

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400**

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/TRG NO.: T.C. 6.7 DATE: February 8, 2013
 TC/TG/TRG TITLE: Solar Energy Utilization
 DATE OF MEETING: January 29, 2013 LOCATION: Dallas, TX

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Gaylen Atkinson	9	Charles Cromer	9	John Dunlap (partial)
Mark Hertel	11	Wilfred Laman	9	Alexander Zhivov (partial)
Janice Means (chair)	11	Svein Morner	12	
Ram Narayanamurthy	12	Christian Vachon	11	
Marija Todorovic (NQ)	9	Ali Rashid Al-Alili	CM	
Costas Balaras (HC)	CM	Pamela Anoff	CM	
Joshua Kading (sec)	CM	Robert Aresty	CM	
Vinay Anathachar	PM	William Bahnfleth	CM	
Zhiror Alexander	Guest	Constantinos Balaras	CM	
Karine Leblanc	Guest	Erv Bales	CM	
Jyotir May Mathur	Guest	Joseph Brillhart	CM	
		John Brown	CM	
		Alan Chalifoux	CM	
		Andrew Chiasson	CM	
		Bradley Collins	CM	
		J Kevin Cross	CM	
		Robert Davis	CM	
		Reda Djebbar	CM	
		Brian Dougherty	CM	
		Peter Ellis	CM	
		Jonathan Evans	CM	
		Robert Foster	CM	
		David Gerlach	CM	
		Joshua Gillespie	CM	
		D Y Goswami	CM	
		Cory Hasiak	CM	
		Richard Hayter	CM	
		Henry Healey	CM	
		Hugh Henderson	CM	
		Bion Howard	CM	
		James Huggins	CM	
		Pamela Immekus	CM	
		Joshua Kading	CM	
		Christopher PM	CM	

	Sanford Klein	CM
	Anew Lowenstein	CM
	Alfred Lutz	CM
	Fariborz Mahjouri	CM
	Jeff Mahoney	CM
	Alfi Helmy Malek	CM
	Anew McNamara	CM
	Timothy Merrigan	CM
	Lucio Mesquita	CM
	M Maggie Moninski	CM
	Stanley Mumma	CM
	Khalid Nagidi	CM
	Joeseeph O'Gallagher	CM
	H Greg Peebles III	CM
	Buss Price	CM
	Ming Qu	CM
	Talal Rabiah	CM
	T Agami Reddy	CM
	Etizaz Shah	CM
	Harvey Stenger	CM
	Menelaos Stylianou	CM
	Athar Syed	CM
	Gregoris Thoma	CM
	Dean Tompkins	CM
	Michael Wassmer	CM
	Scott Wayland	CM
	Bede Wellford	CM
	Dean Wiersma	CM
	Maurice Wildin	CM
	Byard Wood	CM
	Cenk Cy Yavuzturk	CM
	Paul Zeigler	CM
	Yanda Zhang	CM
	Yongfang Zhong	CM
	William Schulte	PM

DISTRIBUTION

<i>All Members of TC/TG/MTG/TRG plus the following:</i>	
TAC Section Head: John Dunlap	
TAC Chair: William McQuade	
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	
Research Liaison	Stephen Hancock
Special Pubs Liaison	Francis A. Mills
Standards Liaison	Debra H. Kennoy
Manager Of Standards	Stephanie Reiniche

Manager Of Research & Technical Services	Mike Vaughn
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*Starting month as a voting member is July of the year shown. CM = corresponding member.

DRAFT MEETING MINUTES
ASHRAE TC 6.7 – SOLAR ENERGY UTILIZATION
Winter Meeting – January 29, 2013
Dallas, TX USA

I. Call to Order/ Quorum/ Introductions

The meeting was called to order at 1:17 pm on January 29, 2013. Roll call was taken and there were not enough members present to make a quorum. Throughout the meeting members did arrive. This brought a quorum of 5 of 9.

II. Agenda Review

No changes were made to the agenda.

III. Minutes.

The June 26, 2012 San Antonio meetings minutes were reviewed and modifications were made. The changes are listed below.

Page 1: Date must be corrected

Page 1: Svein Morner will be added to the members absent list

Page 5: Remove Bion Howard's name

Ram Narayanamurthy moved to approve the meeting minutes with corrections; Maria Todorovic seconded the motion. The motion passed 5-0-0-CV.

IV. Chair's report – J. K. Means

A. Roster Updates. The chair gave several updates regarding the roster status of the Technical committee.

- 1) The current roster is in effect until July 1, 2013.
- 2) TC members are requested to volunteer to become reviewers. Publications and the Conference and Expositions Committees needs volunteers to peer review papers.
- 3) Several members are rolling off from membership. The chair made a general request for more corresponding member participation in TC activities. The chair also indicated that to become a member an ASHRAE bio must be updated.
- 4) Marija indicated that she is not on the roster and must be added. [Note added by chair during review of minutes: Marija is listed on the roster as a non-quorum voting member.]
- 5) Members listed on roster as rolling off on June 30, 2013:
 - a. Marija Todorovic (NQM)
 - b. Gaylen Atkinson
 - c. Charlie Cromer
 - d. Mark Hertel (assumed in error-voting member since 2011)
 - e. Wilfred Laman
 - f. Janice Means (assumed in error-voting member since 2011)
- 6) Mark Hertel questioned why some terms are listed as 2 years and why other terms as 4 years.
 - a. Janice will clarify

7) Position updates:

- a. Janice Means will remain as a voting member and Chair

- b. Timothy Merrigan will step down from Vice Chair
 - c. Mark Hertel will remain as a voting member
- 8) Members Rolling on:
- a. Costas Balaras (will be a non-quorum member,NQM)
 - b. Joshua Kading
 - c. Khalid Nagidi
- 9) A concern was raised by Marija that many of the corresponding members are not very active in the committee. Janice indicated that she will be reviewing the corresponding members and will clean out inactive members.
- 10) A new position title has been added to the TC/TG/TRG roster options called a “Provisional Corresponding Member”. When a member requests to join a TC through the ASHRAE website, they automatically become a Provisional Corresponding Member. TC chairs may elect to change their status to “Corresponding Member” at the annual roster update, else they are dropped from the roster in two years.
- B. Solar Decathlon. Janice Means advised that ASHRAE will no longer be a sponsor of the Solar Decathlon. Specifically it is very beneficial to students; however, it is very expensive to coordinate..
- C. New Section in ASHRAE Journal. The ASHRAE journal has added a new section to the ASHRAE Journal titled “Engineer’s Notebook”. Articles were requested for this section last summer. The journal published an article titled “A Passive Solar Design in Neighborhoods” in the January issue as a result of a call from the Chair for articles.
- D. YEA. There is a YEA/Student Mixer at every conference, held on Sundays from 4:00 pm – 7:00 pm. Janice attended this event to interest students/YEA members in TC6.7. She also clarified that students are now welcome to become technical committee members.
- E. ASHRAE Member Bios. Members are reminded to update their personal ASHRAE bios. There is an additional entry request on the ASHRAE bio website for identifying your employment discipline. All members are requested to fill in this field by the Denver Annual Meeting indicating the best fit in the following categories as well as a more detailed title: Academic, Government and Organizations, Building Industry, Manufacturing Industry and Other. This information will be used to balance TC memberships. Log in on the ASHRAE website, select the Membership and Conferences/My Membership/scroll down to “Other Information” and then click on Biographical Record System/Demographics.
- F. MTG. So far, seven Multi-disciplinary Task Groups (MTG) have been formed. These MTGs are organized in the same manner as a technical committee, they are just much larger.
- G. Recent Technical Program Changes for Conferences. Beginning Dallas Winter Meeting, speakers, session chairs and forum monitors are charged \$95.00 to attend the ASHRAE conferences and student members/student advisors are charged \$25.00. There is a new emphasis on research for Annual Meetings, e.g.. the presentations at Denver will be up to 25% on research.
- H. Conference Calls for Future Meetings. Work is being done to conference call or video call in members who cannot make it to the meetings. This procedure has not yet been formalized.
- I. Future Conferences/Webcasts/Seminars.

- 1) The ASHRAE Annual Meeting will be held in Denver, June 22-26, 2013. Go to <http://www.ashrae.org/denver/> for more information. Seminar proposals are due February 11, 2013
- 2) The ASHRAE Winter Meeting will be held in New York, January 18-22, 2014. The New York conference site go live on June 3, 2013: <http://www.ashrae.org/newyork/>
- 3) Annual ASHRAE Webcast, “Assessing Building Energy Performance: From Principles to Practice” will be broadcast on April 18, 2013.
- 4) 5th International Conference – Solar Air Conditioning will be held September 25-27 in Black Forest, Bad Krozingen, Germany
- 5) 11th International Energy Agency (IEA) - Heat Pump Conference will be held May 12-16, 2013 in Montreal, Quebec, Canada.

J. New ASHRAE WIKI. A new terminology Wiki that has been created by ASHRAE.

- 1) The wiki is accessible as ‘read only’ at: <http://wiki.ashrae.org/index.php/ASHRAEwiki>, ASHRAE members may submit definitions to the wiki for review; however, they cannot change the content directly.

K. Chair reviewed the conference submittal percentages. The trend is that it is becoming increasingly difficult to be selected for presentations.

V. Subcommittee Chair Reports

VI. Subcommittee Reports

A. Handbook – C. Balaras

- 1) Chapter 35 - Solar Energy Use in the ASHRAE HVAC Applications Handbook 2015 is up for review. Modify the draft using the track changes. The technical committee will discuss any changes in Denver and will vote on final changes in New York.
- 2) Chapter 37 – Solar Energy Equipment in the ASHRAE Systems & Equipment Handbook 2016, will be up for review so keep think of additional changes and upgrades to make.
- 3) There is work in progress collecting, reviewing and identifying the terminology that is used in the solar industry. The results of this will be presented in Denver. This should be included in the ASHRAE wiki (to identify the conflicting terms and then resolve them)
- 4) Coordinated with TCs for possibly resolving the overlap such as CH 35 and CH 14 (Solar geometry section, presentation on clear sky model). Options are being considered: to remove Clear Sky from CH 14 and reference CH 35 or vice versa.
- 5) The committee is exploring the feasibility of establishing of a chapter in fundamentals. This would be very difficult to accomplish. The options are adding a new chapter or adding on to an existing chapter. The preferred method would be to add a section in energy resources (TC 2.8). Another method would be to add a chapter on Renewable Energy in the 2017 fundamentals. This would be coordinated with Mark Owen.

B. Research – S. Morner

- 1) RTAR OG300, is still in progress.
- 2) University Researchers discussed having a strategy for research progression. Jim Leidel was interested in being a research chair; Kelton Friedrich also offered assistance on this during the research subcommittee meeting.

- 3) It is possible for a research project to go straight to a work statement. It is better to be a work statement first.
- 4) It is a good idea to stage projects and have an overall research objective and goal.

C. Standards –S. Morner (Mark Hertel for S. Morner)

- 1) Standard 93-2010 is up for review. This standard is being substituted by ISO 9806. A major difference is that ASHRAE 93-2010, has air collectors. It was also noted that ISO and ASHRAE are not listed jointly. Consensus for the pervious group was to reaffirm the standard, and withdraw it in 3 years. By that time the ISO will be updated. However, if it is reaffirmed there are deficiencies that must be corrected. Marija has offered to take the lead on the revisions.

Gaylen moved to reaffirm 93-2010 with minor recommended editing for code language Ram seconded the motion, the move passed 5-0-0 (the chair voted).

D. Program – Ram Narayanamurthy

1) Denver Conference

a. Conference Papers:

- i. “Load management using renewable energy systems”
- ii. Chair: Janice Means
 - i. Electric Water Heaters: Ram Narayanamurthy
 - ii. Impact of Market Trends on solar water heating: Mark Hertel

b. Seminar Proposals: due Feb 11, 2013

- i. “Community scale solar thermal systems” Several options had been proposed to look into this topic such as Drake landing. Potential speakers on district heating systems are: Tim McDowell, Reda Djebbar, Tim Merrigan, Jim Leidel
 - i. Ram Narayanamurthy will be the session Chair
- ii. “Synergistic renewable energy in integrated buildings”. Marija offered to speak on DC micro grids. Other potential speakers were Kelton, Jim Leidel, Gaylen Atkinson
 - i. Vinay Anathachar has offered to be a Chair

c. Forum- “What is the place of solar thermal, with low PV and low natural gas” This forum would have 3 presenters during a forum-for 5 minutes. Gaylen recommended shifting to a seminar that makes a point this would then have to shift to New York.

d. Conference paper abstract accepted: “Symbiotics of solar energy” (by Janice Means) This paper identifies and defines the terminology of the solar industry

e. May 6 upload begins

f. June 3 Powerpoint presentations needed

2) New York,

a. Forum/Seminar “What is the place of solar thermal, with low PV and low natural gas” will be shifted to New York

b. Conference papers: March 15 is the deadline for abstracts

- i. “Measured impact of window overhangs”-Gaylen Atkinson
- ii. “PV-integrated Electrochromic Windows”- Bruce Lanning
- iii. “Architecture PV integrated building facades”-TBD

c. Seminar: Passive solar in a ZNE world, (Track 6, building performance and commissioning)

- i. Ming Qu, using passive solar for carbon reductions
 - ii. Fortunato, buildings a net energy positive home in the middle of LA
 - iii. Manitoba Hydro Place, Alexander Knirsch, Transsolar
 - 3) Deadlines for New York
 - a. April 5- Conference papers acceptance deadlines
 - b. April 19- Tech paper
 - c. July 3 – final conference papers due
 - d. Aug 12 – deadline for seminar
 - e. Dec 6- upload of ppt
 - f. Jan 3 -final ppt deadline
- E. Website (Svein Morner) – no report

VII. Liaison Reports from Society & Other Organizations

- A. ALI – D. Brandt - *None*
- B. TAC Section 6 – J. Dunlap
 - 1) Remote meetings are available to TCs
 - a. 30% of voting members may attend via call in.
 - b. In case of conflict of interest, the callers must be disconnected.
 - 2) There was a discussion of the problem of programs being assigned to a TC without the knowledge of the TC.
- C. Research Liaison – Steve Hancock - *None*
- D. Programs – Maggie Moninski - *None*
- E. Standards – Debra Kenroy - *None*
- F. Handbook Liaisons – *Applications* – F. Mills & *Systems & Equipment* – Nicolas Lemire *None*
- G. Special Publications – F. Mills- *None*
- H. Other TC's- *See V-A -4 above*
- I. LEED Energy and Atmosphere TAG – *None*
- J. ASES – B. Collins- *None*
- K. Solar Decathlon – M. Wassmer- *None*

VIII. Old Business

- A. Vote on publication of “Central [District] Solar Water Heating System Design Manual”.
 - 1) ASHRAE is eager for the document to be published. However, very few comments have been received. The document has 48 case studies. Solar thermal systems have become less economic. Chair prefers “District” to be included in the title instead of central.
 - 2) Ram Narayanamurthy made a motion to publish the design guide, with “District” inserted into the title. Gaylen Atkinson seconded the motion. The motion passed 5-0-0, Chair Voting.

IX. New Business

- A. Vote to revise, reaffirm or withdraw ANSI/ASHRAE Standard 93-2010. [Debra Kenroy, TCLS liaison, has made this request.] See 6C above.

Meeting adjured at 3:38

Respectfully Submitted by Acting Secretary, Joshua Kading with edits by Chair, Janice Means

TC/TG/TRG Activity Feedback Form

Please provide feedback on your TC/TG/TRG activities and return this form to your Section Head by email or drop off a printed copy in the Section Head's mailbox folder outside the ASHRAE Headquarters Room by Tuesday night 9:00 pm.

TC# 6.7	Committee Name: Solar Energy Utilization
	Chair: Janice K. Means

Meeting was Held	(City) San Antonio	(Day) Tuesday	(Date) 06/26/12
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Membershi	Quorum was established?	Yes
	Number Present	Total Number on Committee
Voting Members (excluding	5	8
International Members	1	1
Corresponding Members	0	58
Visitors and Guests	10	

Handbook Responsibilities	Standards Responsibilities
Volume and Chapter (i.e. A17 Printing Plants)	Standards Number (i.e. SPC 178, Std 90.1, Gdl 2)
S37 Solar Energy Equipment	
A35 Solar Energy Use	

Program									
Total # of Poster		Total # of Forums		Total # of Technical		Total # of Transaction		Total # of Seminars	
Sponsored	Co-sponsored	Sponsored	Co-sponsored	Sponsored	Co-sponsored	Sponsored	Co-sponsored	Sponsored	Co-sponsored
0	0	0	0	0	0	0	0	0	0

Current Research Activities (active)	FAQs Responsibilities		
# of active RTARS	0	Total # of FAQ's	1
# of active Workstatements	0	Have FAQ's been updated on a 5 yr	No
# of active TRP's	0	TC	
# of active RP's	0	TC has a website? (y/n)	Y
Total # of active Projects	0	Website is up to date? (y/n)	Y
		Website is on the ASHRAE Server? (y/n)	Y
		Link to website from www.ashrae.org/technology/page/10	
		4 is functional? (y/n)	

Any requests of the Technical Activities Committee?

Please set up an on-line access for both the TC 6.7 main Committee Meeting as well as for the sub-committee meetings for all future meetings. It is increasingly more difficult to get members as well as sub-committee chairs to attend. Neither the Standards nor the Research sub-committee chairs were able to come to this meeting.