Meeting Minutes

TC 7.6 Building Energy Performance
Research Subcommittee – Hybrid

Sunday June 26, 2022, 1:00 PM–2:00 PM (ET)
Location/Room: Sheraton, Kenora (2)
Virtual Meeting Link: https://njit.webex.com/njit/j.php?MTID=md1aa0293555cca9e5aeb2229b27af431

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	VM	No
2	Amanda Webb	University of Cincinnati	amanda.webb@uc.edu	VM	No
3	Dennis Landsberg	L&S Energy Services, Inc	DLandsberg@LS-Energy com	CM	No
4	Jim Kelsey	kW Engineering	kelsey@kw-engineering.com	VM	No
5	Scott West	HFA	scott.west@hfa.ae.com	CM	No
6	Annie Smith	Ross & Baruzzini	smithannelise314@gmail.com	VM	

2. Recently-Completed Projects

- 1836-RP Developing a Standardized Categorization System for Energy Efficiency Measures (Final report published on February 2022)
  - Amanda Webb (PI) will correct minor errors in dataset and seek re-approval of the revised final report from TC 7.6. She aims to do it by the end of July. This revision will not impact on overall results/conclusions.
  - Scott West commented a potential pilot study of the developed EEM classification system.
  - Amanda Webb considered an URP path, but ASHRAE is not accepting new URP at this moment.

3. 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. (**March 2022, by email**) Final report was completed and approved by the PMS. There was a suggestion from the Building EQ committee to look at the report for potential additional research or for use in energy analysis activities (namely Bruce Hunn and Charles Eley). (**2022 Annual**) Jim Kelsey will seek TC 7.6 approval of the final report in the main committee meeting.
2	1814-RP Actual Energy Performance of Secondary	(**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

	Schools and Medium Offices Designed to Comply with ASHRAE Standard 90.1-2010		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). (**2022 Annual**) Hyojin asked Joe Zhou for an update.
3	1815-WS Integrating Occupant Behavior Data with Building Information Modeling for Performance Simulation	(**RC**) MTG.OBB (**Co-Sponsor**) TC 7.6 PES/PMS Jeff Haberl, TC 4.7, MTG.BIM, TC 1.5	(**2022 Annual, after meeting**) Hyojin asked Jeff for an update.

4. 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. (**2022 Annual, after meeting**) The team met and agreed to re-scope this WS and aim to complete it by the end of August.
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. (**2022 Annual**) G14 is near completion, and Dennis plans to complete this WS soon. Scott West is interested in this topic and volunteers to help out to address RAC comments.
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. (**2022 Annual, by email**) We can pull this RTAR. I think we can encourage people to now attend the new standard development 232P - Schema-Based Building Data Model Protocols.

4	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. (**2022 Annual**) Scott said it is hard to find good empirical data collected from buildings complying with 189.1. Amanda suggested to redirect this study to compare modeled vs. measured energy use of buildings complying with different versions of 90.1. Dennis volunteered to help this effort.
5	New Idea Grid flexibility/operability metrics or M&V	Scott Hackel	(**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. (**2022 Annual**) Similar efforts are being made by national labs funded by DOE. This item will be delisted.
6	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. (**2022 Annual**) Similar efforts are being made by TC 2.8. This item will be delisted.

5. New Ideas / Topics / Business
   - Amanda Webb agreed to work on a new RTAR as a follow up project of 1836-RP to create a large database/dataset using the developed EEM classification system.

6. Meeting Adjourned (1:57 PM EDT)