



## Agenda

### TC 4.7 Energy Calculations Conference Call

5:00 PM (Eastern), January 13, 2017

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5:00	Call to order / introductions / changes to the agenda <b>Started 5:05</b>	Abushakra
5:05	<b>St. Louis Minutes/Reports</b>	
	1- Handbook	Kolderup ( <b>DONE</b> )
	2- Applications	Judkoff ( <b>DONE</b> )
	3- Data-Driven Modeling	Muehleisen ( <b>DONE</b> )
	4- Full TC	Balbach ( <b>DONE</b> )
	5- Research:	Haberl

Dru doesn't have SC minutes, only agenda. Chris thinks that Mitch Paulus might have taken them and will follow up. Bass says finding minutes are important because of the transition from Dru to Joe Huang.

Haberl will not be in Las Vegas and gives regards. Joe will replace him at RAC

#### RAC Fall 2016 Meetings:

- NEW PROJECTS AWARDED:

1741-RP, Understanding Fan Coil Components and how they relate to Energy Consumption and Energy Modeling; Responsible Committee: TC 5.3 (Room Air Distribution); Co-sponsoring TCs: TC 4.7 (Energy Calculations), TC 7.7 (Test & Balance); Proposer: University Louisiana - Lafayette; Estimated Duration: 24 months; Cost to ASHRAE: \$160,845

- Work Statements Returned with Comments or Rejected:

1748-WS, Assess and Implement Natural and Hybrid Ventilation Models in Whole-Building Energy Simulations - Phase 2; Responsible Committee: TC 4.7 (Energy Calculations); CoSponsors: TC 4.10 (Indoor Environmental Modeling); Co-funding: None; Estimated Duration: 18 months; Estimated Cost to ASHRAE: \$180,000; Status: Returned with comments. Work with Research Liaison (RL) to revise work statement before resubmitting it to RAC for review.

Joe says his info says this was returned with comments but Joe hasn't seen them. Jeff will get them from Mike. Copy Tony on this too as it was written mostly by Joe and Tony. Bass hasn't received anything to pass on.

Leave a line item for 1748 on the agenda

- Approved Work Statements Available for Bidding fall 2016:

1661-TRP, Development of Near-Optimal Control Sequence for Chiller Plants with Water Side Economizer using Dynamic Models; Responsible Committee: TC 4.7 (Energy Calculation); CoSponsors: TC 7.5 (Smart Building Systems); TC 1.4 (Control Theory and Application); Estimated Duration: 15 months; Estimated Cost to ASHRAE: \$150,000; Status: Bidding now.

PES committee is evaluating bid, Keith is chair. Should be able to make a recommendation to RAC soon. Results of the evaluation subcommittee are confidential and can only be sent to RAC. The only info to the TC is that a recommendation has been made, but no detail in case RAC rejects it. Jeff thinks that when a recommendation is sent to RAC, a PMS can be created

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even before RAC approves and a winner is announced. Joe thinks that it's Bass's job to form the PMS and the easiest is to first ask PES committee members if they want to stay on.

Jeff to call to find out if there can be an executive session to discuss the decision at the meeting.

- RTARs Rejected:

1813-RTAR, Development of an Accuracy Test Method for Residential Attic Duct System Simulations in Whole-Building Energy Simulation Programs; Responsible Committee: TC 4.7 (Energy Calculations); Co-Sponsors: None; Status: Rejected. By rejecting this topic, RAC is strongly suggesting to the TC that this particular topic be dropped from the TC research plan based upon the information provided and RAC's understanding of the RTAR.

Jeff wants to talk with Mike Vaughn to find out a little more detail of why this was rejected and if it needs to be significantly revamped or if they really don't want it resubmitted again).

- I did not see any mention of the TC9.6 draft RTAR (Heat Gains from Imaging Equipment), which we decided to co-sponsor. It seems they ended up not submitting it on time.

1. 1661-TRP, *Development of Near-Optimal Control Sequence for Chiller Plants with Water Side Economizer using Dynamic Models (Project Evaluation in Las Vegas)*
2. RTAR? WS?, *Improved Submodels of Air-to-Air Energy Recovery Exchangers for Use in Building Energy Modeling Software (??)*

This is a co-sponsor activity and need prodding from TC 5.5 before we worry about it.

3. RTAR-1769, *Experimental Evaluation of the Efficiency of Belt Drives for Fans (??)*

TC voted to cosponsor 3-2-2. Joe needs to get in touch to find the status. TC 5.1 fans is lead.

4. RTAR-1763, *Development of an Improved Toolkit for Analyzing Building Energy Use from Time Series Data: Update to the Inverse Model Toolkit (RP-1050) (Jeff?)*

On Jeff's pile and will submit to Mike ASAP. Got tentative approval after a few corrections. Jeff will copy to Joe and Bass

5. WS (RTAR-1752), *A guideline for Calculating the Avoided Source Energy Consumption Due to Waste Energy Recovery (WER) AND Heat Pump (HP) Technologies (MTG-ASEC).*

Jeff will ask mike for Liason when he calls about 1763.

6. RTAR-xxx, *Toolkit for Passive Solar and Whole Building Simulations. Transys, Energy Plus. Make it independent from commercial software; like hvac01, and hvac02 toolkits. How to get to netzero. (Jaya; Montana State University)*

Jeff says this is under construction but is going slowly.

7. Active RP's:

- RP-1588 is complete and the Final Report was submitted (Jeff, PMSC Chair, informed Bass in an Email)
- Any other RP that TC4.7 is co-sponsoring?

8. ANYTHING NOT LISTED?

Jeff is still interested in an RTAR related updating the three toolkits so you can pipe one to another and inputs/outputs are consistent. Anyone interested in helping him? This is very important for educators who pull out subroutines / algorithms for teaching. With totally different authors for different routines it is difficult to do use this in a class. Would it make sense to merge these?

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Bass thinks a large project combining/rewriting all 3 is really software development. Is that anything a developer wants to develop? Rewriting for education and production/use are different end uses.

Bass says that maybe we could sell this as education tool.

Ralph and Jeff will chew on this.

6- Simulation and Component Models

Huang (to be done. Check with Dru)

7- Standards

Neymark(DONE)

5:35 **Vacant (Filled?) Positions**

Abushakra

- **Data-Driven Modeling Subcommittee Chair**

Anthony Fontanini from Fraunhofer (formerly of IA state)

- **Simulation and Components Models Subcommittee Chair**

Joe Huang took the Chair position from Dru.

- **Voting Member – Non-Quorum**

Malcolm Cook is reinstated for a four-year term (till 6-30-2020); he finished his four-year term (6-30-2016).

5:40 **Programs (deadlines in figures, below)**

Cockerham

- Las Vegas: January 2017

1. RP-1404 3 papers (Seminar, Ralph chairing) **(Submitted. Approved)**

2. BIM in Architectural Engineering – The Future is Now! (Seminar, sponsored by MTG-BIM, Co-sponsored by TC4.7, Chaired by Steven Rosen) **(Submitted. Approved??)**

3. Urban-scale modeling, Part 3 (Seminar, Joshua chairing) **(Submitted. Approved??)**

Approved for Las Vegas

4. Urban-scale modeling, Part 4 (Seminar, Joshua chairing) **(Submitted. Approved??)**

Approved for Las Vegas

5. Pivotal Role of Forward Model and Data Driven Model in Existing Building Performance Enhancement (Seminar, Almalu Brooks chairing) **(Submitted. Approved??)**

Approved for Las Vegas

6. Chris Balbach: Applications (seminar, data visualization) Long Beach **(Submitted??)**

This is a reminder for Chris for Long Beach if he still has interest. Was not approved if submitted.

7. Compare forward and inverse modeling (Seminar, Ralph chairing) **(Submitted??)**

This was a duplicate entry of 5 – should not be listed.

8. SPC 205 Seminar **(Submitted??)**

Approved: Includes Chip, Tim McDowell

- Long Beach: June 2017

- Beyond Long Beach

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Feb 6, Seminar Proposals are Due. Bring your ideas to Las Vegas to discuss.

5:55 **New Business**

- Emails and Conference Calls: Christmas or Early January.
- ASHRAE encourages TC's to meet online for their Subcommittees.
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6:00 **Adjourn**

Adjourned 5:54

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**Next Conference Call: TBD**

**Action Items:**

Ralph and Jeff: Stew on a RTAR related to rewriting the 3 toolkits

Chris: Decide if he wants to try for a data visualization seminar in Long Beach

Jeff: Call Mike about 1763 and 1752 and 1748 and send comments on 1748 to Joe and Tony.  
Also ask find out more about rejection of 1813

**Important Deadlines**

**Las Vegas, January 2017**

Contact Info/Tracks	Submission Process	<b>Schedule</b>	Authors' Resources	Learning Objectives and Q&A
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This is the overall publication schedule for the 2017 ASHRAE Winter Conference, Las Vegas. For specific details and questions regarding these dates, please contact the appropriate Track Chair.

July 8, 2016	Final Conference Papers Submitted for Review (Includes Bio, Learning Objectives and Methods of Assessment)
August 8, 2016	Seminar, Forum and Workshop Proposals Due
September 7, 2016	Seminar, Forum, Workshop Accept/Reject Notifications
December 2, 2016	Upload of PPTS Begins
January 2, 2017	All PPTs Due Online
January 25, 2017	Final Day for Commercialism Revision Upload Prior to On-Site
January 27, 2017	Speaker's Lounge Opens

### Long Beach, June 2017

Contact Info/Tracks	Submission Process	<b>Publication Schedule</b>	Authors' Resources	Learning Objectives and Q&A
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This is the overall publication schedule for the 2017 ASHRAE Annual Conference, Long Beach. For specific details and questions regarding these dates, please contact the appropriate Track Chair.

August 29, 2016	Conference Paper Abstracts and Technical Papers Due
September 9, 2016	Conference Paper Abstract Notifications Due
December 9, 2016	Final Conference Papers Submitted for Review (Includes Bio, Learning Objectives and Methods of Assessment)
January 2, 2017	Website Opens for Seminar, Forum and Workshop Proposals
January 16, 2017	Conference Paper Accept/Revise/Reject Notifications Due
February 6, 2017	Seminar, Forum and Workshop Proposals Due
February 10, 2017	Revised Conference Papers/Final Technical Papers Due
February 20, 2017	Conference and Technical Paper Final Accept/Reject Notifications