

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Page 1

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

TC/TG/TRG NO: **TC 9.9** Date: **January 19, 2009** Location: **Chicago IL, USA**

**TC/TG/TRG TITLE: Mission Critical Facilities, Technology Spaces and
Electronic Equipment**

“Copyright symbol ©2009 ASHRAE. All rights reserved. This is a draft document intended for review only by the cognizant ASHRAE groups and other designated reviewers and is not for the distribution to any private interests, individuals, third parties that are not designated as ASHRAE reviewers for this document. This document may not be distributed in whole or in part to either paper or digital form without the express permission of the chair of the committee originating this document. The appearance of any technical data or editorial material in the draft document does not constitute endorsements, warranty, or ASHRAE expressly disclaims same”

General Meeting on January 19th - Call to order

Fred Stack called the meeting to order at 2:15 p.m. The agenda was reviewed, also previewed the working group meetings scheduled for Tuesday.

Attendees

Name	Company
TC 9.9 General Session Chicago Jan 2009	
Attendees	
Art Giesler	Permalert
Magnus Herrlan	ANCIS
Bill Tschudi	LBNL
Bill Pienta	Siemens
Michael Hotland	Navy
John Weale	Rumsey Engineering
Jeff Rauenhorst	Federspiel Control
David Copeland	Sun Microsystems
Tom Davidson	DLB Assoc
Liangy Downey	Nextel
Geoff Lawler	Stuls-ATS
John Bean	APC
Devin Rauss	Southern Cal Edison
Tim McCann	SGI
Chris Malone	Google
Jeff Rutt	DOD
Gerald Wyatt	Raytheon
Shlomo Novatny	Vette
Zhaoxia Luo	Huawei
Andrew Baxter	Page Southerland Page

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Page 2

Ecton English	DOD
Doug McLellan	HP-EYP
Izuh Obinelo	Senergy Thermal
Bob Sullivan	Uptime Institute
Christian Belady	Microsoft
Chris Kurkjian	JP-EYP
Fred Stack	Emerson
Vali Sorel	Syska -Henessey
Mark Hydemann	Taylor Eng
John Groenewold	
Greg Jeffers	McKinneys
Craic Crader	Bick Group
Herb Villa	Rittal
Kurt Liebendorfer	Stellar
Bruce Gray	World Wide technology
David Moss	DELL
David Swensen	Affinity Static Controls
Munther salim	HPCFS
Tim Kittla	Hypertect
Jeff Johnson	Hypertect
Michalel Saluador	CME Group
Mark Germagian	OpenGate
David Quirk	VZW
David Roden	Vette
Roger Schmidt	IBM
Don Beaty	DLB Assoc
Joe Prisco	IBM
Jonethan Spreeman	Trane
Marc Hourkan	Robert Director
Richard Jones	Chatsworth
Kathryn Whitenack	Lytron
Nick Gangemi	Data Aire
Jeff Towers	Data Aire
Thomas Hudgens	Trox
Nemat Lotfi	Eaton
Rick Pavlak	Heapy Engineering
Kevin Wyman	UTC Power
Jammes Fleming	Panduit
Rhonda Johnson	Panduit

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Chicago Meeting Review

Fred Stack reviewed TC 9.9's Chicago activities.

	<u>Time</u>	<u>Program/Meeting</u>	<u>Room</u>	
	11:00 - 12:30	Transactions Session 3	High Density Cooling Updates	Salons 8/9 (3)
	1:00 – 10:00	90.1 Mechanical Sub Committee		Wilson (3)
	1:30 – 3:00	Seminar 14	Application of ASHRAE Standards and Guidelines to Improve the Sustainability of Data Centers—Part 1	Crystal (3)
	3:15 – 4:45	Seminar 19	Application of ASHRAE Standards and Guidelines to Improve the Sustainability of Data Centers—Part 2	Crystal (3)
	5:00 – 7:00	TC9.9 Programs Subcommittee	See separate Agenda	Hancock (6)
Monday	8:00 – 9:30	Seminar 27	Actions in Europe to improve Building Efficiency	Salons 8/9 (3)
	11:00 – 12:00	Transaction Session 10	Liquid Cooling Issues Update: January 2009	Salons 8/9 (3)
	2:15 – 9:30	TC 9.9 General Session	See separate Agenda	Empire (L)
Tuesday	8:00 – 9:30	Seminar 40	Innovations in Airflow Management within Rack Enclosures—Part 1	Salons 8/9 (3)
	11:00 - 12:30	Seminar 49	Innovations in Airflow Management within Rack Enclosures—Part 2	Water Tower Parlor (6)
	1:00 – 5:00	TC 9.9 Workshop	See separate Agenda	Salon 2 (3)

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Page 4

Salt Lake City Meeting Minutes

The minutes from the last TC 9.9 Committee meeting in Salt Lake City were reviewed and approved. The minutes can be found on the TC9.9 website: tc99.ashraetcs.org

TC 9.9 Programs

Technical presentations at the Chicago Meeting and upcoming programs reviewed.

ASHRAE 2009 Annual Meeting in Louisville, KY June 20-24

Vali Sorrell provided a review of the Louisville program and explained the difference between Transactions Sessions (double-blind paper review) and Seminars (No paper). There was a consensus (9/9) of the priorities as indicated below.

- | | |
|-----------------------|--|
| 1 Transaction Session | Cooling of Telecom Centers (Magnus K. Herrlin, ANCIS, Session Chair) |
| 2 Transaction Session | High Density Cooling Update (TBD) |
| 1 Seminar | DOE Qualified Specialist Program (DOE/LBNL) |
| 2 Seminar | PUE Calculation |

ASHRAE 2010 Annual Meeting in Orlando, FL January 23-27

Vali Sorrell also provided a review of the Orlando (winter 2010) program, the paper submission deadline is in February, 2009.

- | | |
|-----------------------|---|
| 1 Transaction Session | Joe Prisco working on program |
| 2 Transaction Session | High Density Cooling Update |
| 1 Seminar | Efficiency Gains from Implementing ASHRAE |
| 2 Seminar | Thermal Guidelines- Case Studies (Bob Sullivan, Uptime) |

ASHRAE Annual Meeting in Albuquerque (Summer, 2010)

Update on TC9.9 Publications

1. **Thermal Guidelines Book**, 2nd edition. This will include *new recommended ranges*.
2. **Best Practices Book**, 2nd edition (*New Ranges from the Thermal Guidelines Book*)
3. **Design Considerations Book**, 2nd edition
Both updated with new ranges from Thermal Guidelines Book
4. **In Progress**
 - a. **Contamination Book:** (*will be Printed in February*)
 - b. **Measurements Book:** (*Tahir Cader, HP currently at 60% completion level*)
 - c. **Economizer Book:** (*Frank Morrison, currently at the 60% level*)

There was a discussion whether to consolidate Best Practices with Design Considerations. One thick “handbook” may be impractical.

DOE/ ASHRAE Data Center Training

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Page 5

Bill Tschudi (LBNL) provided an overview of the training program. The goal of the program is ultimately to save energy in data centers by educating personnel. The training material was drawn from both DOE/LBNL and ASHRAE slides. The master slide deck is being developed as a resource for assembling customized training programs for novice to advanced users. The original concept was to develop one course from DOE/LBNL training and ASHRAE training given through the NYSERDA grant. The training would be based primarily on ASHRAE-published material. DOE plans to deliver 50 training sessions in 12 months, ranging from 4 hours to 1 ½ days.

EPC Response

A number of organizations have reviewed the document. (TC9.9, TGG and others) A compilation was provided to the GBC by LNNL. It is now their decision as to the next steps

Handbook Revision

ASHRAE Application Handbook Chapter 17 is under revision (Doug McLellan, HP), both the electronic and hard-copy versions. The initial effort is centered on identifying reviewers. Please contact Doug if you are interested at dmclellan@hp.com

ESD

David Swensen from ESDA presented a report commissioned by the Green Grid (co-authored with John Kinnear, IBM). Another report, ANSI/ESDS 20.20 dropped humidification as a recommendation to avoid ESD failures of electronic equipment in the latest (2007) version. The previous recommended a minimum of 30%.

David concluded that (based on their research) relative humidity does not significantly contribute to ESD protection but physical protection measures do. People working on (servicing inside) the equipment are the largest problem. Grounding of personnel is here essential. The findings appear to agree with telecom research and telecom de-facto standards.

Roger Schmidt (IBM) asked for the report to be reviewed by the industry before any changes in the recommended minimum humidity level is implemented in the Thermal Guidelines.

SPCC 90.1

The 90.1 standard allows an alternative track to the prescriptive track; namely, model simulation. There is exclusion in the standard for “process load.” Data centers would indeed fall under this exclusion. The standard may delete the exclusion for data centers, which would significantly change the name of the game. The objections from ASHRAE TC9.9 will be discussed on the TC9.9 Workshop (Tuesday).

Standard 127

For now, do not update Standard 127 with alternating or “non-traditional” cooling technologies.

CFD Modeling

ASHRAE voted 12/12 to recommend giving the lowest-cost-per-point bidder the contract for conducting research on rack models for CFD modeling.

TC 9.9 Meeting Minutes
Monday January 19, 2009
Chicago IL, USA

Page 6

Evening Session

The evening session is intended to be a strategic planning discussion/workshop.

Brief presentation by Edison on the new stimulus bill (~\$800B) expected to pass in the next few days. A 50% bonus appreciation may affect the industry as can tax incentives for energy updates (\$500 → \$1500).

The Evening session was an open discussion regarding the mission of the committee its resources and activities.

1. Current Activities

- (1) Keeping Standards upto date
 - (a) Standard SPC 127
 - (b) ASHRAE 90.1
 - (c) Standard 189
- (2) Keeping the Handbook upto date and current
- (3) Book Publications
 - (a) Seven Books are currently available for purchase
 - (i) Three need revision maintenance
 - (b) 3 more are in process
- (4) We have several Training Programs underway
 - (a) NYSERDA
 - (b) ASHRAE CE
 - (c) DOE

There was a discussion about the difference between the Handbook and the Books. A majority favored the idea that these documents have very different audiences. Within the data center community, the knowledge of the Handbook(s) is limited. The Datacom books are well known, however.

It was agreed a Market Survey should be developed to help in guiding us on where to apply our limited resources.

There was also a discussion about the role of TC9.9 and collaboration with other organizations. One group favored the idea that the interests of the Committee must be protected whereas another group argued that what is best for the industry at large is the most important. The latter group favored a more open attitude towards collaboration and to apply our resources accordingly.

Meeting Adjourned

The Meeting was adjourned at 9:30 p.m.

Jack Glass – TC 9.9 Secretary