

TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/TRG NO.: TC 4.1 DATE: December 30, 2013

TC/TG/TRG TITLE: LOAD CALCULATION DATA AND PROCEDURES

DATE OF MEETING: June 24, 2013 LOCATION: Denver, CO

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
<b>Voting</b> Rolando Legarreta Chip Barnaby Dan Fisher Glenn Friedman Doug Hittle Suzanne LeViseur Som Shrestha Bob Doeffinger  <b>Non-Voting</b> Stephen Roth Jeff Spitler Chris Wilkins Steve Bruning Jim Pegues Larry Sun Fred Bauman	2012 2010 2011 2009 2011 2011 2012 2012	<b>Voting</b> [none]  <b>Non Voting</b> Lucy Armankwah David Ariyo Andrew Braum Jui-Chen Roger Chang Charlie Curcija Joe Ferdleman Stephen Kavanaugh Ken-Ichi Kimura Brian Rock Branislav Todorovic Gary Wingfield Gabrielle Powell Ahmad Sleiti Kevin Wood		<b>Visitors</b>  Elyse Malherek Harris Sheinman - Liaison Bill Mohs Jimmy Kim Laura Southard Trevor Holbrook Dustin Wales Bryan Beyers Rob Hitchcock

DISTRIBUTION:

All Members of TC/TG/TRG

ADDITIONAL DISTRIBUTION:

TAC Chairman: William F. McQuade  
 TAC Section Head: Michael R. Bilderbeck  
 Chapter Tech Transfer: Harris M. Sheinman  
 Research Liaison: Dr. Srinivas Garimella  
 ALI/PDC: Donald L. Brandt  
 Special Publications: Francis A. Mills  
 2013 HB Fundamentals: Peter Simmonds, PhD  
 Standard Liaison: Cecily M. Grzywacz  
 Manager of Standards: Stephanie C. Reinche  
 Staff Liaison: Michael R. Vaughn

"These draft minutes have not been approved and are not the official, approved record until approved by this committee."

**June 24, 2013**  
**Committee Meeting Minutes**  
**TC 4.1 Load Calculations Data and Procedures**  
**Denver, CO**

1. Meeting called to order by Rolando Legarreta at 2:15 p.m.
2. Roll Call
  - a. 6 of 8 voting members present.
  - b. Quorum present.
3. Introductions
4. Dallas Meeting Minutes Action
  - a. Motion to approve Denver minutes as submitted: Glenn Friedman.
    - Second: Suzanne LeViseur.
    - Vote 5-0-0 2 absent, CNV.
5. Liaison Report
  - a. J.R. Anderson – Standards Liaison.
    - Individuals outside ASHRAE may serve on Standards Committee or TC-PC's.
    - TC 7.9 sponsoring TC – Standard 202 “Commissioning” was approved at the Denver meeting.
  - b. Mike Bilderbeck, TAC Section Head.
    - Requested number of YEA members and Student members.
    - Requested website status; Jim Pegues said it is up and running.
    - Section 4 TC's have challenges getting on program. A TRAC is open for Section 4 for programs at Chicago meeting.
6. Research Subcommittee Report – Chris Wilkins
  - a. PMS.1616 – Jim Pegues, PMS Chair.
    - Draft due in July, quick turnaround by PMS.
    - Publish for NYC meeting.
    - Letter ballot for TC approval in fall.
    - PMS satisfied with progress.
  - b. RTAR – 1681 Energy Efficient Lighting.
    - Approved for Work Statement.
    - W.S. Submission deadline is August 16<sup>th</sup> for NYC approval.
  - c. TC 4.10 Chair contacted by Chris for Tall Industrial Space Work Statement RTAR input and contact.
  - d. Subcommittee moving forward on RTAR “Experimental Validation of Empirical Approach for Radiant and Non-uniform Temperature Surfaces,” report status next meeting.

- e. Research Subcommittee Breakfast.
    - Funding positive and ASHRE is looking for projects.
    - 50% of all RTARS are reject, many too long.
    - New PDF form is available for RTARS.
  - f. Chip Barnaby to check with TC 4.2 Chair on status of Clear Sky Research Project.
7. Programs/Standards Subcommittee Report – Glenn Friedman
- a. Chairman Friedman submitted the attached Program/Standards Denver Subcommittee Minutes.
  - b. Chairman Friedman requested a vote for two seminars in NYC as listed in Subcommittee Minutes.
    - So Moved: Suzanne LeViseur.
    - Second: Chip Barnaby.
    - Vote: 5-0-0, 2 absent, CNV.
  - c. Discussed possible Seattle presentations.
  - d. Discussed future topics.
  - e. Standards:
    - Chairman Friedman discussed SPC-203 Method of Test for Determining Heat Gain of Office Equipment Used in Buildings.
    - SPC-203 does not have a balanced committee, need help in finding producers to serve.
    - SPC-183 Load Calculations remains active.
8. Handbook Subcommittee – Steve Bruning
- a. Handbook Chapter 18 and Chapter 17 are complete.
9. Old Business
- a. Chris Wilkins discussed new research and paper at Denver, “Blinds – More Load or Less Load.”
  - b. John Wright – Waterloo on TC 4.1 sponsored research indicated more convective load with blinds not increase in load. Chip Barnaby will compare Waterloo Research and new research and report to committee.
10. New Business
- a. Chip Barnaby reported a Joint Conference ASHRAE and IBPSA-USA September 10-12, 2014 in Atlanta devoted to modeling building performance.
  - b. Chip Barnaby discussed Use Guidelines SGPC-20. Stephen Roth, Steve Bruning, Glenn Friedman and Larry Sun are to work with Chip on developing the SGPC.
11. Motion to Adjourn: Suzanne LeViseur
- Second: Glenn Friedman.
  - Vote: 6-0-0, 1 absent CNV (an additional Member present).

Attachments:

1. Sign-In Sheet
2. Denver Agenda
3. Program Subcommittee Report

TC 4.1 Sign-In Sheet - Denver June 2013

	2013 June	Name	Status	Affiliation	E-mail	YEA
1	✓	Bob Doeffinger	VM	ZMM, Inc.	red@zmm.com	
2	✓	JIM ASBES	CM	CARRIER CORPORATION	James.F.Asbes@carrier.ctr.com	N
3	✓	Math Mitchell	—	Oklahoma State University	math-s-mitchell@okstate.com	
4	✓	Laura Southard		Oklahoma State University	laura.southard@okstate.edu	
5		LARRY SU		tk12	lsun@tk12.com	
6		Ningyue Wang		Oklahoma State University	ningyue.wang@okstate.edu	
7		Sudha Sikka		Oklahoma State University	sudha.sikka@okstate.edu	
8		Rachel Grundmann		Oklahoma State University	rachel.grundmann@okstate.edu	
9		Steve Kavanaugh	CM	Univ. of Alabama	skavanaugh@eng.ua.edu	
10		BRANDON		Anderson Engineering	JRHAZEL@OUTLOOK.COM	
11		Steve Brunsing	NMV	Norand & Boyd	sbrunsing@norand-boyd.com	
12	OSU	Chip Barnes	VM	UWrightsoft Corp	chearnab@uwrightsoft.com	
13		Suzanne Lalisseur	VM	HAPPAD ENGINEERING, INC.	slevisseur@haddadeng.com	N
14		Dan Fisher	VM	Oklahoma State Univ.	dfisher@okstate.edu	
15		Glenn <del>Friedman</del>	VM	Taylor Engineering	gfriedman@taylor-engineering.com	N
16		Jane Wilkins	CM	Hellam-ics	awilkins@hellam-ics.com	N
17		Rachel Spithar		Oklahoma State University	rachel.spithar@okstate.edu	
18		Lu Xing		Oklahoma State University	lxing@okstate.edu	
19		Ramandeep Singh		Oklahoma State University	ramandeep.singh@okstate.edu	
20		Rolando Legareta	VM	ALZANO ENGINEERING	rlegareta@alzano-engineering.com	N
21		JEFF SPITHAR	CM	OSU	spithar@okstate.edu	
22		Stephen Roth	CM	Carmelsoft	sroth@carmelsoft.com	
23		Som Shrivastha	VM	ORVL	shrivastha@ornl.gov	
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# ASHRAE Technical Committee 4.1

## Agenda for - TC4.1 Load Calculation Data & Procedures

**Denver**  
**June 24, 2013**

**TC4.1 Load Calculation Data and Procedures**  
**Monday, 2:15 PM to 4:15 PM**  
**Governor's Square 9 Plaza Building Concourse**

- |  |                    |
|--|--------------------|
| 1. Call to Order   | Rolando Legarreta  |
| 2. Roll Call   | Robert Doeffinger  |
| 3. Introduction of Visitors                              | Rolando Legarreta  |
| 4. Approval and/or Corrections to Dallas Meeting Minutes | Rolando Legarreta  |
| 5. Liaison Comments                                      |                    |
| TAC Chair  | William McQuade    |
| Section Head   | Michael Bilderbeck |
| Chapter Technology Transfer                              | Harris Sheinman    |
| Research   | Srinivas Garimella |
| Handbook   | Peter Simmonds     |
| ALI/PDC  | Donald Brandt      |
| Standards Liaison  | Cecily Grzywacz    |
| Staff Liaison  | Michael R. Vaughn  |
| Special Pubs   | Francis Mills      |
| 6. Research Subcommittee Report                          | Chris Wilkins      |
| 7. Programs Subcommittee Report                          | Glenn Friedman     |
| 8. Standards Subcommittee Report                         | Glenn Friedman     |
| 9. Handbook Subcommittee Report                          |                    |
| Residential Chap 17                                      | Chip Barnaby       |
| Non-Residential Chap 18                                  | Steve Bruning      |
| 10. ASHRAE Website for TC 4.1                            | Jim Pegues         |
| 11. Old Business   | Rolando Legarreta  |
| 12. New Business   | Rolando Legarreta  |
| 13. Adjournment  | Rolando Legarreta  |



# ASHRAE Technical Committee 4.1

## Meetings – Denver, June 2013

### **TC 4.1 Load Calculation Data and Procedures**

**Monday 2:15-4:15p, Governor's Square 9 (PC)**

### **TC 4.1 Handbook**

**Sunday 3:00-4:00p, Suite 3766, Plaza Building (Seventh Floor)**

### **TC 4.1 Research**

**Sunday 4:00-5:00p, Suite 3766, Plaza Building (Seventh Floor)**

### **TC 4.1 Programs & Standards**

**Sunday 5:00-7:00p, Suite 3766, Plaza Building (Seventh Floor)**

### **TC 4.1 RP-1616 PMS**

**Day, Time (Room) TBD**

### **SPC 203**

**Saturday 1:00-3:00p (Gold) TZ**

Introduction of officers and voting members for 2013:

Rolando Legarreta	Chair	Voting
James Pegues	Vice Chair	Non-Voting
Robert Doeffinger	Secretary	Voting
Steven Bruning	Handbook Subc Chair	Non-Voting
Chris Wilkins	Research Subc Chair	Non-Voting
Glenn Friedman	Stds/Prog Subc Chair	Voting
Chip Barnaby		Voting
Dan Fisher		Voting
Doug Hittle		Voting
Suzanne LeViseur		Voting
Som Shrestha		Voting

**TC 4.1 Meeting, Programs/Standards Committee Meeting Minutes**  
**Denver, Monday, June 24, 2013**

Glenn Friedman, Program Chair

**PROGRAMS**

1. Current Programs
  - a. Denver: None
2. Future Programs
  - a. New York, January 18-22, 2014
    - i. Tracks: <http://ashraem.confex.com/ashraem/w14/cfp.cgi>
    - ii. #1 - Back to Basics: The Science, Application and Art of Load Calculations. Applicable to young engineers. Track 2: Fundamentals and Applications, Track Chair: Dan Fisher
      1. Science: New ASHRAE Load Calculations User's Manual and the current overview of load calculations, by Jeff Spitler
      2. Application: Zoning and load calculation basics, what do you do early in design when you don't have all the answers, by Larry Sun
      3. Art: Case studies, horror stories, what to watch for, and odd-ball cases, by Steve Bruning
    - iii. #2 - RESUBMIT: Mobile applications seminar, *Roth, Manufacturer (Carrier), Chip*, TC1.5 Computer Applications would like to co-submit with TC4.1. Approved unanimously for Denver and now up for resubmission.

**Presentations**

Contact Presenter	Presentation	Speakers
<a href="mailto:stephenroth@gmail.com">stephenroth@gmail.com</a>	<a href="#">11737 - Recent Advances in Mobile Load Calcs</a>	<b>Stephen Roth, P.E., Member</b> , Carmel Software Corp., San Rafael, CA
<a href="mailto:cbarnaby@wrightsoft.com">cbarnaby@wrightsoft.com</a>	<a href="#">11738 - Residential Load Calculations and Equipment Selection in a Mobile Environment</a>	<b>Charles S. Barnaby, Member</b> , Wrightsoft Corp., Lexington, MA
<a href="mailto:taylorrd@utrc.utc.com">taylorrd@utrc.utc.com</a>	<a href="#">11740 - Development of Mobile Applications for Rapid Building Retrofit Assessment At the Feb Hub</a>	<b>Russell Taylor, Ph.D., Member<sup>1</sup></b> , Robert M. Leicht, Ph.D. <sup>2</sup> , Stella M. Oggianu, Ph.D. <sup>1</sup> and Marija Trcka, Ph.D., Member <sup>1</sup> , (1)United Technologies Research Center, East Hartford, CT, (2)The Pennsylvania State University, State College, PA

“This mobile apps presentation is a concern for ASHRAE’s commercialism process.”

Moved

- b. Seattle, June 28-July 2, 2014
  - i. BIM and Load Calculations Seminar Update, *Roth, Bruning, Wilkins*. This will take timer and work so maybe for Seattle or beyond. Work with MTG- BIM (MTG=Multidisciplinary Task Group). John Kennedy alleges there are improvements.
- c. Chicago, January 24-28, 2015
- d. Atlanta, June 27-July 1, 2015
3. Future Program Ideas
  - a. Seminar Session Proposals

**TC 4.1 Meeting, Programs/Standards Committee Meeting Minutes**  
**Denver, Monday, June 24, 2013**

- i. Atrium load calculations, empirical case studies
- ii. Ventilation and infiltration
- iii. How Load Calculations Interact with Other ASHRAE Chapters
  - Weather
  - Infiltration
  - Building skin color
  - Ventilation
  - Fenestration, dynamic windows
- iv. Business Practices Risks of Loads Calc Codes Being so Hidden, *TC1.7 Legal*
- v. Forum on what is the Standard of Care for load calculations. Mitchell Swan.
- vi. Radiant System Research Results seminar *Dove*, Phase Change (Hittle)

**STANDARDS**

1. Standard SPC-203 Method of Test for Determining Heat Gain of Office Equipment Used In Buildings
  - a. Still short of Producer members so the committee lacks balance
  - b. Advisory Public Review end August 6, 2013
2. Discussed status of SPC-183 Load Calculations