



ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers Inc.

1791 Tullie Circle, NE • Atlanta, Georgia 30329-2305 ☎ 404-636-8400 • Fax 404-321-5478

TC/TG/TRG MINUTES COVER SHEET

TC/TG/TRG NO.: TC 9.01 ISSUE DATE: July, 2015

TC/TG/TRG TITLE: Large Building Air-Conditioning Systems

DATE OF MEETING: June 30, 2015 LOCATION: Atlanta, GA

MEMBERS PRESENT	TERM END	MEMBERS ABSENT	TERM END	ADDITIONAL ATTENDANCE
John L Kuempel Jr, Chair/Program Sub-C Chair	2016	Jeff Traylor	2016	<u>Corresponding Members:</u> John Vucci, Vice Chair Jay Eldridge, Sec./ Webmaster Philip Johnson Mark Paviol Harris Sheinman Andrew Welch Dennis Wessel <u>Liaisons / Staff / Ex- Officio Members:</u> Not Present <u>Guests:</u> David Baird Adeeba Mehboob
Steve Duda, Research/Honors and Awards Sub-C Chair	2016	Kelley Cramm	2018	
Charles Henck, Standards Sub-C Chair	2018	Ken Gill	2016	
Alonzo Blalock	2017			
Doug Cochrane	2018			
R.Lee Millies, Jr	2017			
John Molinar	2019			
Rachel Romero	2019			
Phil Trafton	2019			
Lynn Werman,	2018			

DISTRIBUTION

ALL MEMBERS OF TC/TG/TRG

TAC COMMITTEE CHAIR: Thomas M Lawrence (NP)

TAC SECTION HEAD: Dr. Krishnan Gowri (NP)

LIAISONS:

Handbook: Nicolas Lemire (NP) & Paul Lindahl (NP)
 ALI/Professional Development Liaison: Hugh McMillan (NP)
 Staff Liaison/Research/Technical Services: Michael Vaughn (NP)

Research Liaison: Jeff Gatlin (NP)
 CTTC Liaison: Maggie Moninski (NP)
 Standards Liaison: Malcolm Knight (NP)

** NP Not Present

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 January 2016



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TC 9.01 Large Building Air-Conditioning Systems *Meeting Minutes*

Meeting Date: June 30, 2015
Atlanta, GA

I. Call to Order

- a) Chair John Kuempel called the meeting to order at 1:00 PM local time,

II. Introduction of Members And Guests

- a) Self-introductions of members and guests were made around the table as the attendance roster was circulated. Chair welcomed all members and visitors. A quorum was achieved.

Voting Members:	10 Present, 3 Absent, Quorum was achieved
Voting Non-Quorum Members:	0 Present 0 Absent
Corresponding Members:	7 Present
Society Liaisons:	0 Present
Staff Liaisons:	0 Present
Guests:	2 Present

Note: Voting Non-Quorum members are voting members if present, but do not count against quorum if absent.)

III. Minutes from Chicago were reviewed

- a) Chicago Minutes - Duda made a motion and Vucci second – 8/0/0 motion passed
- b) Agenda for the meeting was passed out and reviewed

IV. Agenda Comments / Updates (Kuempel)

- a) No Additions to Agenda requested.

V. Chair's Comments and Section 9 Report (Kuempel)

- a) Lynn Werman ran the Section 6 Chair's breakfast meeting, and he spoke a lot about programs. TCs must do a better job on their submittals. Many of the requests were not complete, and were not even considered for placement. Many more conference papers are being submitted now.
- b) ASHRAE is looking for reviewers for papers.
- c) Reminder for everyone to keep their ASHRAE bios updated.
- d) ASHRAE can help with phone electronic meetings if needed.
- e) Program tracks have been announced for Orlando and Las Vegas.



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VI. ASHRAE Liaison Reports

- a) Section 9 () – No report
- b) Research liaison was at the research subcommittee meeting.

TC 9.01 Subcommittee Reports

- a) Membership (Kuempel):
 - Roster was changed from when submitted. Kuempel and Werman were supposed to roll off , but the changes were not correctly added. John will try to get this fixed.
 - Al. B Blaylock will be VC
 - Howard McKew will be leaving the TC
 - Steve Nicklas will be leaving the TC.
 - John Vucci – Vice Chair has accepted
 - Jay Eldridge - Secretary and web master
- b) Handbook (Vucci): All of the handbook chapters have been approved. John will be pulling together a new set of authors and reviewers. Howard McKew and some other members have already offered to continue helping.
- c) Standards (Henck):
 - Guideline 22 Instrumentation for Monitoring Central Chilled-Water Plant Efficiency - The committee voted to update it. John Kuempel will head the committee. The committee will look to see what it will take to update it. They would also like to see if it could be expanded to be used as a data dashboard.
 - Standard 30 (Method of Testing Liquid Chilling Packages, lab) and Standard 184 (Method of Test for Field Performance of Liquid-Chilling Systems) were both posted for public review. A short discussion followed if 9.01 should be co-cognisant.
- d) Awards (Duda):
 - Complete report attached
 - Phil Johnson was nominated by TC 9.01 and TC 8.02 for the Hightower Award, but another candidate was selected for the award.
 - Congratulations to Doug Cochrane for receiving the Distinguished Service Award.
 - Dennis Wessel was nominated for the Exceptional Service Award by TC 9.01
 - Steve is looking for more opportunities to help people with the necessary paperwork for honors and awards. Feel free to contact him if you feel that you might be qualified for any of the awards.
- e) Research (Duda):
 - Steve’s complete report is attached
 - ASHRAE has 61 active projects worth \$10,000,000.

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- Last year 11 research projects were completed, 11 new research projects were approved. No projects were on hold for lack of funding.
 - The main focus of the chairs meeting was a presentation on partial payment of researchers for payments based on milestones in the project.
 - Steve will put together a new RTAR to update the Air conditioning System Design Manual. It is 8-10 years old.
- f) Program (Kuempel):
- TC 9.01 sponsored a seminar “There is Gold in the Heartland at the Federal Courthouse in Cedar Rapids, Iowa” which was chaired by Al Blalock.
 - Seminars to be submitted for the Orlando meetings (due August 10)
 1. Standard 1350 (Mechanical Performance Rating of Central Station Air-handling Unit Casings) – Present with AHRI.(Eldridge, Mary Opalk - AHRI)
 2. Design-Build - What is the real role of a criterion engineer in design build. (Kuempel, Trafton, Duda, Blaylock-chair)
 3. Guideline 22 – St Louis or Orlando
- g) Professional Development (Henck): There are a lot of programs that are being put on now. They are doing very well. The lab class is going well. Typical class attendance is 35-45 at the ASHRAE meetings. A class is being added for VRF. Several instructors are being sought out. It will cover VRF basics to design and controls.
- h) Publications (Wessel):
- New and Notable Special pubs – Chilled Beam Design guide, GSHP design guide, 50% Advanced Energy Design Guide for Grocery Stores, Combined Heat and Power Design Guide.
 - There will be a std. 90.1 smart phone App available by October
- i) Website Report ():
- Jay Eldridge agreed to look at the requirements to be web master.
 - Roster need to be updated (will be automatic from society)

VII. TC/PC Liaison Reports

- a) TC 4.03 – Ventilation & Filtration (S. Duda) Lots of research is being done by the TC. Some examples are, demand control ventilation and measurement for multiple zones as well as with one intake covering many zones. Another research topic is the separation distance of intake and exhaust ducts.
- b) SPC 202 - Commissioning Process for Building & Systems (Blalock) Standard is going to have that group take on the other commissioning guidelines under the standard 202 committee.
- c) TC 5.01 – Fans – (Eldridge) DOE will start regulating fans as they are presently regulating unit efficiencies and selections. AHRI and AMCA are negotiating for the terms of the program. It will roughly take effect in the 2020 time frame.
- d) TC 5.06 – Control & Smoke (P Trafton) No Report

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- e) TC 6.01 – Hydronic and Steam Heating Equipment and Systems (K. Cramm) No Report
- f) TC 7.01 – Integrated Building Design () No Report.
- g) TC 7.09 – Building Commissioning (Blalock) Still trying to push forward programs. Trying to maintain consistency across all of the standards. NIBS site now has a task assessment on their site. All programs will need to do similar things for all Federal projects.
- h) TC 8.07 - Variable Refrigerant Flow (J. Vucci) Handbook Chapter is complete and it reads like a design guide.
- i) TC 9.06 – Healthcare (J. Traylor) No Report
- j) TC 9.08 – Large Building Applications (Kuempel) The TC hosted a forum with a number of fire professionals with the long-term goal of creating a chapter on fire station design.
- k) TC 9.09 – Mission Critical Facilities (Mark F) – No Report
- l) TC 9.10 – Laboratory Systems (K. Cramm) Kuempel reported that they are working on a design guide for different levels of labs based on the type of work done there. It is available for pre-purchase now. It does not yet allow for different air change rates.
- m) TC 9.12 – Tall Buildings (Wessel) The Tall Building Design Guide is complete. They are now looking at developing EUIs for tall buildings.
- n) SSPC 15 Mechanical Refrigeration Safety (Vucci) Trying to make the standard more user friendly.
- o) TG 2- HVAC Security (H. McKew) No report
- p) SPC 188 Legionella in HVAC (Milles) The standard is published now. It will now be under continuous maintenance and transition to a SSPC.

VIII. Old Business

IX. New Business

X. Adjournment

- a) Next Meeting: Tuesday, Jan 26, 2016 at 1:00 pm EST in Orlando, FL
- b) For Good & Well Being
- c) Meeting adjourned at 3:30 PM.

XI. Attachments:

- a) TC 9.01 Honors & Award Report
- b) Research Report



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End of Minutes

Respectfully submitted by:

Jay Eldridge, Secretary



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SUMMARY OF MOTIONS:

None:

Secretary's Note: All votes recorded herein are formatted as Aye-Nay-Abstain-Chair Not Voting-Absent.



TC 9.01 Honors & Awards Report

2015 Annual Meeting, Atlanta

George B. Hightower Award:

- *Recognizes excellence in volunteer service in the area of Technical Committee, Technical Group, and Technical Research Group activities, excluding Research & Standards (which have separate awards).*
- Our nominee from TC 9.01 last year was Phil Johnson, and his nomination was forwarded to TAC for final selection. Phil was nominated by TC 8.02, and we agreed to co-sponsor in recognition of his representing TC 9.01 at Standard 15. TAC only awards one per year, and they chose a different candidate.
- **ACTION ITEM:** Nominations for the next award cycle are due September 1 each year. Desirable qualities include include Seminar and Conference Paper programs, Handbook & Program subcommittee work including officer positions, and service as TC officer.

Service to ASHRAE Research Award:

- *Recognizes excellence in volunteer service in the area of Society research. Desirable qualities include authorship of RTARs and Work Statements, participation or chairing of multiple PMS and PES, and Research subcommittee work including Research Subcommittee Chair. This award is for a volunteer in support of Research, not a paid researcher and not a donor to ASHRAE Research.*
- TC 9.01 did not have a nominee this cycle.
- **ACTION ITEM:** Nominations are due September 1 each year.

ASHRAE Fellow:

- *Recognizes distinction in the arts relating to the sciences of heating, refrigeration, air conditioning or ventilation, or the allied arts and sciences, or in the teaching of major courses in said arts and sciences, or who by reason of invention, research, teaching, design, original work, or as an engineering executive on projects of unusual or important scope, has made substantial contribution to said arts and sciences, and has been in good standing as a full grade Member for at least ten (10) years is eligible for election to the grade of Fellow.*
- New nominations are due December 1 of each year. Please help me identify suitable candidates from this TC, including yourself if you feel you are eligible.
- **ACTION ITEM:** I have one candidate from TC 9.01 whose nomination is in progress and will be submitted by December 1. I may request the required letters of support from some in TC 9.01.

Distinguished Service Award:

- *Recognizes members who have served ASHRAE faithfully as a member of committees or otherwise giving freely of his/her time and talent on behalf of the Society. Lifetime cumulative points-based system with a minimum of 15 points required.*
- The points tally sheet is available on the ASHRAE website or directly from me.
- Recipient from TC 9.01 this year: Congratulations to **Doug Cochrane!** He received his award at the Saturday Plenary of this Conference.



- New nominations are due May 1 of each year. Self-nominations are permitted. Please help me identify additional suitable candidates from this TC, including yourself if you feel you are eligible and have not yet received this award. There is no quantity limit for nominees nor honorees.

Exceptional Service Award:

- *Recognizes members who have served the Society faithfully and with exemplary effort, far in excess of that required for the Distinguished Service Award.* Lifetime cumulative points-based system with a minimum of 45 points required.
- The points tally sheet is available on the ASHRAE website or directly from me.
- On behalf of TC 9.01, I formally nominated **Dennis Wessel** this year, and that nomination is pending. Dennis's contributions to ASHRAE add to a total of 58 points, versus the 45 points required for the ESA, with nine (9) years on Handbook, seven (7) years on CEC/Programs, three (3) years as RVC, three (3) years on PubEd Council, and most recently, a three (3) year term on our Board of Directors. He has been an active participant on one or more TCs continuously since 1985. The process involves review by the Honors & Awards Committee and BOD; and the Award should be presented at the Plenary of the 2016 Annual Conference in St. Louis.
- New nominations are due May 1 of each year. Self-nominations are permitted. Please help me identify additional suitable candidates from this TC, including yourself if you feel you are eligible and have not yet received this award.

Other Awards on my Radar:

- Standards Achievement Award. *Recognizes excellence in volunteer service for developing ASHRAE Standards and/or Guidelines.* I formally nominated John Vucci from TC 9.01 this year, but that nomination was not selected. I nominated John in appreciation for his many years of service on Standards 15, 30 (Chair), 184 (Chair), and Guideline 22 and will consider re-nominating by September 1 this year.
- Andrew T. Boggs Service Award. *Recognizes a past Exceptional Service Awardee for continued, unselfish, dedicated and distinguished service to the Society.*
- Louise & Bill Holladay Distinguished Fellow Award. *Recognizes a Fellow of the Society who continues preeminence in engineering or research.*
- F. Paul Anderson Award. *Honors a member for notable achievement, outstanding work or service in any field of the Society. This is ASHRAE's highest honor.*

Respectfully submitted by:

Stephen W. Duda, PE
TC 9.01 Honors & Awards Chair
June 22, 2015



TC 9.01 Research Subcommittee Report

2015 Annual Conference, Atlanta

Subcommittee Meeting: June 30, 2015 / Noon to 1:00 pm EDT / Hilton Atlanta Downtown, Room 212

Attendees: Stephen Duda (TC 9.01 Research Subcommittee Chair) / P. Johnson, J. Molnar

Notes from the TC Research Chairs' Breakfast -- Monday 6:30 to 8:00 am – Grand Ballroom A/B

- ASHRAE has 61 active Research Projects worth \$10,000,000.
- In the past Society year, 11 Research Projects were completed, 11 new projects approved for funding, 13 TRPs released for bid. No projects are on hold for lack of funding.
- At this Conference, 9 RTARs reviewed (7 accepted, 2 rejected); 8 WS reviewed (5 accepted, 3 rejected) and 8 bids will be reviewed Wednesday. 4 URPs are being reviewed.
- Most significant new announcement was Stage Funding: Researchers will now be paid based on milestone deliverables, and the Work Statements will need to define milestones (e.g., 15% for Task 1, 20% for Task 2, etc.).
- RAC also discussed the Residential focus in the new Strategic Plan.
- Jeff Gatlin is Section 9 RAC Liaison effective July 1, 2015.
- RAC deadlines each year for WS and RTARs: May 15, August 15, December 15.

Completed Research

- RP-1448 *Ventilation Requirements for Refrigeration Machinery Rooms*. Research is complete. Once analysis is completed it will be incorporated into Standard 15. However, some contradictory results were presented at the SSPC-15 meeting here in Atlanta suggesting that the RP-1448 assumptions are faulty and results are insufficiently conservative.
- **ACTION ITEM:** S.Duda will follow up with Steve Taylor, the PMS for RP-1448 to review.

Contracted Research Projects in Progress

- None at this time.

Research Projects in Bidding Phase

- None at this time.

Research Projects in Work Statement Phase

- WS-1684 *Dispersion of Refrigerant Releases to Connecting Spaces via Transfer Openings*. TC 9.01 is the lead sponsor for the research. A completed Work Statement was submitted for review in Chicago at the 2015 Winter Conference, and was defeated by SSPC 15. SSPC 15 prefers the development of a software tool or similar, in lieu of a traditional report.



- Coincidentally, there is private industry-funded research underway studying very nearly the same topics as WS-1684. So the re-draft of WS-1684 may include independent third-party peer review, verification, and some corroborating research in lieu of the full-blown original research idea.
- **ACTION ITEM:** S.Duda / J.Molnar will modify and re-draft the 1684 Work Statement, distribute, and issue for comments by August, then call for a conference call. Lynn Werman expressed interest in being added to the participant list. October 1, 2016 is absolute final drop-dead date for WS-1684 submission.
- WS-1727 *Interaction and Energy Cross-Impact of Building HVAC with Ice-Rink Refrigeration Systems In Indoor Ice Arenas*. TC 9.01 is co-sponsor; TC 10.02 is primary sponsor. Lead authors are Greg Scrivener and Wayne Borrowman from TC 10.02, who provided this status update: “We had a very good discussion regarding RTAR-1727 in TC 10.02 today. We are going to try to get a work statement finished for the December RAC deadline. This would mean a letter ballot so it may prove to be a challenge to get things wrapped up by both 9.01 and 10.02 in time but I’d like to try. I will be scheduling a conference call in September and hopefully we have a good chunk of work done by then.”

Old Business

- None.

New Business

- Walt Grodznik suggested the following research idea: *The Air Conditioning System Design Manual* 2nd edition is 8-10 years old. He suggests a research project to edit and review. S.Duda will pursue and follow up.
- One comment received from the full TC meeting on this topic is whether or not the design manual listed above is the basis of the ALI class, and if so, perhaps PDC need to get involved in this.

Adjourned

- Next TC 9.01 Research Subcommittee Meeting will be at Noon EST on January 26, 2016 in Orlando at the ASHRAE 2016 Winter Conference.

Respectfully submitted by:

Stephen W. Duda, PE
TC 9.01 Research Subcommittee Chair
July 24, 2015