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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. 6.7 DATE February 4, 2020

TC/TG/MTG/TRG TITLE: Solar and Other Renewable Energies
DATE OF MEETING February 4, 2020 LOCATION Orlando, FL, USA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Khalid Nagidi, VM	07/01/2018	Costa Kapsis, VM	07/01/20	Omar Abdelaziz (Research Liaison)
Svein Morner, VM	07/01/2018	Mike Case (Resigned)	07/01/20	Dawen Lu (Section 6 Chair)
Marija Todorovic, VM	07/01/2017			G. D. Mathur (Handbook Liaison)
Tim Merrigan, VM	07/01/2016			Janice Means, CM
Cary Smith, VM	07/01/2016			Costas Balaras, CM
James Leidel, NVM	07/01/2018			
Gaylen Atkinson, NVM	07/01/2018			
Ahmed Elatar, NVM	10/26/2017			

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

TAC Section Head: Dawen Lu	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. Omar Abdelaziz (Research Liaison) omar.abdel.aziz@gmail.com Mrs. M Maggie Moninski (CCTC) ctt6@ashrae.net G. D. Mathur (2023 HVAC APPLICATIONS) gd.mathur@marelli.com Mr. Nicolas Lemire (2020 HB Systems & Equipment) nlemire@pageaumorel.com
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 MEETING MINUTES
ASHRAE TC 6.7 – Solar and Other Renewable Energies
Winter Meeting – February 4, 2020
Orlando, FL, USA

1. Call to order & Introductions. The meeting was called to order by Chair Khalid Nagidi at 1 pm, February 4, 2020 and introductions were made. Chair referred members to the ASHRAE code of ethics and Manual of Procedures.
2. Quorum. It was determined that 5 of 6 voting members were present at the beginning of the meeting. A quorum was present.
3. Agenda Review. Chair reviewed the agenda and stated that he will provide update on programs on behalf of Program Subcommittee Chair Costa Kapsis who was not able to attend the meeting.
4. Approve minutes
 - a. The minutes from the winter meeting in Kansas City, June 25, 2019 were reviewed. Tim Merrigan moved to accept as written. Svein Morner Seconded.

VOTE: Orlando minutes were approved 5-0-0-1-CV

5. Announcements
 - a. Handbook Liaison, G.D. Mathur
 - o G.D. provided update regarding the due date for revision of 2023 Handbook, HVAC Applications.
 - o TC6.7 is responsible for chapter 35, Solar Energy Use.
 - o Khalid stated there is an issue with browser compatibility. Only computers with Internet Explorer will be able to access the online version of the handbook for editing.
 - o G.D. to contact Mark about this issue of browser compatibility and get back to TC6.7.
 - b. Chair reviewed the current roster and stated that Ahmed Elatar is the new elected TC6.7 Secretary.
 - c. Chair discussed online roster update form and ASHRAE Basecamp 3. Refer to agenda for information.

6. Old Business.

- a. Chair reported that more than 50 people signed up for the ASHRAE Learning Institute "[Solar PV & Thermal Systems Analysis and Design](#)" Course and that it was very successful.

7. Subcommittee Reports

- a. Handbook – Marija Todorovic
 - o As reported by Costa Kapsis who was leading the effort of revising Chapter 37/Solar Energy Equipment for the 2020 ASHARE Handbook HVAC Systems and Equipment that it was approved (5 approved, 2 abstained) by TC 6.7 committee voting members, and submitted to the ASHRAE handbook committee for editorial review on September 20,

2019. There were four main authors that contributed on this revision but several more with minor but important input.

- Marija asked the TC members to review the Solar Energy Use chapter in the ASHRAE Handbook HVAC Applications which is open for review and update for 2023.
- Svein will add a link on the TC webpage for the handbook chapters (37) review
- Khalid encouraged everyone to start working on the chapter ahead of time.
- Veronique asked a question about the possibility of overlapping of chapter materials!
- Svein stated that if we can make significant edits in the next 6 months, then it can be posted online for everyone to review.
- Janice is seeking input about solar and renewable energy materials for energy fundamental handbook (ASAP).

b. Program – Khalid Nagidi

○ **Orlando Presented Programs – February 4, 2020:**

➤ **Seminar 1: Building-Integrated Photovoltaic Systems: Enabling Energy-Resilient High-Performance Buildings.** Sunday, February 2, 8:00 AM–9:00 AM

● **Presentation 1: BIPV as a Multifunctional Building Envelope Solution**

Francesco Frontini, Ph.D., SUPSI, Canobbio, Switzerland

● **Presentation 2: BIPV as a Distributed Energy Resource**

Veronique Delisle, Ph.D., CanmetENERGY, Varennes, QC, Canada

● **Presentation 3: BIPV for the Generation of Renewable Thermal and Electric Energy**

Andreas Athienitis, Ph.D., P.E., Concordia University, Montreal, QC, Canada

Chair: Eric Yang, P.E., BEAP, HBDP

➤ **Seminar 5: Solar Assisted Air Conditioning: How Solar Energy Can Cool Down your Building.** Sunday, February 2, 8:00 AM–9:00 AM

● **Presentation 1: Solar Site Assessment: Know-When**

Presenting Author: Khalid Nagidi, Energy Management Consulting Group, Wantagh, NY, USA

● **Presentation 2: Solar Assisted Air Conditioning: Know-How**

Constantinos A. Balaras, Ph.D., Institute for Environmental Research & Sustainable Development, NOA, Athens, Greece

● **Presentation 3: Solar Cooling: Know-What**

Tim Merrigan, Energy Information Services, Denver, CO, USA

Chair: Constantinos A. Balaras, Ph.D.

○ **Austin Proposed Programs – June 27 – July 1, 2020:**

➤ **Seminar 1: Micro Grid and Buildings Resiliencies**

● Seminar Chair: James Leidel

● Speakers: James Leidel; Svein Morner

- Track 5: Grid-Interactive Efficient Built Environment (Track Chair: Vikrant C. Aute, vikrant@umd.edu)
- **Seminar 2: Could Electric Energy Storage Systems Be the Answer for Zero Energy Buildings?**
 - Seminar Chair: Janice Means
 - Speakers: Svein Morner; Ahmed Elatar; Gaylen Atkinson; Khalid Nagidi
 - Track 8: Zero Energy Buildings and Communities: Opportunities and Challenges (Track Chair: Raul Simonetti, raul.simonetti@carel.com)
- **Seminar 3: Taking Carbon Out of Buildings**
 - Seminar Chair: Ahmed Elatar
 - Speakers: Costas Balaras; Lisa Matthiessen; Veronique Delisle (Veronique to locate a speaker!)
 - Track 8: Zero Energy Buildings and Communities: Opportunities and Challenges (Track Chair: Raul Simonetti, raul.simonetti@carel.com).

In addition, Robert Edwards suggested solar thermal cooling seminar.
- **Chicago Proposed Programs – January 23 – 27, 2021:**
 - Jim suggested a seminar about renewable natural gas.
 - Adriana and Jim, suggested a seminar about solar thermal biomass. Adriana to be a speaker and the session chair.
 - Veronique suggested balancing renewable generated electricity with flexible loads.
 - Khalid suggested a seminar about small wind energy systems that can be integrated within buildings and communities.
 - Khalid suggested solar assisted heat pump.
 - Ahmed suggested challenges and solutions for retrofitting renewable energy system into existing building.

c. Research - James Leidel

- RTAR - Solar PV Design Guide for the Building Professional: Including HVAC and Building Interactions.
 - Discussion about the first draft review process outcome.
 - Seeks comments on the current reviewers' comments by February 25, 2020.
 - Post the RTAR and reviewers' comments on the TC webpage.
 - Email will be sent to all TC member for the first draft and reviewers' comments.
 - Suggesting creating an RTAR about the new technology for hybrid solar radiative cooling and heating.
 - Khalid will send the email sent by James to the TC members in regard to the suggested RTAR.
 - Omar Abdelaziz provided a brief summary about the current research committee activities during Orlando Conference.
 - Email was sent by the research committee to the members in regard to a questionnaire about ASHRAE Research Activity (Please check your mail and spam folder). The email was sent on January 17th, 2020.

- Dawen Lu (Section 6 Chair): briefed the members about the conference activities and encourage the interaction with students and young ASHRAE members. Also, he provided update regarding TCs reorganization.
- Khalid Provided Statistics about Orlando Conference Programs from Chairs' Breakfast meeting.

d. Standards - Mike Case (Resigned)

- Khalid: The standard subcommittee chair is vacant; volunteers are needed to cover this position.
- Svein stated the standards which relate to TC 6.7 are 95 and 125.

e. Website - Svein Morner

- Technical FAQ page
 - No update.
- Material for TC6.7 website
 - Khalid asked the members for any suggestions about new tools (links) to be added to the TC webpage that will add value to TC6.7.
- Links
 - Svein stated that quite a few new links have been added to our TC web page.
 - Svein stated the TC webpage is updated with all the recent documents and the link to review handbook chapter 35.
 - A LinkedIn page can be setup for the TC by ASHRAE (to be followed).

8. New Business

- Refer to proposed programs for Austin and Chicago.

9. Adjourn.

- Svein moved a motion to adjourn the meeting, James second the motion.
- Chair adjourned at 2:50 pm.

Respectfully submitted,
Ahmed Elatar, TC 6.7 Secretary

[Roster as of June 1, 2019](#)

Chair: Khalid Nagidi (**VM**) – Term Ends: 06-30-2020

Vice Chair/Webmaster: Svein Morner (**VM**) – Term Ends: 06-30-2021

Secretary/Standards Subcommittee Chair: Michael Case (**VM**) – Term Ends: 06-30-2021

Handbook Subcommittee Chair: Marija Todorovic (**VM**) – Term Ends: 06-30-2021

Program Subcommittee Chair: Konstantinos Kapsis (**VM**) – Term Ends: 06-30-2022

Research Subcommittee Chair: James Leidel (**NVM**)

Other Voting Member (VM): Timothy Merrigan – Term Ends: 06-30-2020

Other Voting Member (VM): Cary Smith – Term Ends: 06-30-2020

Members Non-Quorum: None

Changes (As of June 1, 2019):

New provisional CM: Chitra Nambiar; Mr. Steve Rudy; Mr. Fatih Sorgulu; Dr. Andrew I Lowenstein; Ms. Kimberly Mitchell