data

- From the discussion a desire to use the data required by the Std. emerged.
- The three Mfr' s. Present did not mind as long as “all do it” (make available).
- The modelers preferred more data but would use the Nameplate & Datasheet Std. if it was easier to get.



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# Additional Stakeholder Inputs

- Labs are generating data but won't / can't release.
- System performance is not just modules, as losses from wiring and connections can be significant.
- Some banks use a 20% derate contingency.
- Soiling losses can be very significant with 10 to 30% field power losses.





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# Finally In Summary

- Data generated by the Nameplate & Datasheet Std. very useful
- Data generated by IEC 61853-1 can be very useful if easily available for performance models and system designers
- A change to the IEC 61853-1 is being prepared to address availability



“Do you think that it is a good idea for the Solar ABCs to make recommendations that may lead to IEC 61853-1 data being available to modelers?”

