



AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.

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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 6.9

DATE: Tuesday, July 02, 2013

TC/TG/MTG/TRG TITLE: Thermal Energy Storage

DATE & LOCATION OF MEETING: Monday, June 24, 2013 Denver, CO

VOTING MEMBERS PRESENT	YEAR APPTD	VOTING MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Brian M. Silveti	2000	Chang Sohn	2002	Blake Ellis - CM
Geoffrey Bares	2011	Paul Steffes	2002	Chris Mincey - CM
Guy Frankenfield	2011			Chris Mincey - CM
Harshal R. Upadhye	2011			Douglas T. Reindl-CM
John H. Nix	2011			Gregory Henderson-CM
John S. Andrepont	2011			Henry A. Becker-CM
Lucas Hyman	2010			Ivan Thomas-CM
Mike Filler	2013			Jeffrey M. Kane-CM
John F. Dunlap	2010			John Lau - CM
Robert R. Willis	2011			Kenneth M. Fulk-CM
Scott A. Shaffer	2011			Larry Marrel - CM
				Mark M. MacCracken-CM
				Matt Mitchell - CM
				Michael Frohnapple - CM
				Verle Williams - CM
				Jason DeGraw - G
				Amanda Smith - G
				Anuj Mistry - G
				Feitau Kung - G
				Jia Chang Huang - G
				Jon Cohen - G
				Kelly Murphy - G
				Michael Perevozchikov - G
				Richard Brooks - G

DISTRIBUTION

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

TAC Section Head:	Lucas Hyman of Goss Engineering Inc.
TAC Chair:	Charlie Culp of Texas A&M
ALL COMMITTEE LIAISONS AS SHOWN ON TC/TG/MTG/TRG ROSTERS:	John Nix - Professional Development
	Michael Patton - Handbook
Manager Of Standards	
Manager Of Research & Technical Services	

ASHRAE Technical Subcommittee 6.9 - Thermal Storage

Meeting Minutes – Denver, CO

June 24, 2013

1. Preliminaries

- a. The meeting was called to order at 4:34 PM by Lucas Hyman, Chair.
- b. The agenda and sign in sheet were distributed.
- c. A roll call of voting members was taken.
- d. A quorum of voting committee members was established; 11 of the 13 voting members attended this meeting.
- e. Self introductions were made.
- f. There were no changes to the agenda as proposed.

2. Approval of Minutes

Minutes from the 2013 winter meeting in Dallas, TX were reviewed. John Andrepont made a motion to approve with minor corrections as noted. John Nix seconded the motion. Approved unanimously by the voting members.

3. Announcements by Chair – Lucas Hyman

- a. At Section 6 breakfast meeting:
 - i. John Dunlap is rolling off as the Section Head. Mark Heyberg will be our new Section Head.
 - ii. Each ASHRAE member should update your personal profile on the ASHRAE website, and specifically to declare your Employment Discipline. Also, Young Engineers should update their profiles, too.
- b. Verle Williams was recognized for 50 years of service with ASHRAE.
- c. John Nix was recognized for receiving the Distinguished Member award.
- d. If you want to become a Corresponding Member, please give Guy Frankenfield your business card with your ASHRAE member number.

4. Liaison reports:

- a. Programs – John Cohen introduced himself as a Program Liaison. He presented the idea that TC 6.9 could submit a special panel session for the upcoming winter conference in New York.
- b. Professional Development – John Nix confirmed that Doug Reindl in the process of reviewing of what it will take to update the TES training course. Doug Reindl will be the presenter for this course, once the presentation is updated.
- c. Section 6 – John Dunlap confirmed that he is stepping down as the Section Head, and that Mark Heyberg will be taking over. The TC thanked John for his service.

5. Handbook – John Lau

- a. New 4-year cycle is in process. These revisions will be included in the 2016 Edition of the Systems and Equipment Handbook.
- b. By March 2015, we will need to submit our approved revisions to ASHRAE.
- c. John listed the sections of our Chapter that have been listed as possible areas for revision along with the authors who have volunteered to draft the revisions;
 - i. Sustainability, grid reliability, and TES & renewable power (John Andrepont).
 - ii. Emergency cooling (Michael Frohnapple).
 - iii. Unique thermal storage batteries
 - iv. TES system commissioning (Lucas Hyman & Henry Becker)
 - v. Hot water TES (Paul Steffes)
 - vi. Underground TES (Ed Lorenz)
 - vii. Phase change materials
 - viii. Energy efficiencies of TES systems
 - ix. Delete obsolete info, update references and bibliographies
- d. John will soon be sending the editable chapter document to the authors so that they can make their revisions.
- e. At the next TC meeting, John will be soliciting volunteers to review the revisions.

6. Programs – Geoff Bares

- a. At this summer conference in Denver, CO conference, there was no seminar. Professor Don Fenton presented a paper on Thermal Energy Storage for Emergency Cooling.
- b. For the 2014 New York, NY conference, TC 6.2 is planning on doing a seminar based on the new "District Cooling Design Guide". John Andrepont spearheaded the effort to develop and submit a three-part seminar on "Efficient Technologies that are Economically Sustainable". This three part seminar will include presentations on District Energy, Combined Heat and Power, and Thermal Energy Storage. TC 6.2 is the sponsor of this three-part seminar, and TC 6.9 and 1.10 are co-sponsors. Motion by Geoff Bares to approve this three-part seminar, seconded by John Andrepont, and it was approved by a vote of 10-0.
- c. We discussed the proposition by John Cohen, our Programs Liaison, to submit a special panel discussion at the New York conference. After discussion, Geoff Bares made a motion to submit a special panel discussion on "Dispelling the Myths about TES – *Why aren't you using TES?*" for the upcoming winter conference in New York. Lucas Hyman would be the Moderator. Mark MacCracken, John Andrepont, and John Nix would be the panelists. John Andrepont seconded the motion, and it was approved by a vote of 10-0.
- d. Chris Mincey will be taking over on July 01, 2013 as the Program Subcommittee chair. Geoff will be the incoming Vice Chair of TC 6.9. Geoff was recognized by TC 6.9 for the fine work that he did as our Program chair.

7. Standards – Robert Willis

- a. SPC 150 – this commissioning standard is in the process of being revised. John Nix is coordinating that work and indicated that the revisions will be coming up for review/approval this fall.
- b. ASHRAE Standards; 94.1, 94.2, and 94.3 require a vote by the TC at this meeting to withdraw, revise, or reaffirm these standards. There was some discussion, and then a vote was taken.
 - i. 94.1 – Motion by Robert Willis to withdraw standard. Seconded by John Andrepont. The motion was carried with a vote of 11-0-0.
 - ii. 94.2 – Motion by Robert Willis to revise this standard. Seconded by John Dunlap. The motion was carried with a vote of 11-0-0.

- iii. 94.3 – Motion by Robert Willis to withdraw this standard. Seconded by John Andrepont. The motion was carried with a vote of 11-0-0.
- iv. Regarding 94.2 and the TC's interest to revise this standard, John Andrepont made a motion to have Robert Willis chair the revision of the standard and have these members be on his committee (John Nix, Mike Filler, Paul Steffes, and Harshal Upadhye). Seconded by Geoff Bares. The motion carried with a vote of 10-0-0.

8. Honors & Awards – Julian DeBullet (absent)

9. Long Range Planning & Website – Lucas Hyman

- a. Doug Reindl is working on the updating the TES training presentation.
- b. Arisbeth Sandoval is doing a good job of keeping our webpages up to date.
- c. Subcommittee chairs should send minutes and documents to be posted to the website to Guy Frankenfield, and he will work with Arisbeth Sandoval to get them posted.

10. Research – Brian Silvetti

- a. Motion by Brian Silvetti to submit Work Statement 1607 (with minor edits), TES to Support Renewable Energy Resources by Larry Markel to RAC for approval. Seconded by John Andrepont. The motion was carried by a vote of 10-0-0.
- b. Motion by Brian Silvetti to forward the RTAR (with minor edits) to update the Cool Storage Design Guide to RAC for approval. Seconded by John Nix. The motion carried with a vote of 11-0-0.
- c. The WS for the TES System Performance Metrics Related to Carbon Emissions has expired. Michael Deru of NREL may be submitting an unsolicited proposal to ASHRAE to complete his work on developing a Tool to Calculate Carbon Emissions based on time of day and season of the year.
- d. TC 6.9 is a co-sponsor of the CHP Design Guide. This may be published by the end of the calendar year.

11. Old Business

No old business.

12. New Business

- a. The following is a list of our subcommittee chairpersons that will be in position as of July 01, 2013:
 - i. Chair – Guy Frankenfield
 - ii. Vice Chair – Geoff Bares
 - iii. Secretary – Richey Mohan
 - iv. Research – Brian Silvetti
 - v. Program – Chris Mincey
 - vi. Standards – Robert Willis
 - vii. Handbook – John Lau
 - viii. Honors & Awards – Julian DeBullet
 - ix. Website – Arisbeth Sandoval
- b. As of July 01, 2013, TC 6.9 will have a total of 12 voting members. (We are permitted to have up to 18 voting members).
 - i. New voting members as of July 01, 2013; John Lau, Mark MacCracken, and Henry Becker.
 - ii. Voting members who are rolling off (for at least one year) as of June 30, 2013 include; Lucas Hyman, John Nix, Brian Silvetti, and Dr. Chang Sohn.
- c. ASME is planning to have a TES Strategic Task Force headed up by Mike Kazmierczak of the University of Cincinnati. John Andrepont will follow up and contact Mike Kazmierczak to understand their program.
- d. There is an initiative – IEA-ECES Annex 31, Energy Storage with Net Zero Buildings, Energy, and Automation.

13. Adjourn

Motion by John Nix to adjourn. Seconded by John Andrepont. Meeting adjourned at 5:45 PM.