

Solar Power International

Each year, SPI brings forward many sessions important in understanding the changing market access and installation requirements. Here we highlight conference education sessions, Technical Symposium talks, exhibit floor presentations and panels as well as SEIA member meetings and events that have codes and standards content.

To access conference education and the Technical Symposium, an SPI/ESI conference badge is required. Exhibit floor education is included with an exhibit hall pass valid for the day of the session. SEIA member events and meetings are open only to SEIA members. Note that non-SEIA staff presentations and sessions contain the views, opinions and perspectives of the presenters and / or their respective organizations and may or may not align with SEIA industry perspectives. We simply list them here to bring them to your attention.

Pre-show workshops on Monday, September 24, 2018 and post-show workshops on Thursday, September 27, 2018 that require an extra ticket (check the SPI [on-line schedule](#)) are not listed here. Similarly, there are several codes and standards topics covered in the Poster Spotlight Sessions which are not listed here and for which we highly recommend you attend the Poster Reception or view the SPI on-line schedule for when specific topics will be introduced in different Poster Spotlight Sessions throughout the conference.

Check our [website](#) for more information on SEIA @ SPI.

Tuesday, September 25, 2018

10:00 – 10:30 am **Morning Coffee Break hosted by Abby Hopper, CEO, SEIA - Industry Trends Theater (Booth 189), Exhibit Hall, Anaheim Convention Center**

Start off your SPI experience at a Coffee Break with industry thought leaders inspiring the more focused effort on improving the solar permitting processes. Then join us at the Industry Trends theater for a panel discussion on how we can accomplish this work together. Note that an Exhibit hall pass or a conference pass are needed to attend the coffee break and panel. [Registering](#) for the coffee break, while not mandatory, will help us plan accordingly

10:30 – 11:30 am **Cutting the Red Tape: How to Halve the Cost of Residential Solar in the US – Industry Trends Theater (Booth 189), Exhibit Hall, Anaheim Convention Center**

Permitting fees, inconsistent code interpretation, wet stamps, truck rolls, redesign, delays, lost customers, meeting inspectors, frustration. They each add cost and those costs make your systems more expensive. More expensive systems are harder to sell, adding customer acquisition costs. It's a vicious cycle that is far worse in the U.S. than in other developed countries and it contributes to a typical residential PV system in the U.S. costing twice as much in the U.S. as in Germany or Australia. Why? It doesn't have to be this way. We can improve safety and quality while cutting unnecessary costs...and massively expand the addressable market! Come learn about and join the effort to fix the process.

Moderator: Justin Baca, VP Market & Research, SEIA

Featured Speakers:

- Andrew Birch, Founder of Sungevity
- Andrea Luecke, President & Executive Director of The Solar Foundation
- Bruce Ledesma, Executive Vice President, Corporate Development of Mosaic
- Alex McDonough, Vice President, Public Policy of Sunrun
- Steve Jones, Asst. Building Official, City of Oceanside

Noon – 4:30 pm **Joint DG Division / Codes & Standards Working Group Meetings – Elite 1 Meeting Room, Anaheim Marriott**

The DG Division meeting kicks off this member session. The DG Division is Chaired by Tony Clifford, Standard Solar and Constantino (Costa) Nicolaou, PanelClaw, Inc. There is no cost to attend this SEIA members division meeting; however, [registration](#) is requested.

1:15 – 2:15 pm **Featured Panel:** Opportunities for Drastic Reduction in Permitting and Interconnection Costs for Small Scale DG in the US – Elite 1 Meeting Room, Anaheim Marriott

Our panel will discuss and explore cost drivers, international models, best practices, new models and market implications associated with permitting and interconnection. The panel will also discuss possible solutions for the US market.

Moderator: Constantino (Costa) Nicolaou, CEO at PanelClaw, Inc. and Vice-Chair, SEIA's DG Division

Featured Speakers:

- Andrew Birch, Founder of Sungevity
- CJ Colavito, REP, Vice President of Engineering, Standard Solar
- Evelyn Butler, Sr. Director, Codes and Standards of SEIA
- Steve Jones, Asst. Building Official, City of Oceanside

2:30 – 4:30 pm **Codes & Standards Working Group Meeting** – Elite 1 Meeting Room, Anaheim Marriott

Chaired by Ken Boyce, UL and vice-chair Jason Fisher, Tesla, we will hold our regular meeting in person at SPI. Agenda includes updates on major activities such as ASCE / SEAOC structural work, ICC codes development, NEC 2020 code development and other solar related topics. There is no cost to attend this SEIA members working group meeting; however, [registration](#) is requested.

1:00 – 1:30 pm **California's 2020 Residential PV Mandate - Industry Trends Theater (Booth 189), Exhibit Hall, Anaheim Convention Center**

California's 2019 Building Energy Efficiency Standards will include a prescriptive requirement that all new low-rise residential buildings incorporate PV beginning January 1, 2020. SEIA's Joe Cain will provide an overview of the technical requirements of the 2019 BEES including compliance options and flexibility for builders, sizing thresholds for PV systems and battery storage systems, and future market opportunities as we move closer to Zero Net Energy or zero carbon new homes.

1:00 – 2:00 pm **2017 NEC Updates and 2020 Preview – Installer Training Theater (Booth 1486), Exhibit Hall, Anaheim Convention Center**

The 2017 National Electrical Code has been adopted by nearly half of the U.S. already, and the 2020 NEC 1st draft report is published on the NFPA website! PV is a fast growing and rapidly evolving industry – get updates directly from Code-making Panel 4 members on major NEC changes in order to keep your system designs, permitting, and installations on track, and to keep up with the latest advancements in system safety. Plus - get a preview of some key 2020 NEC proposals, including all new Section 705.11 for supply side connections. [Speaker TBD]

1:55 – 2:15 pm **Scaling DER Management Communications: California Interoperability Certifications – Room 203AB, Anaheim Convention Center**

The reason CA Rule 21 is standardizing the inverter communications is to gain the benefits of deployment speed, lower costs and a larger vendor community that come with standardization. The alternative is either being locked into a vendor's proprietary solution or spending significant resources and time to custom integrate different vendor's products. This session requires an SPI/ESI conference badge. [Speaker TBD, this session is tentative.]

5:00 – 6:00 pm **Poster Reception – Hall D, Anaheim Convention Center**

Wednesday, September 26, 2018

7:15am-8:00am **SEIA Member Power Breakfast - Salon F, Anaheim Marriott**

This annual SEIA member-only networking meeting is expected to bring together up to 200 SEIA members. This is the place to be for a morning cup of joe, breakfast and valuable networking with the SEIA community, including a Codes & Standards table. Participants will hear from SEIA's CEO on the state of the industry, and they will participate in structured networking opportunities to mingle with SEIA staff experts and SEIA Members on topics that are of interest to SEIA's diverse membership. All SEIA members are encouraged to attend this event and we request that you please [register](#) in advance!

9:30 -10:00 am **Designing for Resilience: PV Systems in Hurricane-Prone and Other High-Wind Regions - Industry Trends Theater (Booth 189), Exhibit Hall, Anaheim Convention Center**

What is resilience? How is resilience different from reliability or durability? Within the last several months, FEMA and others have published reports of findings and recommendations from their visual surveys of PV systems in U.S. Virgin Islands and Puerto Rico after 2017's Hurricanes Irma and Maria. SEIA's Joe Cain will discuss similarities and differences in these recommendations, and how we can use lessons learned from Irma and Maria to improve the structural resilience of PV systems in high-wind regions.

9:30 – 10:30 am

A Market in Transition: Evaluating California's Shifting Energy Landscape – Room 206AB, Anaheim Convention Center

SEIA's Rick Umoff, Director of California State Affairs and Regulatory Counsel, moderates this discussion focused on the outcome of the legislative session, including regionalization, SB100, accelerated procurement, and wildfire legislation and what it means for 2019. We will also discuss major regulatory trends, including the rise of customer choice and the state's pathway to deep decarbonization. How do companies navigate California's market in these choppy waters as these structural changes are underway? This session requires an SPI/ESI conference badge.

10:00 – 11:00 am

SEIA Installation Best Practices for Residential Portfolios – Installer Training Theater (Booth 1486), Exhibit Hall, Anaheim Convention Center

Developed by SEIA's Quality Assurance Working Group (QAWG) which is led by Richard Lawrence of IBTS and Chris Doyle of SiteCapture.com, we are excited to introduce the SEIA Installation Best Practices – Residential Portfolios here at SPI. This document updates the installation best practices previously published by the Solar Access to Public Capital (SAPC) working group from NREL. The document provides recommended best practices to facilitate high-quality and consistent residential solar projects to build confidence among potential solar customers, regulators, investors, rating agencies, and other stakeholders that residential solar systems are a valuable home improvement, a consistent and long-term electric generating resource, and credit-worthy investment asset class.

10:30 – 10:50 am

UL 9540A, A Means to Evaluate Energy Storage System Fire Characterization for an Installation – Room 203AB, Anaheim Convention Center

Part of the Technical Symposium, UL's Laurie Florence will introduce and cover relevant portions of the updated UL 9540A standard and evaluation aspects for fire characterization. This session requires an SPI/ESI conference badge.

11:00 – 11:30 am

You Will Go Bankrupt Unless You Know This: Codes and Standards – Room 204B, Anaheim Convention Center

Tom McCalmont of McCalmont Engineering will cover how permits, interconnection, forthcoming fire code changes, and other codes and standards enable you to finance and retain business in Energy Storage Systems. This session requires an SPI/ESI conference badge.

11:20 -11:40 am

UL3001 New Safety Standard for Distributed Energy and Storage Systems Often Called Microgrids – Room 203AB, Anaheim Convention Center

UL's Tim Zgonena will present the UL3001 requirements which address the safety of system design, integration and operation. The standard will cover the performance of these systems as it relates to grid operability, interface with premises wiring systems, and performance of the equipment in the various modes of system operation. To accomplish this, UL3001 is intended to reference the various IEEE performance-based standards to make use of existing work and also address the critical safety aspects needed for code compliance of the end installation. This session requires an SPI/ESI conference badge.

1:00 – 1:30 pm **SolSmart Permitting Guidelines: A New Soft-Cost Reduction Resource for Communities Nationwide - Installer Training Theater (Booth 1486), Exhibit Hall, Anaheim Convention Center**

SolSmart is a U.S. Department of Energy-funded program that works with municipalities and counties nationwide to reduce solar soft costs. Introduced by Zach Greene of The Solar Foundation, the program prioritizes efforts to streamline permitting, as it represents a key portion of soft costs and local governments control these processes. To help local governments understand solar permitting and adopt best practices, Bill Brooks - through his efforts on SolSmart - has created new permitting guidelines. Communities can adopt these permitting guidelines to ensure efficient, yet robust, local practices. SolSmart provides no-cost technical assistance to communities and will help staff implement these new guidelines. Learn more about this new resource and how you can help spread adoption in jurisdictions nationwide.

1:00 -2:00 pm **What's New in Inverters? – Room 205AB, Anaheim Convention Center**

Co-presented by Brian Lydic, IREC and Phil Undercuffler, Outback Power are recent updates to the standards governing inverters interconnecting with the grid are changing the way inverter-based resources are integrated. These changes are increasing the hosting capacity for solar generation while harnessing inverters capabilities to provide ancillary services. Hear from experts how these revisions affect your business and your customers. This session requires an SPI/ESI conference badge.

1:50 – 2:05 pm **IEEE 2030.5 – Room 203AB, Anaheim Convention Center**

Updates on IEEE 2030.5 - IEEE Adoption of Smart Energy Profile 2.0 Application Protocol Standard and its role with the California IOU Rule 21 will be presented by Tom Tansy of the SunSpec Alliance. This session requires an SPI/ESI conference badge.

3:30 – 4:00 pm **SunSpec Alliance: Meeting CA Rule 21 and Rapid Shutdown Mandate Requirements and Deadlines – Storage Central (Booth 3386), Anaheim Convention Center**

Introduced by Tom Tansy of SunSpec Alliance, two mandates go into effect in early 2019 affecting the solar DER market: 1) Referred to as Rapid Shutdown, the NEC 2017 requirement limiting voltages to 80V for rooftop PV systems is effective beginning January 1, 2019 and 2) The CA Rule 21 interconnection regulation for secure DER data communications upcoming deadline of February 22, 2019. This requirement impacts solar manufacturers and installers operating in CA, with implications for major solar markets in the U.S. SunSpec Alliance offers simple, multi-vendor, multi-device, communication standards developed by Alliance members to meet both requirements.

Thursday, September 27, 2018

9:30 – 10:20 am **Panel Discussion: Opportunities and Challenges for Innovation in Photovoltaics – Room 203AB, Anaheim Convention Center**

Introduced and moderated by Charlie Gay, Director of the Solar Energy Technologies Office of the U.S. Department of Energy, a panel discussion covering the continued need for innovation and how the solar industry thrives and enables it will include the following speakers: Michael Maulick, CEO of SunLink; Dustin Haddock, VP of R&D of S-5! Metal Roof Innovations, Tanuj Deora, CSO of SEPA, and Mary Werner, Solar Lab PM of NREL. This session requires an SPI/ESI conference badge.

10:30 – 10:50 am **UL3741 PV Hazard Control – Reducing Hazards for Fire Fighters – Room 203AB, Anaheim Convention Center**

UL's Tim Zgonena will introduce and cover key aspects of the new product safety standard, UL 3741 for PV Hazard Control, its role in meeting national code requirements and its continuing evolution.

11:00 – Noon **PV Installation Best Practices - Installer Training Theater (Booth 1486), Exhibit Hall, Anaheim Convention Center**

Want to see some examples of the good, the bad, and the ugly? This presentation will make you make you groan, gasp, and, at the same time, have some "a-ha" moments. Gain insight on how to do it right, save valuable installation time and reduce labor costs, and avoid unnecessary call-backs and red-tags from your AHJ. A fun-filled presentation on residential, commercial, and utility-scale PV systems, that will leave you with some tips and tricks to bring back to your crew!

3:10 – 3:30 pm **The Heat is on PV Modules – Room 203AB, Anaheim Convention Center**

Presented by UL's Kent Whitfield, this session will describe both modeling and actual system operating temperatures to understand how hot modules really get in the field as a function of their installation method (for example, open-rack versus building integrated) and their operating climate. Two types of failure modes will be discussed as well as a strategy for risk reduction of each. A means to characterize a climate based upon knowledge of a failure mode's Arrhenius behavior, specifically, its activation energy, will be presented for long-term failure modes and how this can drive not only better standards, but better testing as well. Finally, this presentation will discuss the status and approach being taken in the international standards writing body, IEC TC82 WG2, to address the challenge of high-temperature module operation. This session requires an SPI/ESI conference badge.