Progress Update on Publishing requirements using IEC 61853-1
The 23 Power Rating Conditions

<table>
<thead>
<tr>
<th>Irradiance (W/m²)</th>
<th>Spectrum</th>
<th>Module Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>AM1.5</td>
<td>#1 #2 #3</td>
</tr>
<tr>
<td>1000</td>
<td>AM1.5</td>
<td>#4 #5 #6 #7</td>
</tr>
<tr>
<td>800</td>
<td>AM1.5</td>
<td>#8 #9 #10 #11</td>
</tr>
<tr>
<td>600</td>
<td>AM1.5</td>
<td>#12 #13 #14 #15</td>
</tr>
<tr>
<td>400</td>
<td>AM1.5</td>
<td>#16 #17 #18 NA</td>
</tr>
<tr>
<td>200</td>
<td>AM1.5</td>
<td>#19 #20 #21 NA</td>
</tr>
<tr>
<td>100</td>
<td>AM1.5</td>
<td>#22 #23 NA NA</td>
</tr>
</tbody>
</table>
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?”

![Graph showing responses from PV Modelers, PV Test Labs, and Manufacturers. The graph indicates the number of responses with categories Yes, No, and Maybe/Not Sure.]
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
Summary of results from the March 18th, Stakeholders Meeting in San Jose

• Discussion of the “Name plate & Datasheet Requirements
  – How the date 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
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.
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.
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?”