Meeting Minutes

TC 7.6 Building Energy Performance
Research Subcommittee

Sunday January 30, 2022, 1:00 PM–2:00 PM (PST)
Virtual meeting
https://ashrae.webex.com/ashrae/j.php?MTID=mc1794bda2886842f4a0276f77c39b3ed

TC 7.6 is concerned with the estimation, measurement, analysis, benchmarking, and management of whole building and building systems energy and water performance.

1. **Sign-in / Introduction**

No.	Name	Affiliation	Email Address	Member	YEA Member
1	Hyojin Kim	NJIT	hyojin.kim@njit.edu	CM	No
2	Chris Balbach	PSD	cbalbach@psdconsulting.com	CM	No
3	Jim Kelsey	kW Eng	kelsey@kw-engineering.com	VM	No
4	Scott West	HFA	scott.west@hfa-ae.com	CM	No
5	Hashani De Silva	University of Cincinnati	desilvhm@mail.uc.edu	Guest	No
6	Dennis Landsberg	L&S Energy Services, Inc.	DLandsberg@LS-Energy.com	CM	No
7	Amanda Webb	University of Cincinnati	amanda.webb@uc.edu	VM	No
8	Saleem Ahmad	CPI Fluid Engineering-Lubrizol	sala@lubrizol.com	Yes	
9	Jeff Haberl	Texas A&M University	jhaberl@tamu.edu	CM	No
10	Bruce Hunn	Consultant	hunnbuildingenergy@gmail.com	CM	No

2. **Status of Current Research Projects**

No	Project	Contributors	Status
1	**1771-RP** Energy Modeling of Typical Commercial Buildings in Support of ASHRAE bEQ Energy Rating Program	(**PI**) Wangda Zuo (**RC**) bEQ, (**Co-sponsors**) TC 7.6 PMS Michael Deru, TC 4.7	(**2020 Annual**) 18 prototype building types and eight climate zones. Task 5 was completed. Scheduled to be completed by March 2021. (**2021 Winter, from Basecamp**) The contractor improved the calibration approach and recalibrated all of models. They completed an intermediate report for Task 6 (final task) and presented this to the PMS. On schedule to complete the project by March 2021. (**2021 Annual, by email**) ASHRAE granted a one-year no-cost extension through 3/31/2022. The RP-1771 contractor is working through the final simulations and working toward the final report. (**2022 Winter**) The contractor submitted the draft final report to PMS, which is currently under review.
2	**1836-RP** Developing a Standardized Categorization System for Energy Efficiency Measures	(**PI**) Amanda Webb (**RC**) TC 7.6 PMS Chris Balbach (**Co-Sponsors**) bEQ, SSPC 100	(**2020 Annual**) Project is on schedule. Task 1 (literature review and analysis) was completed. Scheduled to be completed by Nov. 2020. (**2021 Winter**) Task 2 (developing a categorization system) was nearly completed. No-cost extension was approved. PMS had a discussion on the next step. On schedule to complete all 5 tasks by Sep. 2021. (**2021 Annual**) Task 3 is just finished, and interim report was submitted. On track. Final report is due September. (**2022 Winter**) This project was completed and currently seeks approval from TC 7.6/bEQ/SSPC 100. Detailed presentation is scheduled at Building Data Exchange SC. Amanda is considering writing a RTAR to demonstrate this system at a larger scale (e.g., creating a database). The project outcome may be included in ASHRAE publication such as 211 as an informative annex.

| 3 | 1814-RP Actual Energy Performance of Secondary Schools and Medium Offices Designed to Comply with ASHRAE Standard 90.1-2010 | (PI) Joe Zhou (RC) TC 2.8 (Co-Sponsor) TC 7.6 | (2020 Annual, from Basecamp) The team recruited more secondary schools building data. Preliminary results comparing 90.1-2004 vs. 2010 using average ECI indicated some data quality issues. Due to COVID-19, responses to our data request have been very slow. The team plans to collect more building data. Expect to request no-cost extension for this project. (2021 Winter) The recruitment was nearly completed. Challenges include ability to do site energy audit, which is planned late spring or summer. Scheduled to be completed by March 2022. (2021 Annual) Third year of the project. Task 1 (70 school buildings) was completed. Task 2 (site visits – 6 school buildings) is ongoing. Project is on track with an extended deadline (March 2022). Preliminary results: 24% measured ECI difference vs. 30% PNNL-predicted ECI difference between 90.1-2004 vs. 90.1-2010. (2022 Winter, by email) The contractor completed the required six secondary school site visits in the last six months. Currently writing an interim report on the site visit findings. Expect to complete the project by June 2022 (not yet approved). |

3. WS and RTAR In-Progress

No	Project	Contributors	Status
1	1861-WS Thermal Comfort in U.S. and Canadian Residences: Indoor Conditions, Occupant Behavior and Energy Consumption	Hyojin Kim (RC) TC 2.1 (Co-Sponsor) TC 7.6	(2020 Winter) WS submitted to the subcommittee basecamp. Ready for review. Due by Feb. 16. (2021 Winter) The team received feedback from RAC. There were concerns with data collection and a large scope proposed. Feedback from TC 2.1 includes to remove the field work and consider a meta-analysis instead. The team agreed to work on the revision in summer 2021. (2021 Annual) The team plans to work on the revision this summer. (2022 Winter) The team still works on the revision of this WS.
2	1822-RTAR Supplemental Normalization Parameters for Alternate/Enhanced Expression of Energy Performance	Dennis Landsberg (RC) TC 7.6 (Co-Sponsor) SSPC 100	(2020 Annual) WS in progress; to be completed before the next conference. (2021 Winter, from Basecamp) WS draft is ready but needs polishing; to be completed after the winter conference. (2021 Annual, by email) Dennis is still working on the WS draft. (2022 Winter) Dennis plans to complete this WS after G14 is done.
3	Draft RTAR from "Building Data Exchange"	Nick Long	(2020 Annual) RTAR in progress (2021 Winter, by email) Draft RTAR is ready and will be discussed in Building Data Exchange Subc. Meeting. (2021 Annual, by email) RTAR will be revised to focus on touchpoint and use case development. (2022 Winter) Hyojin will follow up with Nick.
4	New Idea Data center data set for RP-1771	Nate Boyd, TC9.9	(2020 Annual) Needs RTAR (low priority) (2021 Winter) No updates. Hyojin Kim asked Nate Boyd for updates by email – no response. (2021 Annual) No updates. Hyojin Kim asked Nate Boyd for updates by email – no response. (2022 Winter) No response/updates. This item will be delisted.
5	New Idea Do buildings designed to 90.1 / 189.1 comply with Standard 100?	Scott West, Joseph Firrantello	(2020 Annual) Scott West to obtain the input from ASHRAE 189.1 and Joe F. to obtain the input from ASHRAE 100. (2021 Winter) No updates.

			(**2021 Annual, from Basecamp**) SSPC 189.1 is still interested in this. They are looking at an outcome-based energy performance option. However, it is not clear how 189.1 energy performance compares to Standard 100 performance levels. (**2022 Winter**) Still interested in this idea. Not many buildings complying with 189.1. Scott will check RP-1771.
6	**New Idea** Grid flexibility/operability metrics or M&V	Scott Hackle	(**2021 Winter**) There is a presentation from DOE discussing possible metrics. New Building Institute presented an optimum framework at 2020 ACEEE. TC 7.5 has the subcommittee Smart Gird which focuses on technology (not metrics). (**2021 Annual**) ASHRAE has formed Task Force for Building Decarbonization (TFBD), consisting of a few task groups. One of the task group is related to this topic. Guideline/standard may be more appropriate. Scott Hackle is currently a TFBD member and will further brainstorm this idea. (**2022 Winter**) No updates. Hyojin will follow up with Scott.
7	**New Idea** Water-energy nexus topic	Eric Yang	(**2021 Winter**) Eric Yang questioned any prior discussions on this topic. Bruce Hunn commented some efforts done by Jeff Haberl at Texas A&M based on Wh/gal. **Action Item:** Eric Yang will follow up directly with Jeff Haberl. (**2021 Annual, by email**) No progress. . (**2022 Winter, from Energy Management SC**) Eric will schedule a conference call to brainstorm this idea with Jeff, Hyojin, and other experts.

4. New Ideas / Topics / Business
   - 1815-WS Integrating Occupant Behavior Data with Building Information Modeling for Performance Simulation: Seeking vote for co-sponsorship
     o The Research SC discussed the merits of this project and recommends that TC 7.6 approve co-sponsorship.

5. Meeting Adjourned (1:59 PM PST).