

FINAL
ASHRAE TC 1.10 COMMITTEE MINUTES
Orlando, FL
February 4, 2020

The TC 1.10 meeting was called to order by the Chair, Dragos Paraschiv, at 2:34 PM.

- 1) Chair Dragos Paraschiv welcomed all members and guests and encouraged visitors to sign up as Provisional Corresponding Members.
- 2) Self-introductions were made by all present.
- 3) No liaisons were present.
- 4) TC 1.10 currently has seven (7) quorum Voting Members and one International Voting Non-Quorum Member of which five (5) were present. Hence, a quorum was established.
- 5) Chair Dragos Paraschiv stated that we conduct our meetings in accordance with the ASHRAE Code of Ethics. The full code can be read at: <https://www.ashrae.org/about/governance/code-of-ethics>
- 6) Chair Dragos Paraschiv read the TC 1.10 mission statement:

Mission Statement: TC 1.10 is concerned with combined heat and power (CHP) systems, their cycles and components including heat recovery, combustion turbine inlet cooling (CTIC), energy conversion and system integration. The systems provide both power (electric and/or mechanical) and thermal energy (heating and/or cooling) and are variously known as cogeneration systems; trigeneration systems; combined heat and power (CHP); and combined cooling, heating and power (CCHP) systems.

- 7) Approval of the Minutes
 - a) Copies of the draft minutes of the meeting held in Kansas City, MO were distributed to the attendees of the meeting and have been available on the website for a number of weeks.
 - b) **MOTION** – Rich Sweetser made a motion and Farzin Rad seconded to approve the minutes of the Kansas City Meeting. **The motion was approved. (5-0-0, CV)**
- 8) Subcommittee Reports
 - a) *Programs:* Gearoid Foley (incoming subcommittee chair)
 - i) Orlando (Winter 2020) Program:
 - (1) TC 1.10 sponsored Seminar 46, ““Cutting Edge Approaches to integrating modern HVAC&R systems with modern CHP Systems and IoT”. There were approximately 100 attendees, and the content of the first two presenters was well received.
 - ii) Austin (Summer 2020) Program:
 - (1) Seminar presented at Orlando would have been a perfect fit for Austin track, “Grid Connected Buildings.” Due to the short amount of time remaining to assemble content, committee declined to submit a sponsored seminar to this conference.
 - iii) Chicago (Winter 2021) Program:
 - (1) A track is available for Energy Conservation. Seminar ideas were discussed during sub-committee meeting and will be formulated for a vote in Austin. Working title of seminar is, “Energy Conservation in a carbon constrained world: CHP is up to the task.” Content will address how CHP enables energy conservation.

- b) Research: Farzin Rad (subcommittee chair)
- i) Farzin Rad attend the research breakfast on Monday:
 - (1) 49 active research projects, 8 added in fall, one rejected, 10 will be completed this year.
 - (2) \$50k increase in funding limits at all levels of research (RAC, Tech Council and Board Levels).
 - (3) No nominations for Excellence in Research award. Encouraging nominations for next year.
 - (4) RAC highly encourages participation in survey (Jan 13th email was distributed to all ASHRAE members). Use the following link: <https://www.surveymonkey.com/r/K7MMOVF>
 - ii) PMS 1762 is nearing completion of work. The PMS met earlier today and voted to accept the final draft and recommend that TC 1.10 vote to approve.
 - iii) **MOTION** - Farzin Rad made and Geoff Bares seconded a motion to accept the PMS 1762 recommendation and approve the CTIC Design Guide Draft for publication. **Motion passes (5-0-0-CV)**
 - iv) There was discussion on the fuel cell publication, over 10 years out of date. TC1.10 agreed to table this topic, as fuel cells are currently not at a stage of significant utilization in buildings.
 - v) Discussed project titled “Cogeneration and trigeneration simulation modeling with eQuest” that is co-sponsored with TC 8.3. It is unknown what the current status of this project is. It was understood that a work statement was generated.
 - vi) Research topics under consideration:
 - (1) Hybrid micro-grid: micro-CHP with PV generation and battery storage
 - (2) Site vs. Source, GHG emissions
 - (3) Seamless control of flexible CHP (grid responsive)
- c) Handbook: Dr. Tim Wagner (subcommittee chair)
- i) Chapters 7 and 8 of the HVAC Systems and Equipment Volume have been submitted and are in the process of publication for the 2020 edition. Chapter 7 is titled “*Combined Heat and Power Systems*” and Chapter 8 is titled “*Combustion Turbine Inlet Cooling*”. Both chapters were approved at the 2019 Annual Meeting in Kansas City.
 - (1) Chapter 7: Dragos Paraschiv volunteered to take on the Handbook Chair position for the next four year cycle.
 - (2) Chapter 8: With the completion of the Combustion Turbine Inlet Cooling (CTIC) Design Guide, the chapter will be reviewed to add design guide references and possibly integrate new content. No Handbook Chair was identified at this time.
- d) Membership: Dragos Paraschiv (subcommittee chair)
- i) Dragos reported that there are 4 voting members rolling off after the summer meeting: Geoff Bares, Rich Sweetser, Farzin Rad and Dragos Paraschiv. New voting members will be Michael Calabrese (Webmaster, Secretary), Gearoid Foley (Programs), Dave Kalensky (Standards, SPC 204) and Blake Ellis (Chair, Membership, Honors & Awards). This maintains the number of voting members at seven (7), which is the minimum. Farzin Rad will continue as Research chair.
- e) Web Site: Geoff Bares (webmaster)
- i) Website is up to date, thanks to Dragos. Meeting notes and agendas will be posted on the website.
- f) Honors & Awards: Dragos Paraschiv (subcommittee chair) – *Report by Blake Ellis*
- i) No TC 1.10 members or past members received an award at this conference.
 - ii) May 1st is next deadline for submittal. Blake Ellis encouraged everyone to consider self-nominating for Distinguished Service or Extinguished Service awards.
- g) Standards Annette Dwyer (subcommittee chair) – *Report by David Kalensky*
- i) David Kalensky provided an update of SPC 204 (micro CHP – 50kW and under). This standard was approved for publication in December and will be available to the public in February 2020. The

standard may start a revision cycle in the near future to include topics that were not addressed in the original publication.

9) Chairman's Overview and Report: Dragos Paraschiv

- i) Dragos reported that he attended the Chair's Breakfast on Sunday. They continued with the new format that was rolled out in Kansas City (all sections meeting at one time). Dragos noted that more time was allocated for section specific discussions, an improvement over the initial attempt in Kansas City.
- ii) Roster access is now available online, and is still updated annually. It is also updated automatically on TC websites.
- iii) Section chair handouts are now available online in basecamp.
- iv) Received an update on the technical committee reorganization effort. TC 1.10 identified some synergies with TC 6.2 and 6.9, but agreed that it should remain a standalone TC. No further consolidation efforts are expected at this time.
- v) **MOTION** – Geoff Bares made and Rich Sweetser seconded a motion that TC 1.10 continue operating for the next year as a standalone TC. **Motion Passes (5-0-0-CV)**.
- vi) Remote participation meetings (RPMs) can be requested to make quorum. Dragos will poll the voting members when RPM requests become available to confirm that in-person quorum will be met or if RPM should be requested.

10) Old Business:

- a) CHP Course: Lucas Hyman had previously developed a CHP ALI course. The course was last presented in Las Vegas in 2017. We will continue to look for an opportunity to offer this course in the future.

11) New Business:

- i) IDEA Update: The IDEA Liaison report was provided by John Andrepont and read by Dragos Paraschiv. See Attachment 1 to this document for his report.
- ii) DOE Update: Richard Sweetser provided an update. Highly recommends that packagers and manufacturers participate/submit data to the E-Catalog that is now available and covers CHP systems from 25kW to 7.5MW (<https://chp.ecatalog.lbl.gov/>). The catalog includes performance data on these systems. The CHP Technical Assistance Programs (TAPs) look to be sustained in current federal budgets. No decarbonization actions at the federal level, but there is significant state action taking place.
- iii) Next Meeting: In Austin at the Summer meeting on Tuesday June 30th. The subcommittees at 1:30pm and the main TC meeting from 2:30pm – 4:00pm.

12) Adjourn

- i) **MOTION** – Richard Sweetser moved and Dharam Punwani seconded that the meeting be adjourned. The motion was approved (**4-0-0, CNV**).
- ii) Meeting adjourned at 4:01pm.

Minutes prepared and respectfully submitted by Geoff Bares, TC 1.10 Secretary.