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DRAFT

TC/TG/MTG/TRG MINUTES COVER SHEET

(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/MTG/TRG No. TC 1.10 DATE 1 February 2018

TC/TG/MTG/TRG TITLE Cogeneration Systems

DATE OF MEETING 23 January 2018 LOCATION Chicago, IL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Annette Dwyer	2016	Birol Kilkis (non quorum)		Salvador Acha (CM)
Blake Ellis	2015			Hyeunguk Ahn (PCM)
Geoff Bares	2016			G Anad (G)
Gearoid Foley	2015			John Andrepont (CM)
Dragos Paraschiv	2016			David Baker (G)
Farzin Rad	2016			David Dvorak (G)
Richard Sweetser	2016			Cliff Haefke (G)
Tim Wagner	2016			Brian Granetz (G)
				Nievk Hesser (PCM)
				David Kalensky (PCM)
				John Molnar (CM)
				Ayyoub Momen (CM)
				Dharam Punwani (G)
				Daniel Pyewell (PCM)
				Bill Ryan (CM)
				Jurgen Scharfe (G)
				Ian Spanswick (CM)

DISTRIBUTION: *All Members of TC/TG/MTG/TRG plus the following:*

TAC Section Head: Amir Jokar	SH1@ashrae.net
Christopher G Phelan, CTTC Research Liaison Shinsuke Kato, PhD, Research Liaison Florentino Roson Rodriguez, PE, Handbook Liaison Rick M Heiden, Standard Liaison	CTTC1@ashrae.net RL1@ashrae.net HBS5@ashrae.net SL1@ashrae.net
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

DRAFT
ASHRAE TC 1.10 COMMITTEE MINUTES
Chicago, IL
January 23, 2017

The TC 1.10 meeting was called to order by the Chair, Annette Dwyer, at 2:30 PM.

1. Chair Annette Dwyer welcomed all members and acknowledged the guests.
2. Self-introductions were made by all present. TC 1.10 currently has eight (8) quorum Voting Members of which all eight (8) were present. Hence, a quorum was established.
3. Secretary Blake Ellis read the TC 1.10 mission statement.

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

4. Approval of the Minutes

Copies of the draft minutes of the meeting held in Long Beach, CA were distributed to the attendees of the meeting. John Andrepont pointed out a few typographical errors that were noted in the minutes.

MOTION – Richard Sweetser made a motion and Geoff Bares seconded to approve the minutes of the Long Beach Meeting with the revisions noted. The motion was approved. **(7-0-0, CNV)**

5. **Subcommittee Reports**

- a. **Programs:** Rich Sweetser (subcommittee chair)

Chicago (Winter 2018) Program:

TC 1.10 sponsored a program in Chicago that was held at 8am on Monday. Approximately sixty people attended the meeting and Richard pointed out that he only knew just a few people that attended the seminar. Richard pointed out that while attendance is less than we have had in the past for TC 1.10 seminars, TC 1.10 could be reaching people that are not familiar with CHP.

Houston (Annual 2018) Program:

Richard indicated that the Houston meeting has a dedicated track to “District Energy and Cogeneration Plants”. Richard indicated that four (4) different TCs got together on conference calls since the Long Beach Meeting to come up with coordinated series of seminars titled: Series: The Future of Energy Resilience and the Rise of Microgrids: CHP Systems, District Energy, Thermal Cooling and Storage Solutions”. Richard proposed the following motion:

MOTION – Richard Sweetser made a motion and Farzin Rad seconded that “TC 1.10 approve the program Series for Houston titled: *Series: The Future of Energy Resilience and the Rise of Microgrids: CHP System, District Energy, Thermal Cooling and Storage Solutions* consisting of TC 1.10 Seminar titled *TC 1.10 The Future of CHP: Systems, Resilience and Microgrids* and co-sponsoring: TC 6.2 seminar titled *Using District Energy to Survive a Storm; Case Studies in Disaster Preparedness*, TC 8.3 seminar titled *The Future of Thermal Cooling Supporting Resilient CHP Systems*, and TC 6.9 seminar titled *The Future of Thermal Energy Storage Supporting Resilient District Energy, CHP Systems and Microgrids*”. The motion was approved. **(7-0-0, CNV)**

There was a discussion regarding future ASHRAE conferences and John Andrepont indicated that TC 6.9 (Thermal Storage) was planning on approaching the host committee for tours at the 2020 Winter Meeting in Orlando with a tour at OU Cooling and for the 2020 Annual Conference in Austin with a tour at the University of Texas at Austin (UT-Austin). John noted that UT-Austin also had combined heat and power.

MOTION – Gearoid Foley made a motion and Richard Sweetser seconded that “TC 1.10 support TC 6.9’s efforts in contacting the Host Committee for the Austin meeting.” The motion was approved. **(7-0-0, CNV)**

Richard indicated that he has been the programs subcommittee chair of TC 1.10 for well over a decade and he intends to do it a couple more years, but he is looking for a replacement. It was suggested that Gearoid Foley be Richard Sweetser’s replacement and work with him in the interim.

b. Research: Dragos Paraschiv (subcommittee chair)

Dragos Paraschiv updated the committee that the project management subcommittee (PMS) for the updating of the combustion turbine inlet cooling (CTIC) design guide met with the contractor for a kickoff meeting prior to this TC 1.10 meeting. The PMS is made up of Jay Eldridge (from TC 6.2), Geoff Bares (from TC 6.9) and Dragos from TC 1.10. There will be two updates (in March and June) prior to the meeting in Houston via conference calls. The next in-person meeting is currently scheduled for 12:30pm on Tuesday June 26th. The PMS is planning on requesting a room near the TC 1.10 subcommittee meetings. Dharam Puwani is the Principal Investigator and he introduced his team that included John Andrepont and Bill Ryan.

Dragos also provided an update on a previous TC 1.10 research project that updated the CHP Design Guide. Dragos indicated that 270 copies of the CHP Design Guide have been sold in the past two years.

Dragos attended the breakfast for research subcommittee chairs and they indicated that at the Society level the research administration committee (RAC) received two (2) RTARs and two (2) Work Statements (WS) at this meeting from this track.

After the Research Subcommittee report, Amir Jokar the Technical Activities Committee (TAC) Section 1 Chair, had the floor and asked if TC 1.10 had a quorum and how the new roster update form was working for the TC. There was a discussion regarding the TC name and mission statement. That topic had been discussed by the TC in Long Beach. Amir indicated that in the email to him with the update on the committee, that TC 1.10 should include the information concerning the change in title and the change in the mission statement.

c. Membership: Annette Dwyer (subcommittee chair)

Annette reported that TC 1.10 currently has eight (8) voting members and one non-quorum voting member. Annette indicated she will be rolling off after the meeting in Houston. Dragos will become the chair, Blake Ellis will become the vice-chair and Geoff Bares will become the Secretary and the Webmaster. Farzin Rad will become the Research Subcommittee chair. Annette indicated that there is an opening for a Standards Subcommittee chair. (Post Meeting Note: Annette Dwyer will function in this position for one year.)

d. Handbook: Dr. Tim Wagner (subcommittee chair)

Tim mentioned that this committee is responsible for Chapters 7 and 8 of the HVAC Systems and Equipment Volume (last published in 2016). Chapter 7 is titled “*Combined Heat and Power Systems*” and Chapter 8 is titled “*Combustion Turbine Inlet Cooling*”. Tim did attend the training for handbook subcommittee chairs held earlier this week. Both chapters are to be updated for the 2020 Handbook. Revisions should be completed by next year, so they can be voted in time for the 2020 meeting.

Tim is leading the update of Chapter 7 and Geoff Bares is leading the update of Chapter 8. Both chapters were thought to be in good condition. Chapter 7 had a major update recently (believed to be 2012) and Chapter 8 had a major update in 2016. Chapter 7 needs to be updated to be current and consistent with the

recently published CHP Design Guide. Chapter 8 could include information that is going to be in the new CTIC Design Guide that is being developed if the timing works.

Tim and Geoff will send out links to the committee. It was determined that there was not a need for a separate meeting other than the standard subcommittee meetings in Houston.

e. Web Site: Blake Ellis (webmaster)

Blake reported that the TC 1.10 website was updated prior to the meeting. With the new websites, there are analytics available, which were available to the attendees of the meeting.

f. Honors & Awards: Annette Dwyer (subcommittee chair)

Annette indicated that she didn't believe any committee members received awards at the plenary session on Saturday. Between this meeting and Houston, the Distinguished Service Awards (DSA) and the Exceptional Service Award (ESA) nominations are due on May 1. Annette mentioned that people can self-nominate for this award. **Annette is going to take an action item to send out the form to the committee.**

g. Standards

David Kalensky provided an update of SPC 204. Mark Davis had a change in his job responsibilities and he is no longer available to lead the committee. The committee is now being reorganized. (SPC 204 is micro CHP – 50kW and under). David indicated that at the meeting on Monday, there were about 14 people in person and about five (5) on the phone. Three manufacturers have consistently attended the meetings. The SPC has now filled all of their positions going forward.

6. Chairman's Overview and Report: Annette Dwyer

Dragos did attend the breakfast and he indicated that Society is going to be celebrating the 125th anniversary of ASHRAE and looking to highlight HVAC&R industry segments from 1920 to 2000. Abstracts are due in March 2018. Gearoid Foley will discuss with Richard Sweetser regarding providing an abstract for the history of CHP. (See additional information in Attachment 1).

7. Old Business:

During the meeting in Long Beach the concept of changing the name and mission statement of the TC was discussed, to be voted on in Chicago, to change the name of the TC to Combined Heat and Power (CHP) Systems.

MOTION – Blake Ellis made a motion and Tim Wagener seconded to change the name of the TC to “*Combined Heat and Power (CHP) Systems*”. The motion was approved. **(7-0-0, CV)**

MOTION – Blake Ellis made a motion and Geoff Bares seconded that the scope change to “*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.*” The motion was approved. **(7-0-0, CV)**

8. **New Business:**

DOE Update: Richard Sweetser provided an update (prior to leaving the meeting) indicating that the TAPs are funded for the next year. Beyond the next year the funding level was unknown. Richard indicated that the DOE is looking at developing a catalog of packaged CHP systems up to 10 MW.

IDEA Update: The IDEA Liaison report was provided by John Andrepont. See Attachment 2 to this document for his report.

Midwest CHP TAP & MCA Update: Cliff Haefke provided an update to the committee on what is happening in the Midwest CHP TAP. Several of the utilities in the Midwest do have incentives that are available. 50% of the project costs can now be covered by ComEd. Peaks must be 10 MW or less. Up to 75% of the feasibility study can be subsidized. Many utilities are having incentive programs. The Midwest Cogeneration Association (MCA) does have a policy committee that has been engaged with helping utilities to update standby utility rates. There is a free monthly webinar series as well. The MCA website is www.cogeneration.org.

The meeting times for the for the 2018 Annual Meeting in Houston were discussed. Annette indicated that the following request would be placed for meeting times:

- Tuesday (June 26th, 2018) will be requested for the committee meeting.
- CTIC Design Guide update PMS from 12:30 pm – 1:00 pm
- TC 1.10 Handbook, Program, Research, Membership Subcommittee 1:00 pm – 2:30 pm
- TC 1.10 main meeting from 2:30 pm - 4 pm.
- A remote participation conference will NOT be requested.

Adjourn

MOTION - Geoff Bares moved and Tim Wagner seconded that the meeting be adjourned. The motion was approved **(6-0-0, CV)**.

Meeting adjourned at 4:05pm.

Minutes prepared and respectfully submitted by Blake Ellis, TC 1.10 Secretary.