DRAFT
ASHRAE TC 1.10 COMMITTEE MINUTES
Denver, CO
June 25, 2013

The TC 1.10 meeting was called to order by the Chair, Tim Wagner, at 3:00 PM.

1. Chair Tim Wagner welcomed all members and acknowledged the visitors.

2. Self-introductions were made by all present. TC 1.10 has 10 Voting Members of which 8 were present. Hence, a quorum was established.

3. Secretary Annette Dwyer 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. Copies of the draft minutes of the meeting held in Dallas, TX on Jan 29, 2013 were distributed to the attendees of the meeting. Harold made motion to approve the minutes of the meeting (after correcting a minor typing error pointed out by Geoff). The motion was seconded by Rich Sweetser and approved unanimously (8, 0, 0, CV).

5. **Subcommittee Reports**

   a. Programs: Rich Sweetser

   Proposal #1

   Program Proposal for ASHRAE Winter Meeting – New York, NY – January 23-26, 2014

   Track 7: Hydronic System Design for Efficiency and Large Buildings

   Hydronic system innovation for energy and water efficiency is rapidly occurring and important to the HVAC&R industry. Incorporating efficient hydronic systems into the final engineered building impacts many areas of engineering and architecture. *This track is designed for papers and presentations for innovative hydronic system design, components and research and case studies of their application, including unintended consequences.* All three related seminar sessions (with 10 presentations in total) are expected to be co-sponsored by Technical Committee (TC) 1.10 (Cogen), TC 6.2 (District Energy), and TC 6.9 (Thermal Storage), per unanimous votes in TC 1.10, 6.2, and 6.9 at their January 2013 meetings.

   Seminar Part 1 of 3 (requesting a 90 minute session, for 4 presentations)

   "Efficient Technologies That Are Also Economically Sustainable, Part 1 of 3:
   District Energy (DE) and Complementary Options"
   Sponsor: TC 6.2; Co-sponsors: TC 1.10 and TC 6.9
   Moderator: Blake Ellis – Burns & McDonnell, bellis@burnsmcd.com

   1) "Efficient Technologies That Are Also Economically Sustainable: The Big 3 (District Energy, CHP and TES), where 1+1+1 can equal 10" by John Andrepont – The Cool Solutions Company, CoolSolutionsCo@aol.com

2) “Efficient Technologies That Are Also Economically Sustainable: District Energy Overview and Benefits” by David Wade – RDA Engineering, dww@rdaeng.com (including a mention of synergies between DE and CHP and TES)

3) “Efficient Technologies That Are Also Economically Sustainable: Case Study from Saint Paul, MN – District Energy with CHP, TES and Renewable Fuel” by Anders Rydaker (or Ken Smith) – Ever-Green Energy, Anders.Rydaker@Ever-GreenEnergy.com

4) “Efficient Technologies That Are Also Economically Sustainable: Case Study from Princeton University – District Energy with CHP, TES and CTIC” by Ted Borer – Princeton University, etborer@princeton.edu

Seminar Part 2 of 3 (requesting a 90 minute session, for 3 presentations)

“Efficient Technologies That Are Also Economically Sustainable, Part 2 of 3:
Combined Heat & Power (CHP) and Complementary Options”
Sponsor: TC 1.10; Co-sponsors: TC 6.2 and TC 6.9
Moderator: Richard Sweetser – Exergy Partners, rsweetser@exergypartners.com

1) “Efficient Technologies That Are Also Economically Sustainable: CHP Overview and Benefits” (highlighting the value proposition) by Lucas Hyman – Goss Engineering, lbh@gossengineering.com (including a mention of synergies between CHP and DE and TES)

2) “Efficient Technologies That Are Also Economically Sustainable: Case Study (or Studies) of CHP” – by Gearoid Foley – ICHPS gearoid@ichps.com (tag to district energy some way somehow)

3) “Efficient Technologies That Are Also Economically Sustainable: Case Study from Houston, TX – District Energy with CHP and TES” by Blake Ellis – Burns & McDonnell, bellis@burnsmcd.com

Seminar Part 3 of 3 (requesting a 60 minute session, for 3 presentations)

“Efficient Technologies That Are Also Economically Sustainable, Part 3 of 3:
Thermal Energy Storage (TES) and Complementary Options”
Sponsor: TC 6.9; Co-sponsors: TC 1.10 and TC 6.2
Moderator: Geoff Bares – CB&I, gbares@cbi.com

1) “Efficient Technologies That Are Also Economically Sustainable: TES Overview and Benefits” by Guy Frankenfield – DN Tanks, guy.frankenfield@dntanks.com (including a mention of synergies between TES and DE and CHP)

2) “Efficient Technologies That Are Also Economically Sustainable: Case Study from Miami, Florida – District Cooling with Ice TES” by Xxxxx Xxxxx – ConEd Solutions (regarding Miami-Dade County District Cooling, referred by John Lau – BAC, jlau@baltimoreaircoil.com)

3) “Efficient Technologies That Are Also Economically Sustainable: The Ever-Growing Value Proposition of TES” by Mark MacCracken – Calmac Manufacturing, mmaccracken@calmac.com (likely covering LEED points, RTP/LMP, wind power, TES vs other utility ES options, and a brief example of TES-DE)

Motion to approve the above programs was made by Rich Sweetser, John Andrepont seconded the motion.

Approved, 8,0,0 CV (2 absent)

Proposal #2

Super-storm Sandy: CHP as an Energy Resilient Solution for Tall Buildings

Track 8: Tall Buildings: Performance Meets Policy
This track will focus on performance of tall buildings or political challenges and opportunities in the design, development and operation of tall and super-tall buildings. Tall building performance includes resources utilization, strategies, technologies, tools, measured performance and optimal operations. Political considerations include barriers to implementation and innovative solutions, surrounding partnerships for success, performance accountability, bridging the gap between designers, owners and occupiers, security and wellbeing, innovative financing, policy mandates and incentives, policy on material transparency (embodied carbon, health issues etc.). Papers and presentation topics on performance will include, but not be limited to the discussion of the measured and measurable use of utilities, envelope (infiltration and exfiltration), building pressure, waste handling, elevators, carbon and adaptive reuse.

Chair – Richard Sweetser
Gearoid Foley – Case study of CHP in the region
Thomas Bourgeois – New York and New Jersey CHP as a Policy Tool

Motion by Rich Sweetser to approve this seminar Harold Smith, 2nd

Pass, 8,0,0, CV (2 absent)

b. **Research:** Dragos Paraschiv
Dragos attended the research meeting on Sunday and announced the following:

- Nominations for the "ASHRAE Service to Research" award is due by Sept 30th.

- New RTAR forms as electronic fillable forms: Less information is required and the form is easier to process. Rich Sweetser added that the old form was often misinterpreted. This form gets more to the point of why the research it is needed (aka how it relates to ASHRAE research goals), how much it will cost and justification of the cost. It is a 150 word maximum.
- General update of how different society projects are progressing: ASHRAE is looking for more research work. However there is currently a low acceptance rate.

- Update for TC 1.10

    - CHP Design Guide update: Lucas Hyman reported that they are 90% + complete and are answering comments prior to September. (If anyone would like a copy to review, send your request to Lucas prior to August 31) The PMS will vote once this work is completed and will ask for a letter ballot prior to the NYC meeting. Lucas also reported that the software piece of the project is 100% complete.

    - The TC will ask for a short overview presentation by the authors at the January meeting. This presentation will occur during the full TC meeting.

    - CTIC Design Guide update: Research Liaison mentioned that he does not believe this related directly to the research goals, so our chances may be lower in getting approval. The Research Liaison made a comment that this budget $ should possibly come from publications (but publications does not have a budget). Discussion: John Andrepont brought up the question of how many copies sold in the first few years of publications: it was recalled to be a few hundred copies. CTIC subcommittee will discuss the possibility of asking ASHRAE to withdraw the old one, if it is not approved to be updated. Lucas Hyman to re-ask the questions to an alternate contact to get a second opinion from RAC.

c. Handbook:

Chapter7: Lucas Hyman will be the new chair for the Handbook Committee Chapter 7:

Due date for final revisions is in March of 2015. The TC should vote on this at the Jan 2015 meeting. Lucas will work with Annette Dwyer (Handbook Liaison) to create a schedule of interim target dates.

Discusion:
Lucas listed sub-sections of the Chapter:

- Terminology
- CHP System Concepts
- Performance Parameters
- Fuel-To-Power Components
- Thermal-To-Power Components
- Thermal-To-Thermal Components
- Electrical Generators and Components
- System Design
- Codes and Installation
- Economic Feasibility
- References and Bibliography

Annette Dwyer suggested removing duplication of CTIC sections and simply refer to Chapter 8.

Rich Sweetser suggested to add after treatment, emissions controls, increase combustion turbine section, update the steam turbines section, mention solar and or solar/thermal CHP. Lucas is compiling list of possible updates.

Lucas called for volunteers for authors and reviewers: Committee members: Birol Kilkis, Tim Wagner, Marija Todorovic, Isaac Mahderekal. Rajesh Dixit will ask Dresser-Rand for input. Lucas will contact Chris Lyons from Solar turbines for input. CC: Annette Dwyer to be cc:'d on correspondence as TC handbook Liaison.

Chapter 8: Dharam Punwani is the new chair for the Handbook Committee Chapter 8:

Due date for final revisions is in July of 2015. The TC should vote on this at the Jun 2015 meeting.

Dharam called for volunteers for authors and reviewers: Committee members: Rajesh Dixit, John Andrepont. Additionally, Geoff Bares, Tim Wagner volunteered to be reviewers.

Handbook Liaison Report by Annette Dwyer: Annette is the new Handbook Liaison for the 2016 Volume of the Systems and Equipment Volume for both Chapter 7 & 8. There is one(1) Handbook online subscription available per chapter for the Lead Author or Handbook subcommittee Chair – submit your name to your TC Handbook Liaison. Make sure you have your schedule and subcommittee meetings set up.

d. CTIC Subcommittee

Annette Dwyer reported that nine (9) members attended the subcommittee meeting late Monday night. The committee will have a new meeting time – possible Tuesday afternoons – to be discussed under New Business.

The CTIC Handbook (Chapter 8) was discusses above: There are no Programs: Research was also discussed above and we will be pursue action regarding the RTAR to update the CTIC Design Guide.

e. Membership: Tim Wagner

Tim Wagner reported that currently we have ten (10) voting members. New visitors wishing to become corresponding members are asked to give your business card/contact information and ASHRAE number to Tim. We will update the email list.

Also, if you are interested in a future leadership role, please speak with the Chair.

f) Web Site: Dragos Paraschiv
Dragos reported that the TC 1.10 website was up to date. Please contact him with any suggestions for webpage contents.

g) Honors & Awards: Tim Wagner

Lucas Hyman was congratulated for getting the distinguished service award (after previously receiving the George B. Hightower Award at the last meeting

Dharam listed the various awards that are available to be nominated by the TC (get these from Dharam)

Dharam Punwani pointed out to update your bio on the ASHRAE website you are eligible to receive any awards.

h) Standards: Mark Davis

Mark Davis was not present at this meeting.

Dragos Paraschiv reported that he and two other members met in the meeting room at the assigned time. It was noted that Mark was at another meeting in Toronto, along with some other TC 1.10 members and they may be having off-site discussions.

UPDATE: email received from Mark Davis:
SPC 204 decided not to meet in Denver (there was a conflicting meeting at which many members of the committee and other microCHP manufacturer's representatives would be attending).

SPC 204 Update:
Committed members of SPC 204 continue to work towards the preparation of a draft standard for our in-person meeting at the ASHRAE Winter conference in 2014. In Dallas, the committee identified a path forward towards this goal. We indicated to the committee, especially the manufacturers, that their input would be critical to achieving it. Unfortunately, after several calls for input, only one response was received - and that came from someone new to the committee who has yet to become a member. We understand that ours is a small, cash-strapped industry and that manufacturer's representatives are extremely busy, but we will need their input if we hope to produce a robust and equitable performance standard.

We are committed to moving forward in spite of this. Currently, Dave Kalensky of the Gas Technology Institute is seeking funding that would allow GTI to write this draft (all of his work thus far has been done after-hours). The draft will be presented to the committee in January for review. Once portions of the draft are presented for a vote, the manufacturer will be forced to take action.

6. **Chairman's Overview and Report:** Tim Wagner

News from the section meeting:

- ASHRAE is encouraging members to participate the local chapters. There is a powerpoint presentation from TAC that will allow TC members to give a short presentation to their local chapter with little effort. It can be downloaded at http://ashrae.org/standards-research--technology/technical-committees
- A new Multidisciplinary Task Group (MTG) has been formed "Cold Climate Design Guide"

- Update your bios to include your employment discipline (new field)
- The new attendance forms have a column for YEA members to check off.
- Thank you letters to employers are available, submit your name to Tim Wagner
- Next meeting locations are: NYC, Seattle, Chicago, Atlanta, Orlando, St. Louis
- TC5.2 is looking of contributors and reviewers for the new Duct Design Guide
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7. **Old Business:**

Lucas Hyman did the CHP short course webinar in March. They have scheduled another short course for January 2014.

8. **New Business:**

Section Head Report: Vic Penar reported that he is rolling off, needs activity sheet emailed to him tonight (Tuesday). The new section head as of July 1st is Jeff Traylor.

John Andrepont reported on IDEA activities: See the attachment to this document for his report

Rich Sweetser reported that President Obama signed and executive order on Aug 30th, 2012 for industrial competitiveness, seeking to add 40 Gigawatts of new CHP power by the year 2020.

Boiler MACT update: The clean energy application centers are pursuing Boiler MACT sites with assessments that will show that CHP is a very cost effective compliance alternative.

Joe Brillhart noted that President Obama unveiled his aggressive new climate change strategy today.

Meeting Times for NYC Winter Conference: (Tuesday, January 21,2014)

Special projects 12:00 pm - 1 pm

CTIC subcommittee from 1:00 pm – 2 pm

TC 1.10 Handbook, Research, and Programs from 2:00 pm – 3 pm

TC 1.10 main meeting from 3:00 pm - 5 pm

Adjourn
Rich Sweetser moved that the meeting be adjourned. Dharam Punwani seconded the motion and it was unanimously approved by all present.

Minutes prepared and respectfully submitted by Annette Dwyer, TC 1.10 Secretary