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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. TC 4.1 DATE 6/25/2024

TC/TG/MTG/TRG TITLE Load Calculation Data & Procedures

DATE OF MEETING Monday 6/24/2024 LOCATION JW Marriott Indianapolis, Florida (1)

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Brian Rock (Virtual)				Jim Pegues
Rolando Legarreta				Scott Delo
Chris Wilkins				Russell Taylor
Som Shrestha				James Lowry
Chip Barnaby				Jeff Spitler
Suzanne LeViseur				Liam Buckley
Stephen Roth				Rachel Spitler
Glenn Friedman				Ardi Moftakhari
				Ed Janowiak
				Daniel Howard
				Ng Wenbin
				Guillermo Martinez
DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:				
TAC Section Head: Kyle H.			SH4@ashrae.net	

TC 4.1 Web Site: <https://tc0401.ashraetcs.org/>

All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)	Staff: shammerling@ashrae.org
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.



ASHRAE Technical Committee 4.1

ASHRAE TC 4.1 Load Calculation Data & Procedures

Full Committee Agenda

2024 ASHRAE Summer Meeting
Hybrid Conference
In-Person: JW Marriott Indianapolis, Florida (1)

a. Call to order [2:15 PM EDT] Rolando Legarreta

b. ASHRAE Code of Ethics Commitment Rolando Legarreta
"In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests." (See full ASHRAE Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>)

c. Roll call – Determination of a Quorum Rachel Spitler

Suzanne LeViseur	06/30/2024	Chris Wilkins	06/30/2025
Stephen Roth	06/30/2024	Som Shrestha	06/30/2024
Rolando Legarreta	06/30/2025		
Brian Rock	06/30/2024 (Virtual)		
Chip Barnaby	06/30/2024		

Quorum was determined with 7 of 8 present.

d. Introductions All

- i. In Person Sign-In sheet
- ii. Any updates to the agendas? No.

e. Scope, Mission Statement Rolando Legarreta

Scope: TC 4.1 is concerned with the identification and compilation of engineering data and the development of procedures for calculating heating, cooling, refrigeration, and ventilating loads of structures.

Mission Statement: To serve practitioners by advancing the data and procedures of load calculations.

f. Agenda additions All

g. Liaison reports (as they arrive) Liaisons

a. Section Head Kyle H.

Represents TAC. Help support. Rosters will be due at the next meeting. Remember to get TC activity form to Kyle and Pat by Tuesday. Most important of all: Certificate of Appreciation for Rolando serving as TC 4.1 Chair for the past 2 years.



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h. Chair's Report

Rolando Legarreta

a. Announcement from TC Chairs Breakfast Meeting

- i. Seem like meetings are more about new TCs and how to help out:
- ii. Intros included:
 - i. Code Interaction Subcommittee:
 - ii. CEBC: Center for Excellence in Building Decarb. Used to be Taskforce.
 - iii. GTIC: Global Interactions Committee. What impacts int'l standards: ISO.
 - iv. Residential Building Committee -> May partner with them for anything residential.
- iii. RAC: Gave whole presentation on research.
- iv. That was the entire breakfast meeting. Advertising for the different groups.

i. Approval of minutes from 2024 Winter Meeting

Rolando Legarreta

Voting on Chicago 2024 Meeting Minutes: Chris Wilkins motioned, Suzanne LeViseur seconded.
Vote passes 6-0-0-CNV.

j. Subcommittee reports

i. Programs: Rachel Spitler

- i. Seminar 29: Infiltration: Challenges and Impact to Load Calculations: Rachel Spitler chaired it. Chris W. spoke on Distilling Infiltration Data Info into Load Inputs; Daniel Howard of ORNL spoke about the Sensitivity of Load Calc to Infiltration: 70 people attended.
- ii. Submission deadline for Orlando 2025 Winter Meeting is August 8, 2024.
- iii. The next summer meeting is in Phoenix, AZ: 2025
- iv. Any program ideas?: No strong ideas for Orlando. The subcommittee's recommendation is not to put anything for Orlando. Wait until Phoenix. Orlando has more abstracts than ever. May be tough to get a seminar accepted.
- v. Rolando suggest we redo the BIM to load calcs seminar. Black box?
- vi. What are the needs for going forward for Programs since Rachel is going to be chair starting in Orlando? Another volunteer is needed for Programs Chair with Glenn mentoring.

ii. Research: Ardi

- i. Ardi gave his report toward the start of the meeting since he had to leave prior to the subcommittee reports.
- ii. RP-1816: This is the MRI and medical imaging research project. Glenn F. says that they have gathered data and are working on processing it; however, the pandemic came in 2020 and no one was allowed in hospital. After the pandemic, hospitals did not want to work with the RP team. So, they had to start over. So, now we think they have the data. However, they have gone quiet part of the time. Main thing: is the data any good? No hope of getting data into 2025 HoF. Not releasing any of the data.
- iii. RP-1923: Climatic Design for 2025 ASHRAE Handbook: Project is on-track. There will be a 25-year period of record.
- iv. RP-1857: Heat conduction between building and ground. PES evaluation subcommittee was formed. PMS was never established. Was it awarded? A PMS never got formed. Not sure of status. Chip found on website that contractor is PSU from 2023 – 2025.



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- v. New RTARs/WSSs: Ardi contacted RAC about the peoples' load WS. Still waiting word.
 - 1) Evaluation of ASHRAE design day procedure. Not heard back
 - 2) TC 4.2-> evaluate better statistics for building performance review. Not heard back. Co-sponsoring.
 - 3) Updating procedure for load calculations - Dynamic heating load calc for high performing HP
 - 4) Warm-up loads. Will share with committee.
 - vi. Research has \$5.5M available for funding. Increased max funding for a project to \$350k.
- iii. Handbook: Jim Pegues
- i. TC 4.1 has 2 chapters. At this meeting completed both revisions:
 - Chapter 17: Residential Heating and Cooling Load calcs. Pretty straightforward version. No discussion and revision at subcommittee meeting.
 - Chapter 18: Non-Residential Heating and Cooling Load Calcs: Major change: Need a statement about passive design. Chris W. added a comment about design and extreme weather conditions. We had a good discussion in the subcommittee meeting on these different types of weather data. Need to make a couple revisions (Chris W), send to Steve Bruning, then we will incorporate into Chapter 18 in the 2025 HoF. This revision 95% done.
 - ii. We will still vote on approving the updates for 2025 HoF with the caveat that needs some last-minute approvals and updates from Steve B (See i. above). Chip B. proposes to vote on approving Chapter 17: Suzanne L. 2nds: Comments: Chip: incorporate the design and extreme data into Chapter 17. There is now published data to support extreme weather conditions. Shouldn't change anything in Res chapter yet. Glenn mentioned that this sparks something for standards. Vote: 6-0-0=CNV
 - iii. 2nd motion. Approve Chapter 18 revisions with caveat of additional revisions by Jim/Chris and finalized by Steve B. Chris W. makes motion to approve. Suzanne L. makes 2nd. Vote: 6-0-0=CNV
 - iv. One last item from handbook: 4th item on agenda. Address the need for new consulting engineers by reorg-ing the chapters for 2029. Jim proposes doing this: who is interested. Start web meetings at end of August 2024 to get the process going. Would need to complete it by January 2028.
- iv. Standards: Glenn Friedman
- i. No current update on standards. Just refreshing existing ones.
 - ii. Peak Cooling and Heating Load Calcs in Buildings Except Low-Rise Residential Buildings (183): May have some stuff in standard that does not address extreme weather conditions. Will take a look at the standard based on updates from Chris/Jim/Steve. The next iteration for this standard is 2026. Rolando asked whether to start having meetings. Glenn will send out an email to schedule meetings. Tie the updates of the Standard 183 to the RTAR by Chip, Ardie -> non-steady-state heating analysis. Standard does not have to be reaffirmed until 2028. Glenn wants to reread the standard and make sure not in conflict with standard of care. Typically don't include internal gains, but typical include internal gains.
 - v. Other standards: None
 - vi. Scott Delo: Engineers are looking for guidance about heat pump sizing. Make sure what is published in HoF not in conflict with the standard.



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vii. Web site:

Jim Pegues

Everything is up to date.

k. **Old Business**

Rolando Legarreta

Publications:

Pubs requested that TC 4.1 reevaluate some of the TC 4.1 publications that are starting to become dated:

- i. Annotated guide to load calcs and algorithms: 1996. Literature review prior to the toolkit. Lays out different methods. It's very dated according to Jeff Spitler. There are some newer methods. Don't know how they are selling it. JS wouldn't mind if it went out of publication.

Can we post older docs on data.ashrae.org?

Can we post older books from the 60s somewhere?

Offer it for free?

l. **New Business**

Rolando Legarreta

Rachel Spitler thanked Rolando for his service as TC 4.1 Chair for the past 2 years.

Chip proposed to talk about the HoF chapters reorg since we have time left in the meeting. Jim said he did not have the printed docs so probably not the right time to do it. Rolando said let's start with online meetings in the Fall.

Rolando said put a star next to name on sign-up sheet if want to work on chapter re-org.

m. **Adjourn [3:35: PM EDT]**

Rolando Legarreta

Chris Wilkins motioned to adjourn.