

IEEE Power and Energy Society Entity Annual Report

2020

Entity: Smart Buildings Loads and Customer Systems
Website: <https://site.ieee.org/pes-sblc/>
Chair: Ron Melton
Vice-Chair: Johanna Mathieu
Secretary: Yashen Lin
Immediate Past Chair: Shawn Chandler

1. Significant Accomplishments:

The committee was the PES Technical Committee sponsor of the 2020 IEEE Transactive Energy Systems Conference. This conference was switched in May 2020 from an in-person format to a virtual format. The conference had 150 participants and based on feedback from the participants was highly successful in providing an engaging experience that some thought was better than face-to-face conferences.

The committee chair, Ron Melton, worked with IEEE PES staff to prepare a Trending Technology topic on “Smart Buildings as a Transactive Energy Hub” that was posted on August 25, 2020.

The committee was asked by IEEE-SA to take responsibility for the P2418.5 Energy Blockchain working group. This had been formed under the IEEE SA Corporate Advisory Group (CAG) as an entity standard working group. The SBLCS AdCom agreed to a move of the working group into SBLCS within the Architecture Subcommittee. The move was approved and took place in December 2020. With this change and approval of the modified PAR, the working group is now an individual working group enabling much broader participation by interested parties.

In 2020 the committee added co-TCPC volunteers, Sumit Paudyal and Bishnu Bhattarai, to work with the TCPC lead, Qun Zou. About 12 reviewers have also been recruited for the paper review working group. Twenty-six papers have been reviewed for the PES GM 2021 with each having three reviewers assigned. The committee has also organized six panels, 2 live and 4 pre-recorded.

2. Benefits to Industry and PES Members from the Committee Work:

The committee, through its subcommittees, task forces and working groups addresses specific topics of concern related to the edge of the grid and integration at grid boundaries, for example, building to grid integration, and the related technologies. These activities are often interdisciplinary and based on a variety of technologies, so there is a rich interaction between the SBLCS groups and related groups in IEEE PES and beyond.

3. Benefits to Volunteer Participants from the Committee Work:

Volunteer participants are able to engage in the interdisciplinary work of the committee and to help shape the activities through the panel sessions organized for the PES GM.

4. Recognition of Outstanding Performance:

- Recognition of the outstanding performance of Dr. Mads Almassalkhi for his leadership of the Loads Subcommittee.
- Recognition of the outstanding performance of Dr. Amro Farid for his leadership of the Architecture Subcommittee.

5. Coordination with Other Entities (PES Committees, CIGRE, standards, etc.):

Dr. Johanna Mathieu is acting as a liaison between SBLC and the new IEEE Water Power Systems Task Force. She also continues her service on the editorial Board of IEEE Transactions on Power Systems and IEEE Power Engineering Letters.

Dr. Amro Farid is the PES Liaison to the IEEE Smart Grid and IEEE Smart Cities committees.

Shawn Chandler continues his service on the editorial Board of the IEEE Internet of Things Magazine.

6. New Technologies of Interest to the Committee:

The committee is interested in new technologies related to distributed systems integration, integration and interconnection of distributed energy resources at the edge of the electric power system or on or within customer premises, technologies associated with automation of building energy systems and controls (“smart buildings”) including commercial and residential buildings and loads, associated technologies for implementing such systems, for example, communications technologies and computer technologies including machine learning and distributed ledgers.

7. Global Involvement

PES is looking to increase involvement with members from Regions 8, 9 and 10 (Africa, Europe, Middle East, Latin America, Asia and Pacific). Please provide the following information.

Total Number of committee members ~110	Officers from regions 8,9 and 10	Subcommittee officers from regions 8, 9 and 10 2	Subcommittee members from regions 8,9, and 10 ~52
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8. Problems and Concerns:

The Smart Buildings and Customer Systems subcommittee has been inactive in 2020. Towards the end of 2020 the SBLCS AdCom solicited interest in the chair position for the SC. In 2021 a new chair will be selected to re-energize this SC.



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SBLCS intended to have a charter for the Multi-Energy System working group as a first step towards forming a new subcommittee on this topic. The individual leading this effort was not able to push this forward due to a combination of COVID-19 and California wildfire impacts. The Architecture SC is now working on renewing the progress on this effort.

9. Significant Plans for the Next Period:

- a. Continuation of effort for IEEE P2781 – Load Modeling and Simulation – should be balloted in 2021
- b. Continuation of effort for IEEE P2783 – Quick Response Systems – extensive review and discussion is taking place. The outcome is uncertain.
- c. Kickoff the “new” P2418.5 working group (new because of the move to SBLCS) and the continuation of the group’s efforts. The first work products of this effort should be completed in 2021.
- d. Continuation of effort for Industry review of smart buildings, loads, customer systems stakeholders, community, and methods and techniques
- e. Active participation in Organizing Committee for IEEE PES Transactive Energy Systems Conference. The IEEE-TESC 2020 organizing committee has decided to skip 2021 and have the next IEEE-TESC in 2022. The 2022 conference will continue to include the GridWise® Architecture Council in partnership with IEEE for the planning and execution of the conference.
- f. Completion of Multi-Energy System working group drafting of charter to transition to a subcommittee

Submitted by: **Ron Melton, IEEE PES SBLCS Chair**

Date: Jan. 28, 2021