Solar ABCs Product Safety Panel

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Underwriters Laboratories Inc.
Underwriters Laboratories Inc. (UL)

- An independent, not-for-profit product safety organization testing and certifying products
- Writing and publishing Standards for Safety
- Accredited by OSHA as a Nationally Recognized Test Laboratory (NRTL) and the Standards Council of Canada
- The only IECEE North American National Certification Body (NCB) for photovoltaic (PV) product certification
- North American market leader in certification
Standards

- Standards are requirements or recommendations based on best practices
- Created by bringing together the experience and expertise of interested parties
- Generally, the UL standard revision and development process is limited to Standards Technical Panel (STP) members
  - UL 1703 - PV panels, modules and module accessories
  - UL 1741 - Distributed power systems equipment and accessories, inverters, charge controllers, PV combiner boxes and utility interconnection systems equipment.
Solar ABCs and UL Standards

• Provides an open forum to industry and other interested parties
  – Comment on work being done
  – Suggest areas to Solar ABCs to be addressed
  – Make inquiries and ask questions about existing standards and requirements

• Identify and address gaps in standards requirements

• Provide additional opportunities to collaborate with research studies on related projects
Work Plan, Potential Issues (Y1)

PV AFCI

• Literature research study on national and international documents to identify related issues
  • Will look at other industries and technologies to assess applicability and usefulness
  • Anticipated end of life will be an arcing fault (based upon major UL customer opinion)
    – Split research among panel members
    – Panel leader will identify document database and other useful sources

• Issue - DC arc signature
Work Plan, Potential Issues (Y1)

PV Polymeric Materials

• Industry survey to identify causes and severity of PV module failures
  • Examining current testing procedures to adequately address test conditions and failure modes as seen in the field
  • Electrical, mechanical and environmental aspects will be reviewed
    – Panel will development requirements and test methods to address identified failure modes
    – UL will conduct research trials to identify initial areas to address
    – Panel will develop survey questionnaire for list-serve forum responses

• Issues – Review of electrical, mechanical and environmental aspects may require prioritization
Work Plan, Potential Issues (Y1)

• UL 1703 and IEC 61730
  – Identify and discuss differences between US and international standards
  – Future adoption and integration with national differences

• UL 1741 and IEC 62109
  – Identification of UL 1741 and IEC 62109 new or revised requirements for ungrounded PV arrays and non-isolated inverters, other additional equipment
  – Identify national requirements and differences between US and international standards (Y2)
Panel Working Process

• Process
  – Individual panel members will work on assigned activities, collaborating where necessary on joint projects
  – Use of website to post research and gather input and opinion
  – Quarterly meetings (either teleconference or in-person) to discuss and determine panel direction and actions
  – Minutes and annual reports will need to be reviewed by the panel for submittal to the PA
Stakeholders and Collaboration

- **Stakeholders**
  - Use web-based list serve to provide input to work underway and to ask questions
- **Collaboration with PV/CSP Product Study Panel**
- **Collaboration with other Coordination and Implementation Panels**
- **Collaborations with other SAI partners**
Solar ABCs contacts

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