

TECHNICAL COMMITTEE 2.8 – Meeting Notes: Annual Conference – Montreal

MEETING MINUTES –June 2011

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING
ENGINEERS, INC.

1791 Tullie Circle, NE / Atlanta, GA 30329

404-636-8400

TC/TG/TRG MINUTES COVER SHEET

TC/TG/TRG No. TC 2.8 DATE: July 03, 2011

TC/TG/TRG TITLE: Building's Environmental Impact and Sustainability

DATE OF MEETING: June 26, 2011 LOCATION: Fairmount – The Queen Elizabeth, Montreal, QC

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS & ADDIT'L ATTENDANCE
Tom Lawrence (Chair)	2008	Raymond Man-Hung	2009	Kevin Brown
John Swift	2009	Steven Baumgartner	2010	Dave Grumman
Dunstan Macauley	2009	J. Kevin Cross	2010	William Coad
H. Jay Enck	2008			Paul Torcellini
Andrew Price	2009			Doug David Fick
Frank Mills	2009			Marshal Zabel
Ashish Rakheja	2009			Thomas Kelly
Donald Brundage	2009			Tom Cappellin
Michael Deru	2009			Ng Kong
Malcolm Lewis	2009			Locke Hutson
Janice Means	2010			David Ellis
Vikas Patraik	2007			Stanton Stafford
Mitchell Swann	2008			Keith Reihl
				Mark MacCracken
				Lisa Ng
				Diotima von Kempfski
				Van Baxter
				Ray Sinclair
				Brett Van Horn
				Brian Fricke
				Dick LeClaitle

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DISTRIBUTION

ALL MEMBERS OF THE TC/TG/TRG

TAC CHAIR	Charles C. Wilkin
TAC SECTION HEAD	Brian Fricke
SPECIAL PUBLICATIONS LIAISON	John A. Clark
STANDARDS LIAISON	Hoy Bohanon
HANDBOOK LIAISON	Jeff Traylor
RAC RESEARCH LIAISON	Iain Walker
CTTC LIAISON	Jean-Gabriel Joannette
ALI LIAISON	Florentino Mendez
STAFF LIAISON (RESEARCH)	Michael Vaughn
STAFF LIAISON (STANDARDS)	Stephanie Reinche

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

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TC/TG/TRG MEETING SCHEDULE					
LOCATION – past 12 months		DATE	LOCATION - planned next 12 months		DATE
Las Vegas, NV		Jan 2011	Chicago, IL		Jan 2012
Albuquerque, NM		June 2010	San Antonio, TX		June 2012
TC/TG/TRG SUBCOMMITTEES					
Function			Chair		
International Program Handbook Research Green Guide Existing Buildings			Ashish Rakheja, Frank Mills Kevin Brown Dave Grumman Andy Price John Swift Dunstan Macauley		
RESEARCH PROJECTS – Current			Monitoring	Report Mode	
Project Title		Contractor	Comm.Chm.	At Meeting	
LONG RANGE RESEARCH PLAN					
Rank	Title	W/S Written	Approved	To R & T	
HANDBOOK RESPONSIBILITIES					
Year & Volume	Chapter Title	No.	Deadline	Handbook Subcom. Chair/Liaison	
2009 Fundamentals	Energy Resources	34		Brundage/ Bansal	
2009 Fundamentals	Sustainability	35		Grumman/Bansal	
STANDARDS ACTIVITIES - List and Describe Subjects					
TECHNICAL PAPERS from Sponsored Research - Title, when presented (past 3 yrs.)					

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present & planned)

Appendix 3

TC/TC/TRG Sponsored Conference Papers - Title, when presented (past 3 yrs. present & planned)

Appendix 4

TC/TG/TRG Sponsored Seminars - Title, when presented (past 3 yrs. present & planned)

Appendix 5

TC/TG/TRG Sponsored Forums - Title, when presented (past 3 yrs. present & planned)

Appendix 6

JOURNAL PUBLICATIONS - Title, when published (past 3 yrs. present & planned)

Lawrence, T.M., 2008, "Selecting CO₂ Criteria for Space Monitoring", *ASHRAE Journal* 50(12):18-27.

Lawrence, T.M., J. Perry and P. Dempsey, 2010, "Making Every Drop Count: Retrofitting Condensate Collection on HVAC Air Handling Units", *ASHRAE Journal* 52(1):48-54.

Lawrence, T.M., and J. Perry. 2010, "The Collection of Cooling Coil Condensate in High-Performance Buildings", *High Performance Buildings* 3(4):56-61.

Lawrence, T.M., J. Perry and P. Dempsey, 2010, "Predicting Condensate from HVAC Air Handling Units", *ASHRAE Transactions* 116(2):3-15.

Appendix 1

RESEARCH PROJECTS

TC 2.8 Research Projects Status

No active projects at this time, several RTARs in process.

Active projects

#	Title	Joint TC	Cognizant Subcommittee/ Contractor	PMSC	Dates / status

Appendix 2

RESEARCH PLAN

**Technical Committee 2.8
 Research Plan**

The following outlines the current status in the development of our research objectives and plan.

Title	TC Priority	Prior TC priority	Society status	TC Status	Sub-com
<i>See Research Plan and summary at end of these meeting minutes</i>					
One RTAR voted out by the committee at the Albuquerque meeting (Originally approved in Orlando. The RTAR was misplaced and therefore has to be re-submitted) “Measurement of Energy Performance of ASHRAE Energy Design Guides (AEDG)”	1			Voted for submission (15-0-0)	

Appendix 3

TECHNICAL PAPERS FROM SPONSORED RESEARCH

No projects completed at this time

RP	Title	Contractor	Approved	Paper

Appendix 4

TC/TG/TRG SPONSORED Programs

PRESENT:

Montreal, 2011

Seminar 12
(Co-Sponsored
with 7.6)

**Methodologies for Determining
Environmental Impacts of Buildings**

*Chair: Andrew Price, P.E., Member,
Stanley Consultants, Muscatine, IA*

Sunday, June 26, 2011,
11:00 AM-12:30 PM

**Conference
Paper Session 8**

**Improving Performance of Refrigeration
Systems**

*Jeff Traylor, P.E., Member,
EMCOR Facilities Services, Durham, NC*

Monday, June 27, 2011,
11:00 AM-12:00 PM

Seminar 40
(Co-Sponsored
with 8.6)

**An Overview of Proposed Standard SPC
191, The Efficient Use of Water in
Buildings**

*Chair: John Swift Jr., P.E., Member,
Cannon Design, Boston, MA*

Tuesday, June 28, 2011,
9:45 AM-10:45 AM

LANNED:

Chicago, 2011

- See TC 2.8 Program Plan attached to minutes

P

ASHRAE TC 2.8 - Building's Environmental Impact and Sustainability

ANNUAL 2011 MEETING (Montreal)

ACTION ITEMS

1. **Roll call and Introductions** Lawrence

- 1.1. Meeting called to Order w/ Quorum at 5:00
- 1.2. Roll Call
- 1.3. Introduction

2. **Accept Agenda/Approve Minutes of Las Vegas Meeting** Lawrence

- 2.1. Approval of Minutes:
 - 2.1.1. Motion by A. Price.
 - 2.1.2. Seconded by M Swann.
 - 2.1.3. Minutes approved unanimously with no amendments (12-0-0).

3. **Announcements/Membership/Listserv** Lawrence

- 3.1. Lawrence expanded on 9 years on committee since inception.
- 3.2. Wanted to bring a more international presence to the committee.
 - 3.2.1. Ashish Rakheja will become new Secretary.
 - 3.2.2. John Swift becomes new Chair
 - 3.2.3. Dunstan Macauley new Vice Chair.
- 3.3. The procedures for signing up for the listserv were discussed.
- 3.4. The TC has continued to do quality programs.
- 3.5. The TC has had some difficulty in sponsoring research projects; this is partially due to the fact that we are a broad base TC and our research topics crosses over to other TC's.
 - 3.5.1. One thing that did not work out well was increase coordination with other TC's; but now we have the new Multi-task group (MTG) concept.
- 3.6. The TC website was transitioned to the ASHRAE site.
- 3.7. 3rd edition of GreenGuide was published.
- 3.8. Sustainability Chapter of the handbook was completed.
- 3.9. Biggest accomplishment is international chapter.
- 3.10. Has a good group of members.

4. **Standing Committee Liaisons (TAC/RAC/StdCom/Program/SpecPub/ALI)**

- 4.1. TAC
 - 4.1.1. Brian Fricke present certification of appreciation to outgoing chair.
- 4.2. RAC
 - 4.2.1. No Liaison present.
- 4.3. Standards
 - 4.3.1. No Liaison present.
- 4.4. Programs
 - 4.4.1. D. Macauley discussed upcoming meetings and revisions to the structure. For the 2012 San Antonio Annual Conference, the Integrated Building Systems track, chaired by Mike

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McDermott, is envisioned to have a mini-track. The goal is to work with specific TC's, such as 2.8, to develop a coordinated set of programs for the mini-track.

4.5. Special Publications

4.5.1. No Liaison present.

4.6. ALI

4.6.1. No Liaison present.

5. **Subcommittee Reports**

5.1. **Research-** . Andy Price

5.1.1. Proposed RTAR 3817 has been resubmitted. Feedback from RAC is we addressed their needs.

5.1.1.1. If RTAR get approved, we will need to develop work statement.

5.1.2. Looking into MTG as a means for collaborating with other TC's to develop research topics.

5.1.3. Please contact Andy Price with and research ideas.

5.2. **Programs-** Kevin Brown.

5.2.1. TC to submit Low Carbon Cities seminar for Chicago

5.2.2. Joint seminar with ASSA is also planned for Chicago.

5.2.3. A forum for the GreenGuide is to be submitted for Chicago. The purpose is to get feedback on the direction of future editions.

5.2.4. Seminar panel discussion on role of fossil fuels on sustainability. Will attempt to get panel to submit for Chicago, if not, will submit for San Antonio.

5.2.5. M. Swann presented an idea for a series of programs sponsored by multiple TC's. 2.8 is interested in co-sponsoring.

5.3. **Hand Book** - Dave Grumman

5.3.1. TC is responsible for two handbook chapters: "Energy Resource" and "Sustainability"

5.3.2. Approval required within eighteen months. Sustainability chapter due by March 8 2012 and has to be approved at the Chicago Winter Conference. Proposed draft will be issued to voting members and vote is due on chapter in Jan.

5.3.3. Energy Resources chapter is due by July 31 of 2012. Due to the publishing date of the Energy Outlook data by the Energy Information Administration, the final version of the chapter is allowed to be turned in late so that the data is not more than three years outdated when the handbook is published. Approval is required at the San Antonio Annual Conference.

5.3.4. Some minor edits were required to the sustainability chapter.

5.3.5. First draft of energy resources chapter will be issued in Jan. 2012.

5.3.6. Looking for volunteers to review chapters. Please contact Dave Grumman.

5.4. **Green Guide** - John Swift

5.4.1. Confirm with ASHRAE that GreenGuide will now be on 3 year maintenance cycle.

5.4.2. Need to investigate what are the next steps to take green guide to next level.

5.4.3. Will commission survey to get feedback on GreenGuide.

5.5. **International** – Ashish Rakheja / Frank Mills

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- 5.5.1. A. Rakheja and F. Mills are on Publications Committee and can provide an international perspective
- 5.5.2. International committee to look at standards to see how they can help countries without building standards.
- 5.5.3. Will create liaisons with Region 13, 12,7 and RAL.
- 5.5.4. Discussed certification from an international perspective.

5.6. **Standards –**

- 5.6.1. SSPC 90.1 will develop checklist to verify buildings are meeting the requirements of 90.1. SSPC 90.1 will coordinate with commissioning TC. The Cx TC wants any standard that references commissioning to include a member from the TC on the standards committee.
- 5.6.2. SSPC 189.1 and Standard 189.1 Design, Construction and Operation of High Performance Green Buildings (Harvey) through Addenda T.
- 5.6.3. Will be a 2011 version to coincide with IGCC
 - 5.6.3.1. 189 User Guide for 189.1 is now available in the book store. Committee meeting will be on Tuesday and Wednesday.
 - 5.6.3.2. Discussed work plan for continuous maintenance of standard and harmonization with IGCC.
- 5.6.4. SPC 189.2P Design, Construction and Operation of High Performance Green Healthcare Facilities (Fick)
 - 5.6.4.1. In Las Vegas voted to issue an advisory public review.
- 5.6.5. SPC 191P Standard for the Efficiency Use of Water in Building, Site and Mechanical Systems (J. Swift).
- 5.6.6. End of July for letter ballot to issue first public review.

5.7. **Web Site** - Dunstan Macauley

- 5.7.1. Please provide recommendations on improving the Website.

5.8. **Existing Buildings** – Dunstan Macauley

- 5.8.1. D.Macauley to develop title, purpose, and for the sub-committee, which will be used to determine the direction of the sub-committee.
- 5.8.2.

6. **Related Activities**

- 6.1. LEED (USGBC – ASHRAE Interaction) - (Jay Enck)
 - 6.1.1. LEED 2012 has been thru first for public review.
 - 6.1.2. LEED 2012 will be out for second public review in July.
- 6.2. Advanced Energy Design Guides– (Paul Torcellini)
 - 6.2.1. Now working on 50% series.
 - 6.2.1.1. Small and medium have been issued.
 - 6.2.1.2. K-12 is in final review.
 - 6.2.1.3. Large hospital (1st quarter) and retail (end of the year) are in works.
 - 6.2.2. Any feedback please contact P. Torcellini.
 - 6.2.3. In discussion within ASHRAE and DOE to determine how widely used are the guides.
- 6.3. Green Globes/GBI (Harvey J. Bryan)

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6.3.1. No Report

6.4. Standard 189.1 ALI courses

6.4.1. High Performance Building Design using 189 (new ALI course).

6.4.1.1. Online e-learning course. First model ready this year

6.5. DASH (Michael Deru)

6.5.1. No Report.

6.6. Design towards NZEB Short Course (Frank Mills / Dunstan Macauley)

6.6.1. The course had to be shortened; the presentation in Las Vegas ran a little long. Added more case studies. Discussion on breaking course into two, a beginner course, and a more advanced version.

7. Input from other TCS

7.1. Basic discussions of the work done within a couple of other TCs were briefly discussed.

7.1.1. Energy Modeling Course was a success. Initial plans for a the course to be presented next year.

8. Old Business- no other reports

8.1. Environmental Health in Green Buildings

8.1.1. Asked to comment on position document. Complined comments and no comments received.

9. New Business

9.1. Potential new standard on energy modeling integrated into building design proposed by Jason Glaser.

9.1.1. Looking for endorsement from 2.8 to convince ASHRAE that standard is needed.

9.1.2. D. Brundage moved, J Means seconded that TC2.8 supports the concept that ASHRAE form a standards project committee (10-2-0 CNV)

9.2. Potential new working group on Green Life Cycle Cost Analysis

9.2.1. Members council is looking for MTG

9.2.2. Recommend to use the listserve as a forum to discuss concept. Will have a deadline when posted.

9.3. 60% draft review of Performance Measurement Protocols Best Practices.

9.4. Announcements from incoming chair John Swift

9.4.1. Thanked Tom Lawrence for his hard work as Chair.

10. Adjourn

10.1. Motion by J. Means.

10.2. Seconded by A. Price.

10.3. Motion passed unanimously (14-0-0).

TC 2.8 Web Site

www.tc28.ashraetcs.org

TC 2.8 E-mail List

This list is only for communications related to ASHRAE TC 2.8 Building Environmental Impacts and Sustainability. Do not distribute messages of any commercial nature.

To subscribe or unsubscribe to the list, you can go to the TC 2.8 list web site:
<http://lists.onebuilding.org/listinfo.cg/tc28-l-onebuilding.org>

To send a message to all subscribers to the list, address your message to:

tc28-l@lists.onebuilding.org

Note: ASHRAE does not operate this list. Please do not ask them for help. If you have any questions, please contact: Jason Glazer JGlazer@gard.com

Thanks to Jason and GARD Analytics for hosting this list!

RESEARCH PLAN (See Research Report above)

January 2011

RESEARCH TOPICS (not listed in order of priority)

1. Measurement of Energy Performance of ASHRAE Energy Design Guides (AEDG)
Author: E Mitchell Swann, Kevin Cross, Paul Bertram
Possible co-sponsors: TRG4, TC 7.1, TC 7.6, TC 7.8, TC 7.9
Submitted to ASHRAE, Comments have been received, working on changes.
2. Control practices present in buildings and trade-offs with defined “green” practices or goals (possible precursor to guidelines).
Author: Vikas Patnaik, Andrew Price, Mark Harris
Possible co-sponsors: TC 1.4
3. Documenting performance of high performance buildings using Standard 189.1-2009 by applying the ASHRAE Performance Metrics Protocol (PMP) and the ASHRAE building labeling method.
Author: Mitchell Swann, Michael Duru, Dunstan Macauley, Tom Kelly
Possible co-sponsors: TC 7.6
4. Towards new indoor air quality criteria by understanding the perception and sensation of occupants.
Author: Diotima von Kempster, Janice Means
Possible co-sponsors: TC 2.1
5. Integrated sensors in buildings for continuous monitoring.
Author: Janice Means, Jay Enck, Doug Fick, Tom Kelly, Mark Harris
Possible co-sponsors:
6. Condensate collection and use.
Author: Tom Lawrence, Andrew Price
Possible co-sponsors:
7. How can HVAC&R Systems respond to Peak Load Reduction
Author: Tom Lawrence, Andy Price, Daryn Cline
Possible co-sponsors:

CO-SPONSORED

1. Comparative study of energy and water usage for HVAC systems using evaporative, dry or hybrid cooling equipment.
Author: Tom Bugler
Possible co-sponsors: TC 8.6 (lead), TC 3.6, TC 2.8, SPC 191
2. Energy use for air conditioning and its effects on office productivity in hot-humid tropical regions.
Authors: Eric Adams, Pawel L Wargocki, David Wyon
Possible co-sponsors: TC 2.1 (lead), TC 2.5, TC 2.8, TC 5.12, TC 7.6

ADDITIONAL IDEAS

- Impact of tenant behavior on building performance.
- Documenting persistence of high performance buildings.
- What information do building operators need to maintain and operate a green building?
- Sustainability Assessment of Absorption, Adsorption, and Vapor Compression Chillers.

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- Utility management practices (smartgrid, etc.) and impact on HVAC performance, reliability and “green” practices (will smartgrid achieve its desired result at the expense of HVAC equipment/customers?)
- What are best “green” maintenance practices and what building management, control or system functions are necessary to support them?
- ASHRAE 62 requires mechanical ventilation & natural ventilation. Comfort & Energy Impact
- How can building systems respond to peak reduction.
- Real time pricing and the impact on high performance buildings.
- What water chemistry is allowed for irrigation.
- Ammonia Systems for Building Systems.
- Light Pollution
- Heat Island Effect on Building Loads
- Strategy 1.1 Develop design guidance to integrate indoor environmental quality (IEQ), energy efficiency and other aspects of sustainable building performance.
- Strategy 1.2 Lead the drive toward the design, construction and operation of net-zero-energy buildings through research, publications and education.
- Strategy 1.3 Develop performance metrics and rating systems to certify operational performance of buildings for energy efficiency and IEQ.
- Strategy 1.4 Provide training, guidance and tools for building operators.
- Strategy 1.5 Conduct research and develop guidance to enhance the effectiveness of maintenance procedures.
- Strategy 1.6 Promote the use of life-cycle-cost analysis to building owners that will encourage sustainable building construction, operation, and renewal.
- Strategy 1.7 Collaborate with other organizations to integrate HVAC&R systems with other building systems to enhance the effectiveness of Total Building Design and Integrated Practice.
- Strategy 1.8 Promote research leading to the development of equipment & systems that support sustainable buildings.