

# Meeting Minutes



## TC 7.6 Building Energy Performance Research Subcommittee

Tuesday June 15, 2021, 1:00 PM–2:00 PM (EDT)

Virtual meeting

<https://events.rdmobile.com/Sessions/Details/1139187>

(Please click "Enter Meeting" under Resources below to join the meeting on the noted date and time.)

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 (VM, CM, or Guest)	YEA Member?
1	Hyojin Kim	NJIT	hyojin.kim@njit.edu	VM	No
2	Amanda Webb	University of Cincinnati	amanda.webb@uc.edu	VM	No
3	Scott Hackel	Slipstream	shackel@slipstreaminc.org	CM	No
4	Joe Zhou	Slipstream	jzhou@slipstreaminc.org	Guest	No
5	Aru Sau	Energy Solutions	runabha@gmail.com	Guest	No
6	Bruce Hunn	Consultant	hunnbuildingenergy@gmail.com		

### 2. Recently-Completed Projects

- 1650-RP Training Requirements for Sustainable, High-Performance Building Operations (2019)

### 3. Status of Current Research Projects

No	Project	Contributors	Status (from last meetings)
1	<b>1771-RP</b> 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.
2	<b>1836-RP</b> 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.
3	<b>1814-RP</b> 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 PMS David Eldridge	(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.

			<p><b>(2021 Winter)</b> 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.</p> <p><b>(2021 Annual)</b> 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.</p>
--	--	--	---

#### 4. WS and RTAR In-Progress

No	Project	Contributors	Status (from last meetings)
1	<b>???-WS</b> MTG defensible measures of environmental and economic impact	Nate Boyd	<p><b>(2020 Annual)</b> WS was completed and went out for bids. Two or three bids (including Laurence Technical University) –No updates from Boyd</p> <p><b>(2021 Winter)</b> No updates. Hyojin will ask Nate Boyd for updates.</p> <p><b>(2021 Annual)</b> No updates. Cannot track it. Item will be delisted.</p>
2	<b>1861-WS</b> 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	<p><b>(2020 Winter)</b> WS submitted to the subcommittee basecamp. Ready for review. Due by Feb. 16.</p> <p><b>(2021 Winter)</b> 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.</p> <p><b>(2021 Annual)</b> The team plans to work on the revision this summer.</p>
3	<b>1822-RTAR</b> Supplemental Normalization Parameters for Alternate/Enhanced Expression of Energy Performance	Dennis Landsberg  (RC) TC 7.6 (Co-Sponsor) SSPC 100	<p><b>(2020 Annual)</b> WS in progress; to be completed before the next conference.</p> <p><b>(2021 Winter, from Basecamp)</b> WS draft is ready but needs polishing; to be completed after the winter conference.</p> <p><b>(2021 Annual, by email)</b> Dennis is still working on the WS draft.</p>
4	<b>Draft RTAR</b> from “Building Data Exchange”	Nick Long	<p><b>(2020 Annual)</b> RTAR in progress</p> <p><b>(2021 Winter, by email)</b> Draft RTAR is ready and will be discussed in Building Data Exchange Subc. Meeting.</p> <p><b>(2021 Annual, by email)</b> RTAR will be revised to focus on touchpoint and use case development.</p>
5	<b>New Idea</b> Data center data set for RP-1771	Nate Boyd, TC9.9	<p><b>(2020 Annual)</b> Needs RTAR (low priority)</p> <p><b>(2021 Winter)</b> No updates. Hyojin Kim will ask Nate Boyd for updates.</p> <p><b>(2021 Annual)</b> No updates. Hyojin will ask Nate Boyd for updates.</p>
6	<b>New Idea</b> Code compliance secondary research to inform 90.1	Scott Hackle	<p><b>(2020 Annual)</b> The ASHRAE research project would be to compile existing code-compliance studies for individual code elements in FL, NE, IA, IL, MN, CO, OR, HI, CT, MA, RI, etc., normalize and make the results consistent, and analyze those combined results for lessons that they can package for all the ASHRAE committees that work on energy codes- and standards-related work.</p> <p><b>(2021 Winter)</b> An alternative idea to pursue the work was discussed considering 18-months lead time to get approval from ASHRAE. Bruce Hunn commented this topic is worth the effort to go through ASHRAE research. Scott Hackle will further discuss this idea at the Standards subcommittee meeting and decide if he will pursue/write a RTAR.</p> <p><b>(2021 Annual)</b> A presentation is scheduled on this topic by PNNL to ASHRAE standard committee (e.g., 90.1, 189.1). Scott thinks it is less valuable to pursue it further. Item will be delisted.</p>
7	<b>New Idea</b> Do buildings designed to 90.1 / 189.1	Scott West, Joseph Firrantello	<p><b>(2020 Annual)</b> Scott West to obtain the input from ASHRAE 189.1 and Joe F. to obtain the input from ASHRAE 100.</p> <p><b>(2021 Winter)</b> No updates.</p>

	comply with Standard 100?		(2021 Annual) No updates. Hyojin will ask Scott West for updates.
8	<b>New Idea</b> Grid flexibility/operability metrics or M&V	Scott Hackle	<p>(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 Grid which focuses on technology (not metrics).</p> <p>(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.</p>
9	<b>New Idea</b> Water-energy nexus topic	Eric Yang	<p>(2021 Winter) Eric Yang questioned any prior discussions on this topic. Bruce Hunn commented some efforts done by Jeff Haberl at Texas A&amp;M based on Wh/gal.</p> <p><b>Action Item:</b> Eric Yang will follow up directly with Jeff Haberl.</p> <p>(2021 Annual, by email) No progress. .</p>

5. **New Ideas / Topics / Business**

- a. System-Level Key Performance Indicator (Amanda Webb on behalf of Bruce Hunn)
  - i. The idea will be further discussed at the Monitoring and Energy Performance Subcommittee meeting. Possible inclusion in bEQ rating system. There is a paper in Energy and Buildings “System-level key performance indicators for building performance evaluation.”

6. **Meeting Adjourned (2:02 PM (ET)).**