

ASHRAE TC 6.7 General Meeting 24 June 2024

MEETING MINUTES

ASHRAE 6.7 – SOLAR AND OTHER RENEWABLE ENERGIES

Virtual TC 6.7 Subcommittees Meeting

Tampa, FL, USA - Hybrid meeting

Acting TC 6.7 Secretary: Stratos Rounis (secretary)

List of Attendees

First Name	Surname	Initials
Costa	Balaras	CB
Veronique	Delisle	VD
Steven	Duda	SD
George	Gartzounis	GG
Erin	Gaucher Locks	EGL
Bill	Greenwood	BG
Costa	Kapsis	CK
Frank	Li	FL
Janice	Means	JM
Tim	Merrigan	TM
Svein	Morner	SM
Khalid	Nagini	KN
Chee	Ow	CO
Merdad	Poursadegh	MP
Kurt	Rendocks	KR
Robert	Romeo	RR
Stratos	Rounis	SR
Andrew	Shore	AS
Jeannette	Staden	JS
Kelsi	Zhang	KZ

1. Welcome

The meeting was called to order by Chair CK at 15.05 pm EDT, 24 June 2024 and introductions were made.

2. Roll Call and Introductions. Determination of quorum. Meeting minutes keeping: Stratos Rounis (Secretary, non-voting).

Current voting members:

Costa Kapsis (June '24); Ahmed Elatar (June '24); James Leidel (June '25) Marija Todorovic (June '26); Veronique Delisle (June '24); Timothy Merrigan (June '25); Constantinos Balaras (June '26); Gaylen Atkinson (June '24)

<input checked="" type="checkbox"/>	Costa Kapsis
<input type="checkbox"/>	Ahmed Elatar
<input type="checkbox"/>	James Leidel
<input type="checkbox"/>	Marija Todorovic

<input checked="" type="checkbox"/>	Veronique Delisle
<input checked="" type="checkbox"/>	Timothy Merrigan
<input checked="" type="checkbox"/>	Constantinos Balaras
<input type="checkbox"/>	Gaylen Atkinson

A quorum was met (CK, VD, TM, CB)

3. Scope & Agenda

C.K presented the scope of TC 6.7 and overlap with other TCs. The Code of ethics was presented

After introducing scope, C.K. asked if there were items to add to the agenda. No items were added.

VD moved a motion to adopt the agenda. TM seconded.

The agenda was approved with 4 votes (CB, CK, VD, TM)

4. Review and approval of meeting minutes for ASHRAE Winter Conference 2023, Atlanta.

Chair proceeded with the approval of minutes of the TC6.7 meeting during the ASHRAE Annual Conference 2023 in Tampa.

CB moved motion to approve the minutes. VD seconded.

There was no further discussion

Minutes were approved with $\frac{3}{4}$ votes. TM abstained because he did not have chance to review

5. Announcements & Updates

CK informed this would be his last meeting as Chair. VD was introduced as the incoming chair from the next meeting.

SR, KN, AMS were introduced as new voting members from the next meeting.

Vice chair and research chair are now vacant.

VD asked if there is a list of liaisons. CK said the list changes every 4 years. Informed VD that she should be expecting emails from liaisons.

CB informed that the task force on building decarbonization will evolve to center of excellence, a new entity, part of the ASHRAE structure, will be reporting to. It will be in direct collaboration with the 3 councils and supervised by a special project subcommittee. Its activities will be related to decarbonization. CK should be expecting presentations. There are new opportunities for ideas and activities but deliverables will need to be produced quicker. The process starts as of 25 June 2024 and TC 6.7 should be one of the key tasks engaged in this process.

CK agreed.

No further announcements

6. Vote on Approval – TC6.7 Meeting Minutes, ASHRAE Winter Conference 2024, Chicago
 CB moved the motion for the minutes approval. VD seconded. No further comments / discussion.

The minutes were approved with 4 votes. The minutes will be posted on the official site and on Base Camp.

7. Handbook Subcommittee (Veronique Delisle)

VD reiterated the process and reason for restructuring the Handbooks and provided an update on the process so far. There will be no changes to Systems and Equipment for the current update and presented a timeline for the rest of the handbooks.

The restructuring and review of the table of contents have been completed. A temporary version of the HVAC Applications has been completed. Currently in the process of identifying parts of existing content that requires revision.

VD provided general directions for the reviewers

- Identify the issues of the respective chapter
- Why these are considered issues
- Proposal to solve issues (adding / removing / modifying content). Brief proposals required, VD urged reviewers to be specific.

Ideally there would be 2 persons per section.

The deadline for the review process is end of July 2024.

CK highlighted that we are on time and going according to initial plan. Asked VD to share presentation with CK and SR to include in minutes

VD thanked existing volunteers. Other volunteers should get in touch with VD.

Selected slides:

WHY ARE WE DOING A RESTRUCTURE?

- Improve how to find information for different applications, components, and equipment (e.g. by implementing a more parallel structure and making sure the content of each handbook reflects its own scope)
- Better allow for content to grow and be updated over time (new applications, new technologies that are not solar)
- Make it easier to identify gaps in the current content that need to be addressed
- TC 6.7 only has content in **Systems and Equipment** and **HVAC Applications**
- Update timelines (years 3 and 4)
 - Fundamentals (due 2024-2025)
 - Refrigeration (due 2025-2026)
 - HVAC Applications (due 2026-2027)
 - Review: June 2023 to Feb 2024
 - **Revise: Oct 2023 to May 2025 (Revised chapters for TC review due May 2025)**
 - Approve: Oct 2024 to Aug 2026
 - Edit and produce: Jan to Jul 2027
 - Systems and Equipment (2027-2028)
 - Review: June 2024 to Feb 2025
 - Revise: Oct 2024 to May 2026 (Revised chapters for TC review due May 2026)
 - Approve: Oct 2025 to Aug 2027
 - Edit and produce: Jan to Jul 2028

RESTRUCTURE IN PROGRESS

	Step	Progress
PHASE 1	1 Clarify the scope of TC 6.7 (not reopening it)	Completed
	2 Clarify the scope of all 4 handbooks in the context of TC 6.7	Completed
	3 Complete an overview of the TC 6.7 current content in the handbooks	Completed
PHASE 2	4 Restructure the Table of contents for each handbook considering their scope that will make it easy to reuse current content, remove or update existing content and add new content (not only related to solar, but other renewables)	Completed
	5 Develop a temporary version of each handbook using existing content and proposed table of contents	Completed for HVAC App. In progress for S&E
PHASE 3	6 Review the proposed table of contents for each chapter	Completed
	7 Identify leads to review existing content	Completed
	8 Review existing content and provide comments (additions, deletions, removals)	In progress (until end of July)
	9 Agreement on proposed changes and identifying volunteers to take on the edits	
	10 Implement suggested and approved edits	

TECHNICAL REVIEW OF THE EXISTING CONTENT

- Mandate for reviewers: Review sections of the chapter to make sure they reflect today's best practices and identify:
 - What are the issues?
 - Why these are issues?
 - A proposal for solving the issue (adding content, deleting content or modifying content). For additions and modifications, a brief proposal description is sufficient. It does not need to be developed extensively at this stage.
- Target completion date for the technical review: end-of-July

CONFIRMED TECHNICAL REVIEWERS

Section (nb of pages)	Lucio Mesquita (NRCan)	Kelsi Zhang (LBNL)	Andy Walker (NREL)	Erin Gaucher-Loksts (NRCan)	Véronique Delisle (NRCan)	Raji Khouri (Syska Hennessy Group)	Costa Kapsis (University of Waterloo)	Stratos Rounis (Unicel)	Atma Bhawuk (Inter-Island Solar Supply)
1. Solar water heating (21)	X	X				X			X
2. Air preheating (8)	X		X						
3. Passive heating and cooling (10)						X	X		X
4. Combi systems (11)	X	X							
5. Photovoltaics (16)				X	X			X	X

7. Program Subcommittee Update (Atma Bahuk)

Atma will be taking over July 1st. KN informed that draft has been sent to ASHRAE, received feedback but has not reviewed yet. KN will start teaching the class in the next ASHRAE meeting. CK thanked KN for leading this course

CK asked CB for update regarding the seminar: CB informed that the seminar went well, with approximately 50 participants. Overall successful. KN and FL agreed with CB

- Indianapolis Program
[Seminar 2: LIVESTREAM: Electrifying the Future: Decarbonization Strategies for the Built Environment](#)

Sunday, June 23, 8:00 AM – 9:00 AM EDT

Location: JW Marriott – Indianapolis, Grand Ballroom 4

CK talked about seminar proposals for the upcoming meeting in Orlando 2025. The Submission deadline is August 2, 2024:

Seminar A. Electrifying the Future: Photovoltaic in the Urban Environment (Svein Morner as a chair)

Notes

(potentially split into two seminars)

- PV technical potential in roofs (Veronique Delisle)
- Planning renewable energy potential and measures in US (Frank Li)
- BIPV design guidelines (Costa Kapsis)
- BIPV + EV potential for the City of Toronto (Soukaina Jazouli)

Seminar B: Powering a Resilient Future: Microgrid Case Studies (Veronique Delisle as a chair)

Notes

- Electric storage and microgrid (Svein Morner)

- Microgrid in Hawaii (Atma Bhawuk)
- Lac Megantic microgrid (Herve Nouanegue)
- West5 London community (Anna-Maria Sigounis)

CK presented the two ideas for seminars in the TC meeting two weeks ago. Discussed about whether keeping first seminar in one piece or splitting it in two seminars.

CK asked SM if he has found other presenters. SM is happy with 4 presenters. CK to provide SM with presenters contact info.

VD asked which seminar receives less proposals (the 45 min or 60 one. CK informed it is the 60 min seminar.

CK presented 2nd seminar. Many highlighted the need to talk about the microgrid. VD offered to be chair.

SM offered to present case studies. KN suggested sticking to 4 speakers.

CK said that only Herve has not confirmed yet. VD to confirm with Herve. If Herve is unavailable, KN could take his place.

VD suggested offering 3rd seminar on demand side management

CK agreed this is a good idea and asked if there are enough presenters (KN and VD could be presenters). VD suggested M. Ouf

Possible presenters for 3rd seminar:

- KN on electrical storage
- Mohamad Ouf thermal loads
- Coordinate with TC 7.5 on loads or building grid interaction
- VD could handle renewables part

CK to follow up with TC 7.5 and Mohamad Ouf and connect them to KN.

MP offered to do overview on other types of energy storage. CK asked it can be from the side of the grid

JM volunteered to chair to lead 3rd seminar as a chair in order to have separate chair from the presenters.

KN suggested not to be limited to demand side management. VD suggested Flexibility of Distributed Energy Resources

No further discussion.

8. Membership and Outreach Subcommittee Meeting

AMS talked about webinars on the education on TC 6.7. 1st presentation: Climate Change and resilience. Webinar available on YouTube.

AMS created LinkedIn account for TC 6.7 and youtube page where first webinar has been uploaded

8. Membership and Outreach Subcommittee Update (Anna-Maria Sigounis)

AMS could not join. CK presented on her behalf. CK presented the webinars offered so far. All presentation are available on the TC 6.7 YouTube channel. AMS has also created a LinkedIn for the Task.

CK mentioned that the goal is to have 3-4 seminars per season.

JM introduce Kelsi Zang. JM talked about potential improvements to have more people attending and asked for ideas to improve. CB said that promotion is difficult and depends on social media and TC members. CB believes participation will keep increasing. He commended AMS and the work already done on the subcommittee.

CB asked CK regarding Doug`s response. No response yet.

CK highlighted the importance of conveying the work of the TC and how to reach it and suggested the option of podcasts. CB was against this approach.

CK noted that we can proceed as we are doing currently and fine tune the process

CK mentioned VD suggestion about reaching out to local chapters.

VD offered to do her presentation in November and CK could do his in September.

CK to follow up with Kelsi Zang on additional presenters for Seminar B or C

9. Research Subcommittee Update (Costa Kapsis)

CK reviewed and sent draft to JM. Asked JM to share it with TC 2.8. JM to share with them after this meeting.

The revisions have not been approved by this committee. CK to send it to voting members to read and approve within 2 weeks.

CK presented briefly his revisions.

JM mentioned that it is important to mention decarbonization.

CK mentioned that he has restructured the material to reflect that.

CB noted that the term Task Force should be replaced by Center of Excellence on Building Decarbonization.

Chee mentioned it should be submitted to PTAR for approval

JM informed that the work started before the formation of PTAR.

Chee suggested communicating with Donna Daniel to clarify.

No further discussion

10. Standards Subcommittee Update (Marija Torodovic)

CK asked voting members and past chairs regarding standard 95 and 96 to confirm whether they had previously voted to remove 95 and 96 – and adopt the ISO – voting members and chairs confirmed.

CK has not reviewed guide

- Guide for Preparing Active Solar Heating Systems Operation and Maintenance Manuals (1990)

PTAR to update or remove as outdated. Asked members if they are familiar with the guide and what they suggest.

CB said guide is 30-40 years old but there is always value. Suggested that within decarb effort it is going to be useful to have documents like this. Asked for experts to review.

SM agreed updating instead of removing it from circulating. Does not expect support from ASHRAE to rewrite.

KN prefers starting with new document instead of revising, in order to include new systems like PV/T.

TM agreed with SM and suggested the possibility of transferring of some information to solar heating chapter of ASHRAE

CK asked if there is PDF version. SM said he has a scanned version. CK said we need volunteers to form it to PDF and review.

VD inquired about keeping it as is as an option. CK said it is, but it will keep coming back. Options: remove it or ask for PTAR and have expert revise it.

VD asked if the 1990 version is still used. SM replied that it is. VD suggested asking its users about their opinion.

KN noted that most solar collectors already have instructions for maintenance on their web sites. Suggested collecting this information and developing a new guide.

CK to look for equivalent ISO.

CK suggested asking Kurt. CK to reach out

Discussion on conflicting TC schedule – VD to look into it

11. Web Page Update (Svein Morner)

CK to share approved minutes from Chicago with SM

SM asked for the minutes of the last two minutes

CB asked for minutes to include links to the webinars

CK agreed this is a good idea. VD to decide as new chair.

Discussion on low visibility of the TC within ASHRAE

12. Old Business

SM suggested co-sponsoring with TC 2.8. CK to reach out to the chair of 2.8.

JM suggested also looking into TC 2.5. CK informed that he is looking into all relevant TCs

KN noted that there is an opportunity to reach out and partner with key people in industry, solar, solar thermal, storage and have them as partners to the TC.

CB highlighted the importance of adding links on the web site. SM informed about the ASHRAE web policy about not posting commercial links.

VD agreed to include links on web site. CK to provide links to SM

13. New Business

No New Business

14. Adjournment

CB Moved motion to adjourn. JM Seconded

Meeting adjourned at 5.23 EDT