



**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/MTG/TRG No. 6.7 DATE June 23, 2018

TC/TG/MTG/TRG TITLE Solar and Other Renewable Energies

DATE OF MEETING Jan 23, 2018 LOCATION Chicago, IL

VOTING MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Costas Balaras	2016	Vinay Ananthachar	2017	Jim McClendon (rep 90.1)
Gaylen Atkinson	2014	Reda Djebbar	2017	Omar Abdelaziz (Research)
Svein Morner	2017			Dawen Lu (Section Head)
Cary Smith	2016			Ron George
Jim Leidel	2014			Justin Milner
Maria Todorovic	2017			Ross Casey
Mike Case	2017			Jamie Fine
Janice Means	2014			Curtis Fong
Tim Merrigan	2016			Basfbing Tokeneski
				Khalid Nagidi
				Konstantinos Kapsis
				Danielle Miska

DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:	
TAC Section Head: Mark Hegberg	SH6@ashrae.net
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)	Mr Erick Phelps (Standards) sl6@ashrae.net Mr OmarAbdelaziz (Research) RL6@ashrae.net Mrs M Maggie Moninski (CCTC) ctt6@ashrae.net Mr Lynn F Werman (2019 HVAC APPLICATIONS) lynnwerman@yahoo.com Mr Nicolas Lemire (2020 HB Systems & Equipment) nlemire@pageaumorel.com
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net

MEETING MINUTES
ASHRAE TC 6.7 – SOLAR ENERGY UTILIZATION
Winter Meeting – January 23, 2018
Chicago, IL, USA

1. The meeting was called to order by Chair Costas Balaras at 1:08 pm, January 28, 2018 and introductions were made.
2. Chair read from the [ASHRAE code of ethics](#). Chair noted that the agenda contains a link to the code as well as to the Technical Committee Manual of Procedures ([MOP](#)).
3. 9 of 9 voting members were present. The meeting had a quorum. Introductions were made and an attendance sheet passed around.
4. Chair reviewed agenda and requested Mike Case to track action items.
5. Approval of Minutes from Long Beach, June 27, 2017. Janice Means moved to approve minutes. Cary Smith seconded. Minutes were approved 8-0-1-CV.

Upload approved Minutes on TC website.

AI 1

6. Call for members who were at the 2016 Orlando Winter meeting (January 25, 2016) to send their notes to the Secretary, was repeated. Secretary to put together Orlando minutes with what is available before 2018 Annual Meeting.

AI 2

7. Announcements

- 7.a. An updated roster has been submitted for the next society meeting. Khalid Nagidi will become chair starting July 1st, 2018. Kosta Kapsis will become a voting member.
- 7.b. Costas Balaras (current chair), Gaylen Atkinson and Janice Means will complete their four year terms on the TC and are rolling off and will become corresponding members.
- 7.c. The name and scope change have been approved. The new name is TC 6.7 “Solar and Other Renewable Energies.” Svein Morner has changed the name on the TC web site.
- 7.d. There is an option for TC Subcommittee Meetings to be held via conference calls and web meetings ([More info](#)).
- 7.e. TC members that only attend TC meetings may receive a free, plain white badge. Chair encouraged subcommittees to use this service, especially for the handbook. Jim Leidel stated he wants to do a research conference call on the web site in February. Janice Means proposed that the committee also use Base Camp. Chair stated he would get Base Camp set up.

8. Old Business

8.a. Update Action Items

- 11-1. Complete. Mike Case follow up with Mr. Shanley to find out whether ASHRAE endorses ISO standards (5 and 8.a.5).
- 11-2. Ongoing. Chair request Basecamp setup for TC 6.7 (6.j).
- 11-3. Complete. Mike Case to send out reminder asking for minutes from Orlando.

AI 3

11-4. Complete. Svein Morner to upload minutes on the TC website

11-5. Complete. Janice Means to compile a list of links to add to web site. Other TC members should send suggested links to her.

11-6. Complete. Chair follow up with ASHRAE Learning Institute staff about update Solar Applications course.

11-7a. Complete. Costa Kapsis will follow up with Marija Todorovic to assist her in obtaining access to the online handbook (9.a.1).

11-7b. Complete. Costa Kapsis will organize a conference call to prepare for Winter program in Chicago (9.b.2).

11-8. ongoing – keep open. Jim Leidel will do a rough draft and set up a webex for RTAR discussion the first week of August (9.c.2).

AI 4

11-9. keep open. New date, mid-March. Marija Todorovic to a short write up on proposed new Building Integrated PhotoVoltaic (BIPV) standard. (9.d.2).

AI 5

11-10. Keep open. Members can send material to Svein Morner for sharing on the TC website.

AI 6

11-11. Complete. Svein Morner and Khalid Nagidi to get in touch with Richard Lord.

11-12. Complete. Chair to follow up and confirm that updated TC roster is available on-line

8.b. ANSI/ASHRAE Std 93-2010 withdrawn – Complete.

8.c. TAC Request for feedback on proposed TG - focused biomass boilers. Some TC members have commented and the chair compiled a response at the end of September. No reply from TAC.

From: C.A.BALARAS [<mailto:costas@noa.gr>]
Sent: Friday, September 29, 2017 4:35 AM
To: Vaughn, Michael <mvaughn@ashrae.org>
Subject: Re: TAC Request for TC 6.7 Feedback on Proposed TG - focused Biomass Boilers

Mike, ... several TC 6.7 members have responded and it is evident that there are concerns related to the use of wood as renewable or sustainable energy source since it involves combustion or that it may trigger/encourage cutting healthy trees that are not grown for this purpose and thus lead to deforestation. ... The following summary captures the main points raised during the exchange of emails some of which included long and short comments.

TC 6.7 TPS covers and includes all renewable energy sources. Renewables include among others, solid biomass, wood, wood waste or other solid waste, thus it falls under TC 6.7 TPS like other renewables. Based on the current member interests, the TC has been mainly dealing with solar and progressively with wind for small scale power generation in buildings. TC 6.7 can provide some general input to the proposed TG on the basis of sustainability and renewable energy sources, but currently has no experts focusing on wood.

Several members expressed serious concerns on the use of wood as a renewable energy source, without a clear definition addressing the implications outlined above. The proposal does not provide a clear purpose/scope on the use of wood to be considered as a renewable energy source, so it appears that TC 6.7 members would not support the proposal. If these concerns can be addressed and clarified, then the proposed TG may even be considered as a TC6.7 sub-committee. However, it is evident that TC 6.7 members would need to have an open discussion during our f2f meeting in Chicago if the intent is to pursue this further.

Please advise if I should include this item in our agenda.

Best regards,
Costas

From: Vaughn, Michael [mailto:mvaughn@ashrae.org]
Sent: Friday, September 29, 2017 2:08 PM
To: C.A.BALARAS
Subject: RE: TAC Request for TC 6.7 Feedback on Proposed TG - focused Biomass Boilers

Hi Costas,

Thanks for your well timed and informative response on this issue (TAC meets next week for their fall meeting).

....

Thanks again for your help and feedback on the issue of Biomass Boilers.

I'll let you know after the meeting how the TAC discussion goes.

Sincerely,
Mike

8.d. ASHRAE Learning Institute Successful Solar Applications Course Update. Khalid Nagidi will work on Photovoltaics, Svein Morner will work on thermal. Tim Merrigan offered to serve as a backup for thermal. Committee agreed to move forward with the solar course for 2019 ASHRAE Winter Conference scheduled to take place in Atlanta on January 12-16, 2019.

AI 7

8. Updates – Standing Committee Liaisons.

8.1 ASHRAE 90.1 RE Working Group. Jim McClendon - addressed TC on new working group that is in place for 90.1 to address issues related to renewables. Jim is Chair. There is interest in renewables for 2019 90.1. 90.1 is a building energy efficiency standard. The intent is to reflect an emphasis on low carbon/net zero. Definition will be the first order of business. It is not defined in 90.1. Would like feedback from group. Cary Smith expressed concern that solar thermal has been dropped off of some definitions of renewable. Chair asked if someone had an interest in being liaison to 90.1 WG. Khalid Nagidi and Cary Smith volunteered. The WG will have of an informal schedule and monthly calls.

AI 8

8.2. Research Liaison - Omar Abdelaziz. Discussed need for TC to submit final form after completion of research project, including disposition of research results/funding. Be sure to include discussion of how conditions of RTAR were met. Include milestones in Statement of Work (SOW). There is an empty slate for RTAs waiting for bids. Looking for new RTARS. March 15 is the deadline for submittal of RTAR – discussed at RAC meeting in May timeframe. The next step after acceptance is to write the full work statement, to be submitted by August 15th. Will know if the work statement is approved by January.

9. Subcommittee reports (subcommittee meeting notes attached)

9.1. Handbook - Marija Todorovic

April 2nd – Circulate First draft of revised handbook chapter A15-Ch35 SOLAR ENERGY USE . Preliminary Design Calculations for sizing residential PV will be done by Khalid Nagidi. All committee members need to read standard very carefully. Decided to make minimal changes. Need to redo or get approval for figures (new) (ASHRAE policy – requested to do this. part of publishing). Expand section on PV applications. Building wind turbines. Svein Morner thought this might fit better into energy resources. Will have conference call before next meeting. Expect to receive 1st draft of chapter revision April 1. 3 weeks to review. Final draft ready for Houston. Marija Todorovic – all members of committee invited to comment/contribute. Khalid Nagidi – because of name and scope change, need to start to develop other chapters for other forms of renewable.

AI 9

- 9.2. Program - Costa Kapsis
Two seminars to be submitted for Houston. Solar... A to Z. Building envelopes - get list from Costa Kapsis, especially titles. Need ideas for next winter – on wind – Atlanta has track for renewables. One idea for Atlanta – myths and reality for solar design (2.8 co-sponsor). AI 10
- 9.3. Research - Jim Leidel
One RTAR idea – Photovoltaic design guide proposal. Jim outlined design guide content and asked for input on topics. Interaction with fire protection was mentioned, single building versus multiple building calculations/tradeoffs. Quite a bit of discussion of current state of fire protection interaction/solar.
A straw poll was held to discuss implementation approach if RTAR was approved.
Results:
- handoff to sub - 3
 - keep in house – subcommittee - 5
 - hybrid – in-house, but hire sub to edit/assist - 1
- Omar mentioned that you do not need an RTAR to do a design guide, other form of proposal to RAC. **Action: Jim, Janice, and Omar will clarify with RAC** AI 11
- 9.3. Standards - Mike Case
Mike Case went through agenda and noted withdrawal of old standard. Marija Todorovic noted new proposed standards and gave opinions they should include fire protection. Khalid Nagidi noted that there is already a national fire protection code. (NFPA). Marija did not get a chance to do a write up yet. Noted osfm.fire.ca.gov – Solar PV installation. Also look at NFPA for sprinkler systems.nfpa 13 , 13 d, `13 R. Suspense, - mid April for Marija Todorovic to write up a standard proposal. Same AI11.5
- 9.4. Website - Svein Morner
Svein did an excellent cleaning up the committee web site (Chair commended). Same AI11.6
Send content to Svein (Chair must approve). Additional information is needed on the web site.
10. New business
- 10.a. Cary Smith – IAPMO, just finished review of 2018 code. Emergency review of solar electric chapter. About 35 pages. Need people to take a look at it. Mike will contact Bill Stein AI 12
- 10.b. Introduced section head – Dahwen Lu
11. Action Items
- 11.1. Mike Case & Svein Morner – post approved version of Long Beach minutes
- 11.2. Mike Case to compile and circulate Minutes from the Orlando, January 25, 2016
- 11.3 Costas Balaras to setup TC Basecamp
- 11.4 Jim Leidel prepare RTAR draft and setup webex to discuss in August
- 11.5 Marija Todorovic – write up BIPV standard proposal.
- 11.6 Members that wish to provide material for TC website should send it to Svein Morner
- 11.7 Khalid Nagidi - Solar course for 2019 Winter Meeting

11.8 Khalid Nagidi & Cary Smith to act as liaisons to 90.1 WG

11.9 Marija Todorovic – prepare and circulate revision for Handbook A15-Ch35

11.10 Submit two seminars for Houston

11.11 Jim Leidel & Janice Means – Clarify with RAC the need for an RTAR to develop a Design Guide

11.12 SubCommittee chairs send notes to Secretary

12. Adjournment. Chair motioned to adjourn, Tim Merrigan seconded. TC 6.7 adjourned at 3:15 pm.

Respectfully submitted,

Mike Case, TC 6.7 Secretary