

ASHRAE TC1.5 Computer Applications
Draft Meeting Minutes
Chicago Winter Meeting
January 23, 2006

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

ASHRAE TC1.5 ACTIVITIES SHEET

TC NO. TC 1.5TC TITLE: Computer ApplicationsCHAIR: Rob HitchcockVICE CHAIR/SECRETARY: Krishnan GowriDATE: January 23, 2006TC Web Site: <http://tc15.ashraetcs.org/index.html>

TC MEETING SCHEDULE

Location, past 12 mo.	Date	Location, next 12 mo.	Date
Denver	Jun 2005	Quebec City	Jun 2006
Chicago	Jan 2006	Dallas	Jan 2007

TC SUBCOMMITTEES

Subcommittee	Chair
Emerging Applications	Nick Rajkovich
Handbook	Mike Galler
Internet	Bruce Billedeaux
Program	Pornsak Songkakul
Research	Mike Pouchak
Standards	Alison Kwok

TC 1.5 MEETING ATTENDANCE

	Number Present	Total Number on Committee
Voting Members	8	12
International Members	1	2
Corresponding Members	8	20
Visitors and Guests	3	

Name	Affiliation	TC	Research	Program	Emerging Applications	Handbook	Internet
Vikrant Aute	CEEE, University of Maryland	X	X	X	X	X	X
Matt Biesterveld	Trane	X					
Bruce Billedeaux	GE Automation Services	X					
David Branson	Compliance Services Group, Inc.	X	X	X	X	X	X
Tim Dwyer	London South Bank	X	X	X	X	X	X

Name	Affiliation	TC	Research	Program	Emerging Applications	Handbook	Internet
	University						
Mike Galler	NIST	X	X	X	X	X	X
Ken Gillespie	Pacific Gas & Electric	X					
Krishnan Gowri	PNNL	X	X	X	X	X	X
Walter Grondzik	Florida A&M University		X	X	X		X
Jeff Haberl	Texas A&M University		X	X	X		X
Rob Hitchcock	Lawrence Berkeley National Laboratory	X	X	X	X	X	X
Mark Hydeman	Taylor Engineering		X	X	X		X
Alison Kwok	University of Oregon		X	X	X		X
Rick Larson	Trane				X		X
Ron Nelson	Iowa State University	X	X	X	X	X	X
Bob Old	Siemens Building Technologies	X	X	X	X	X	X
Vernon Peppers	Peppers Engineering	X					
Michael Pouchak	Honeywell, Inc.	X	X	X	X	X	X
Stephen Roth	Carmel Software	X					
Mick Schwedler	Trane	X					
Pornsak Songkakul	Siemens Building Technologies	X	X	X	X	X	X
Kris Subbarao	Texas A&M		X	X	X		X
Martha Brook	California Energy Commission		X	X	X		X
Rahul L. Navale	IOWA State Univ.		X	X	X		X
Som Shrestha	IOWA State Univ.		X	X	X		X
Martha Hewitt	Minnesota Energy Office	X				X	
Nick Rajkovich	Cornell			X	X		X

RESEARCH PROJECTS

Project Title	Contractor	Monitoring Committee Chair	Report Made at Meeting?
Generic Common Interoperable Data for the HVAC & R industry	PES Recommendation Submitted to TC vote	Krishnan Gowri	N.A.

LONG RANGE RESEARCH PLAN

Priority	Project	Champion	Status: Chicago Jan 2006
1	David Weitz representing 90.1 working Ron Nelson, Krishnan, David Weitz to create a works statement to develop a expert system front end to 90.1 Std. Benefit to ASHRAE --- this could be a publication. – 10 votes- ID003		Priority 1
2	Retooling the HVAC&R Design process to Better use Computer aided design and simulation software- 5 votes , 2 nd vote 7 votes– ID001	Jeff Haberl	RTAR rejected by RAC 11/4/4. Returned to Author 11/11/4. Jeff to review Action: Jeff to review with Steve Rosen and bring back to Quebec mtg.
3	Human computer interactions - Combined effect of thermal and visual environment on human computer interaction.- 5 votes- 2 nd vote 4 votes, 3 rd vote 9 votes- ID005	Nick Rajkovich	Work on RTAR – possible co-sponsor with tc 2.1

HANDBOOK RESPONSIBILITIES

Year & Volume	Chapter Title	No.	Deadline	Approval	Handbook Committee Liaison
2007 HVAC Applications	Computer Applications	38	Jan 30 2006		David Meredith

TECHNICAL PAPERS FROM SPONSORED RESEARCH (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
1017 RP (Akleman and Haberl) – Jim Watts	Chicago (1/03)
1032 TRP - Interoperable Computer Applications – Dave Branson	Chicago (1/03)

TC SPONSORED SYMPOSIA (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
Symposium: Interoperable Computer Applications – Branson	Chicago (1/03)

TC SPONSORED SEMINARS (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
X-Tech - Extreme technologies for HVAC and R industry	Quebec' 06
How Are HVAC&R Educators Using Computers In Classrooms?	Quebec' 06
Web-Based Simulation – Give me a minute and it's done	Quebec' 06
ASHRAE makeover: Next steps	Quebec' 06
ASHRAE HQ: Extreme Makeover	Chicago'06
Designing Building Automation Systems with IT Security in Mind	Chicago'06
Miss the plane, make the meeting and cut the cost – Dwyer	Denver (6/05)
HVAC Unplugged - the Wireless Approach - Branson	Orlando (2/05)
A Vision of eASHRAE: or How to Give a Seminar in your Pajamas - Hydeman	Nashville (6/04)
XML Guidelines for the HVAC Industry - Gowri	Nashville (6/04)
Computer Tools for Sustainable Design – Dwyer	Anaheim (1/04)
Emerging Web Applications for HVAC and Energy Industries - Hitchcock	Anaheim (1/04)
Establishing Cost Effective Energy Baseline for Measurement and Verification – Songkakul	Kansas City (6/03)
Computer Security - Pouchak	Chicago (1/03)
Experiences in Distance Learning: Leveraging Curriculum through Media - Pouchak	Chicago (1/03)

TC SPONSORED FORUMS (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
How can proposed Guideline 20 Help the ASHRAE Membership? - Barnaby	Nashville (6/04)
How Secure is Your Wireless Office Place - Culp	Kansas City (6/03)

SUBMITTED BY: Krishnan Gowri -- TC 1.5 Vice-Chairman/Secretary

TC 1.5 Computer Applications
TC Web Site: <http://tc15.ashraetcs.org/index.html>

Main Committee Meeting
Chicago, Jan 23, 2006

Committee Meeting Schedule

- | | | |
|----------------------------------|-------------------|------------|
| • Main TC 1.5: 6:30-9:00p.m. | Monday 6:30-9:00p | Parlor F |
| • Internet/Emerging Applications | Sunday 5:00-6:30p | Sandburg 8 |
| • Program/Research | Sunday 6:30-8:30p | Sandburg 8 |
| • Handbook | Monday 6:00-6:30p | Parlor F |

Seminars Sponsored:

- Seminar 1. ASHRAE HQ Extreme Makeover: Modeling and Monitoring Techniques to Improve the Energy Performance of Existing Buildings
- Seminar 58. Designing Building Automation Systems with IT Security in Mind

Main Committee Agenda

General

• Call to order

Meeting called to order at 6:30 p.m.

This is our third paperless meeting. Kudos to Vikram Aute and Bruce Billedeaux for facilitating this.

The Electronic Communication Committee is spreading this message to other TC's. A seminar is planned for Quebec city to present the technology to the rest of the society.

• Introductions/Sign up sheet/Welcome

Web-based sign-up sheet was made accessible through wireless connection to local server. In order to record the attendance of those without the laptop computer, the sign-up sheet was circulated.

• Agenda Review

*• Roll Call: **Quorum: 8** voting members present.*

MEMBER	PRESENT?
Vikrant Aute	Yes
Piotr Bartkiewicz (International)	
Bruce Billedeaux	Yes
Dave Branson	Yes

Wayne Dunn	
Mike Galler	Yes
Krishnan Gowri	Yes
Rob Hitchcock	Yes
Alison Kwok	
Ron Nelson	Yes
Mike Pouchak	Yes
Nick Rajkovich	

· *Orlando Meeting Minutes Approval*

Motion to approve Orlando Meeting Minutes: Moved by **Pouchak**, Seconded by **Branson**.

Discussion: **None**

Motion **Passed 7-0-0** CNV (Chair Not Voting).

Chair’s Report – Rob Hitchcock

· *Dinner Plans*: Grill Room, 9:00 p.m.

· *Announcements*

A new TC mailing list has been created.

A new link is now available on the web site for listserv subscription management.

· *Step Up to the Plate Awards*

- For making paperless meeting possible: Aute, Billedeaux (wild applause)

Special Recognition:

Ron Nelson for the web site

GPC-20 Revitalized committee members (1354RP – making good progress)

Action Item Review

Action Items

Note yellow highlight indicates that action item is more than 1 meeting old

- Action item: Billedeaux send electronic copy of SPC 134P Symbols, “Graphics symbols for HVAC” to Hitchcock for distribution to committee members.

Status: **SPC 134P chair informs that it is not available electronically. No further action.**

Discussion: **Bruce will inform how to obtain a copy in an e-mail and interested members are asked to contact Bruce or the web master for an electronic copy which will be a scanned version of the paper copy.**

- Action item: RTAR 1355 – rejected, but will be rewritten.

Status: **Not done**

Discussion: **Jeff Haberl has taken the responsibility to prepare a revised RTAR**

- Action item Hitchcock: Membership roster on web needs to be updated. Hitchcock to send update to Nelson for posting.

Status: **DONE. Hitchcock sent 2006 Roster to Nelson and was posted on the TC web site.**

Discussion: **Only name and affiliation is public**

- Action item Hitchcock: migrate current roster to new TC listserv, send email to current email list with instructions on subscribing to TC listserv if interested.

Status: **Done**

- Action item Nelson: Nelson to attend TC Webmaster training in Denver, specifically for updates on email list server and web-hosted voting.

Status: **Done**

Discussion: **Section 1 Chair highlighted TC 1.5 website as exemplary model for other TCs to use.**

- Action item Hitchcock: add TC web URL to top of all meeting minutes

Status: **Done**

New Action Items

- **Action item All:** Review current Handbook Chapter by February 2006. Copy of current document will be posted on TC1.5 web site for controlled access by reviewers.

Motion:

We accept the chapter as prepared by Mike Galler with the allowance of minor edits for submission to ASHRAE for publication – Moved: Branson, Second: Dwyer

Vote: 8-0-0

Discussion: References need to be updated and all corrections need to be in place Jan 30, 2006. Major edits need to be postponed until the 2007 update.

Motion Passed.

Action: Mike Galler will send out the deadline for the next update.

- **Action item Galler:** Send copy of current Handbook Chapter document to Nelson for posting on TC1.5 web site for controlled access by reviewers.
- **Action item Nelson:** Post copy of current document on TC1.5 web site for controlled access by reviewers. Ron to post final version on Jan 30th after sending to ASHRAE Handbook subcommittee. In the mean time members are asked to track change and send in copies of the document to Mike by Monday.

- **Action item All:** Email Hitchcock one new Objective for TC1.5 Management By Objective (MBO) exercise. Choose objective accomplishment by next meeting, one year, or long term.

• **Committee Membership Update**

Roster is submitted after each Winter Meeting. All people interested in becoming members should discuss this with incoming Chair.

Two rolling off after the Quebec city meeting and seven rolling off after the Summer 2007.

Dwyer, Rosen, Peppers – new voting member

Branson, Nelson – will be rolling off to make room for new members

Research Liaison Report:

Martha Hewitt, Research Liaison

- A new ASHRAE Strategic Research Plan is now available from the ASHRAE Website.
- All new research proposals should indicate their relevance in meeting the research goals identified in the Strategic Research Plan. New strategic plan needs to be referred to in the RTAR submission.
- New guidelines for selecting a contractor. New policies for only one bidder for an RFP, for bidders that are RTAR authors and low bidder if not selected. Members should contact Martha for details on these requirements.
- Next deadline is May 15, 2006 for summer meeting

Past Research Projects/Proposals Status :

1049RP – Final report and technical paper needed – A draft report was given to Martha. Ron Nelson posted the approved final draft.

1228RP – Henri Amistadi – Project no longer active, but needs closure (Action: Martha to contact Charlie Culp)

1355 RTAR needs to be revised – (Action: Jeff Haberl to revise and resubmit)

David Weitz proposal will be taken forward by SSPC 90.1 to Boards opportunity fund. If not funded then TC 1.5 will be contacted.

Subcommittee Reports

Program - Pornsak Songkakul

All presentations need to be submitted electronically two weeks before the meeting.

If you specify that the program was submitted earlier, then there will be additional consideration.

Two programs prioritized by the program subcommittee were withdrawn and the revised list of four programs will be submitted.

1	X-Tech - Extreme technologies for HVAC and R industry	Dave Branson	3 Speakers
2	How Are HVAC&R Educators Using Computers In Classrooms?	Grondzik, Walter	3 speakers
3	Web-Based Simulation – Give me a minute and it’s done	Nick Rajkovich	3 Speakers

4	ASHRAE makeover: Next steps	Dwyer	3 speakers
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Motion:

To accept the program as prioritized and proposed by the program subcommittee. - Moved – Pochack;
Second – Galler

Vote: 8-0-0
Motion Passed.

Action: Program Chairs to submit programs by Feb 10 using the ASHRAE web forms

Research – Mike Pouchak

Pouchak reported that

- Navigation for a Sustainable Future – The strategic plan available on web
- Changes to Research Manual developed by RAC – Process and format
- Dates for submission of RTARs and work statements are Aug 15, Dec. 15 and May 15 each year
- 2005-2006 Available 1.1 mil,
- Increased competition for limited resources this year.

Existing list reviewed.
1354 Bids received, contractor will be discussed

Motion:

To accept the proposal of prioritized list of research plan proposed by the subcommittee.
Moved - Pouchak; Second - Bruce Billedeaux

Discussion: Priority #1 should be retained in the list unless David Weitz has other sources of funding before the next meeting.
Vote: 7-0-0 (one absent)

Action: RTAR Authors to provide the completed RTARS to Mike Pouchak by May 1, 2006

Mike Pouchak solicits further input from all regarding development of RTARS for new research topics.

See attached Research Subcommittee Meeting Minutes below for more details.

Internet/Emerging Applications – Nick Rajkovich & Bruce Billedeaux

Pornsak filled-in for Nick and Bruce.

Program proposals and discussions were forwarded to the program subcommittee.

Handbook - Mike Galler

Members are requested to review and submit comments and corrections for the Handbook CD Plus.

Corrections needed before Monday, Jan 30, 2006.

Reviewers were asked to contact Mike or Ron for electronic copy.
Copy of revised document will be posted on TC1.5 web site for access.

Standards – Alison Kwok

See Standards Subcommittee Meeting Minutes not included below.

Web Page - Ron Nelson

Web page is up to date.

T&P – Dave Branson

See T&P Subcommittee Meeting Minutes not included below.

Motion:

Move Mark Hydeman to the penalty box.

Moved: Branson

Second: Hitchcock

Discussion: Mark deserves this for messing up the roster and jumping ship.

Vote: 8-0-0 *Chair voting*

Action Item: Ron Nelson to add a new T&P Hall of Fame web page and find picture of Mark to be framed within a virtual box.

Exergy for Sustainability

Birol I. Kilkis from NIST presented the Exergy and Sustainability

Committee members support in principle for this subcommittee and offer to work with them in design tools and models development.

Other items:

Section 1 Chair's policy of Management by Objective – Requiring Minutes and keeping the web site up to date.

TC 1.5 objective is solicited from all members - Rob requests by e-mail by February 28, 2005.

Vernon offers a Microsoft Business Server software to the TC 1.5 web hosting team.

Meeting Times for Quebec

No changes from Denver days and times.

Seven voting members expect to attend.

Liaisons

TAC Chairman – Bill Bahnfleth

Section 01 Head – Jim Norman

Program Liaison – James Lutz

CTTC Liaison – Monte Troutman

Standards Liaison – TBD

PDC Liaison – Mark Hydeman

Special Pubs Liaison – Kimball E Ferguson

Handbook Liaisons – David Meredith (2007), John W. Wells III (2009)

RAC Research Liaison – Martha Hewett

Staff Liaison (Standards) – Claire Ramspeck

Staff Liaison - Mike Vaughn

- GPC-20 – Rob Hitchcock
- International Alliance for Interoperability - Rob Hitchcock

Old Business

· _____

New Business

- Members agreed to the meeting time to remain the same for Quebec city.

Adjournment

Meeting adjourned for closed door executive session for 1354RP – Contractor selection.

Time: 8:30 p.m.

Motion: Adjourn: Moved by **Hitchcock**, Seconded by **Billedeaux**.

Discussion: **None**

Motion **Passed** Unanimous (Chair Voting).

TC 1.5 Program Subcommittee Meeting Minutes:

Palmer House Hilton Sandburg 8: Chicago, 01/22/06

Agenda:

1. Welcome and Introduction
The meeting was called to order at 7:30 p.m.
2. Programs for Chicago

Seminar 58 Wednesday 10:15 to 12:15	Designing Building Automation Systems with IT security in mind	Mike Pouchak	3 speakers
Seminar 1 Sunday 8:00 to 10:00 a.m.	ASHRAE HQ: Extreme makeover	Tim Dwyer	4 speakers

3. New symposium, seminar, format
 - Shorten seminar session – 1.5 hour
 - Minimum 2 speakers, maximum 3 speakers
 - More seminar sessions
 - Longer seminars can be scheduled as part 1 and part 2 back-to-back
 - Dedicated 1 hour slot for forum program
 - Add Sunday afternoon session (3:30 to 5:0 p.m.)
 - Upload presentation for commercialism review before the meeting (will be mandatory in the future, still optional for the Quebec City)
 - Speakers are still required to meet in the speaker’s lounge before the scheduled session.

4. Symposium, seminar, program for Quebec City
 - Complete program submittal by February 10th.
 - Program previously submitted but not accepted will be given consideration.

Items to watch out for when submitting the program:

- TC’s priority ranking of submittal (except Symposia, which are automatically scheduled).
- Scheduling conflicts of speakers, chair, and TC
- Overall abstract
- Participants’ information (chair, speakers)
- Please make a note if the program was previously submitted and not scheduled.

5. Clean up programs on the list

6. Programs for Quebec City 2006

1) Quebec City 2006	X-Tech - Extreme technologies for HVAC and R industry - 11 - Smart DUST (MOTE)	Dave Branson – pass the baton to Walter if can not do it	3 Speakers
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	- RFID - Sensor Network (Wireless Sensor and Mesh Network)		
2) Quebec City 2006	How Are HVAC&R Educators Using Computers In Classrooms? – 7 – 8	Grondzik, Walter	3 presentation,
3) Quebec City 2006	Web-Based Simulation – Give me a minute and it’s done – 6 Chair: Nick, Jeff Haberl, Green Building Studio, CEC	Nick Rajkovich	3 Speakers
4) Quebec 2006	ASHRAE makeover: Next steps - 5	Dwyer	Steve Taylor, and others

7. Program ideas for Dallas 2007

Dallas – Tech paper review due by April 7th, 2006, program due by August 4th

- Tooling up today’s youth to be an engineer (Dallas 2007) – Dave Branson, Derringer,
- Today’s big yellow bus for academics (Dallas 2007) – Tim Dwyer
- RFID for HVAC and R (Future)

8. New business

Pornsak will not be in Quebec City. Mark Hydeman will run the Program subcommittee meeting in Quebec City.

9. Adjourn

The meeting was adjourned at 9:00 p.m.

Research Subcommittee Meeting Minutes TC 1.5, Computer Applications

Sunday, January 22, 2006
Chicago Palmer House Hilton
TC 1.5 Program/Research Sunday 6:30-8:30p

1. Call to Order/Introductions
2. Review of ASHRAE Strategic plan for research.
 - ASHRAE research has solicited input for identifying themes , workshops with TC/TGs, reviewed drafts.
 - ASHRAE Strategic plan for research is to be submitted for approval to Board of Directors this meeting in Denver.
 - Research themes include 1) Energy and Resources, 2) Indoor Environmental Quality 3) Tools and Applications , and 4) Equipment, Components, and Materials.

In the Research Subcommittee chairs workshop this morning, New evaluation criteria is “all RTARs and Work Statements will be evaluated for acceptance and ranked for prioritization of funding by RAC using the following weighted criteria: 1) supports strategic plan 45% 2) co-funding support 10% 3) anticipated application 10% 4) TC vote 10% 5) RAC vote 20% 6) Tech Council Preview Feedback 5%.

Other information from RAC:

- RAC will review RTARs at all meetings (3 / yr) – need 45 days advance – May 15, Dec 15, Aug 15. This will start after Denver.
- Limited time for RTARs in Implementation Plan (4 meeting shelf life)
- Intent is to minimize delays in initiating research projects
- Deadline for Rtar
- David Weitz representing 90.1 working Ron Nelson, Krishnan, David Weitz to create a works statement to develop a expert system front end to 90.1 Std. Benefit to ASHRAE --- this could be a publication.

Martha Hewett , research liaison for section 1.

3. 2005 TC 1.5 Research Project Prioritized:

Priority	Project	Champion	Status: Chicago Jan 2006
Funded	Generic Common Interoperable Data for the HVAC & R industry	Chip Barnaby, Krish Gowri, Ken Gillespi	RTAR approved 7/27/4. WS done and submitted 5/12/5 WS approved PES selection 1/23/06
1	David Weitz representing 90.1 working Ron Nelson, Krishnan, David Weitz to create a works statement to develop a expert system front end to 90.1 Std. Benefit to ASHRAE --- this could be a publication. – 10 votes- ID003		Priority 1
2	Retooling the HVAC&R Design process to Better use Computer aided design and simulation software- 5 votes , 2 nd vote 7 votes– ID001	Jeff Haberl	RTAR rejected by RAC 11/4/4. Returned to Author 11/11/4. Jeff to review

			Action: Jeff to review with Steve Rosen and bring back to Quebec mtg.
3	Human computer interactions - Combined effect of thermal and visual environment on human computer interaction.- 5 votes- 2 nd vote 4 votes, 3 rd vote 9 votes-ID005	Nick Rajkovich	Work on RTAR – possible co-sponsor with tc 2.1
4	Requirements for diagnostics and optimization for deployment in a large scale- 5 votes. 2 nd vote 4 votes – ID004	Kris Subbarao	New Topic Needs RTAR – Jeff to work on RTAR by next meeting.
5	Handbook filter – for advanced filtering - if you view the handbook from an architecture perspective, from a chiller manufacture perspective- make xml data in handbook- 3 votes ID002	Jeff Haberl	
6	Demonstration of Development of advanced visualization method for viewing results from computer simulation- 3 votes ID006	Jeff Haberl	
7	Methods for the development of drive by simulations- Generate 3D model from drive by video- 2 votes- ID007	Jeff Haberl	Jeff to work on RTAR by next meeting.
8	Study of personal preference control behavior	Bruce Billedeaux	New Topic. Needs RTAR
-	Demonstration of Mems – based control system		New Topic. Needs RTAR
-	Methods to validate and ensure quality of data from the Controls systems		New Topic. Needs RTAR
-	Methods to collaborate the controls decision of the setpoint		New Topic. Needs RTAR
-	Wireless personal zone thermostats		New Topic. Needs RTAR
-	Methods to use wireless occupancy sensing for operating the buildings and control system and how to determine setpoint		New Topic. Needs RTAR
-	Use of infrared body sensing sensors for optimizing control system		New Topic. Needs RTAR
-	Mem-based clothing for optimizing Building and control systems		New Topic. Needs RTAR
-	Study of external stimuli to adjust perception of temperature comfort		New Topic. Needs RTAR
-	Costs/ Benefits and risks of paperless environment in the HVAC industry		

4. Work statement submission for RTAR #1354 – Generic common Interoperable Data for the HVAC & R Industry Applications. PES vote at main meeting tomorrow.
5. Open Issues
6. Adjourn at 7:45 p.m.

Deadlines: May 15 for RTAR to be submitted for RAC consideration after approval by TC.

Minutes submitted by Mike Pouchak, TC 1.5 Research Subcommittee Chair.