

ASHRAE TC 7.4 Exergy Analysis for Sustainable Buildings, Chicago 1-21-2018

Sunday 8am – 10am

Minutes

11 attendances

Minute Taker: Brian Meneghan

1. Call to order by Wangda Zuo (Chair)

Introduction of Members, Guests, ALI Liaison is present: Robert Bean

2. Voted in Long Beach Meeting Minutes
3. Roll Call and Quorum Determination

Name	Attendance	Name	Attendance
Wangda Zuo	Yes	Eglis Dzelzitis	No
Brian W. Meneghan	Yes	SA Sherif	Yes
Birol Kilgis	No		

Multiple voting members were confused by a last minute meeting cancellation announcement due to a calendar cancellation sent by a member.

4. Brian Meneghan asked committee to develop a short course and invite Robert Bean

Online and in person course, unsolicited program, 7.4 comes to ASHRAE saying that we want to present a short course

Robert Bean will send examples to Brian Meneghan from Karen Murray

5. Review of Agenda (Wangda)
 - a. Changes and additions: none
6. Approval of the previous meeting minutes
3-0-2 approved.
7. ASHRAE Liaison Reports
 - a. None
8. Chair's Progress Report (Wangda)
 - a. Publications Committee: ASHRAE Technology Portal makes many resources available to members for free and Conference Papers by subscription
 - b. CEC:
 - i. Updated policy on references in presentations
 - ii. 7.4 can propose a new track for Exergy and needs to submit 1.5 years before it would be implemented, CEC will monitor to see if there are enough talks in the track
 - iii. TC members can get a free badge at registration to attend TC meetings, does not give entrance to seminars
 - c. Chair's Breakfast Meeting updates
 - i. Proposal for Huston seminars talks

- ii. Winter Conference, Atlanta, seminar proposals due July 6th

9. Membership:

- a. Dolaana updated us membership
 - i. Reemphasize new members go to TC 7.4 website, click join to register for TC and then you will be included in TC email list
- b. Proposal to increase the number of voting members, voting members have to come in person at least one time per year for the next two years (need to be provisional TC corresponding member)
 - i. Four New Voting Members (Approved by 3-0-2)
Dolaana Khovalyg, William Kopko, Zidu Ma, Ongun Berk Kazanci
 - ii. New Officers:
 - 1. Brian Meneghan will move into role as Vice Chair
 - 2. William Kopko will become Secretary
 - 3. Zidu Ma will become Research Committee Chair
 - iii. Again encourage other attendees to register to become provisional corresponding members, contact Dollana

10. Handbook: Birol will be looked upon to help develop the ASHRAE Handbook section. Wangda will reach out to see if

11. RESEARCH:

- a. Zidu Ma is looking to take over for Stephen Treado
- b. David gave update on before existing Reach PTAR #1 & PTAR #2 below. Original path was not successful for either. Looking to go forward with same work one of the 9 different track.
- c. **Used as references:** RTAR #1 Practical applications of exergy analysis: Develop methodology for real world application of Exergy analysis to answer the following questions from practitioners and modelers: Why should I switch from energy simulation to exergy simulation? What does exergy simulation add to the picture that energy simulation misses?
 - i. Exergy allows comparison of different forms of energy (electricity, fuel, thermal, etc.)
 - ii. Including the quality of energy focuses efforts on reducing consumption of most valuable forms of energy (focus on reducing electrical consumption of pumps and fans in HVAC systems before reducing thermal losses (opportunities to control pumps and fans instead of adding pressure drops in order to control flows), evaluations of large HVAC systems often do not consider the actual net delivered cooling or heating service)
 - iii. David Vernon (UC Davis) and Ongun Berk Kazanci (DTU) to draft preliminary description and communicate with Stephen Treado to get impressions from RAC

- d. **Used as references:** RTAR #2 Research to develop standard tool to make it easy to use Exergy analysis for practitioners with a focus on areas where there is an actionable difference between exergy analysis and energy analysis. Several steps 1. Review existing tools, 2. Peer review of tools for technical correctness and possibility for use in cooperation with commonly used energy models such as Energy Plus, 3. Development of a simple post processing tool that highlights actionable differences in energy and exergy analysis (start simple by showing the exergy consumption fractions of different energy end uses in a building).
 - i. Currently Only custom in house tools, IEA Annex 37 and 49 in the last 15 years
 - ii. We do not need a very polished tool or a sophisticated graphic user interface to start out with. Develop a simple excel tool
 - iii. Post processing for existing energy tools (potential cosponsor on TC 4.7, DOE would be interested in developing this)(Wangda is interested and Zidu is interested, Ongun is interested but too busy for the next 6 months)
 - iv. David Vernon will work with Wangda Zuo and Zidu Ma to draft preliminary language

12. Program

- a. 7.6 did not accept our program.

13. Website – still not working but looking to update it to move forward

14. From new volunteer looking at Solar Thermal storage for potential for research paper.

15. Concluded meeting 9:15