

ASHRAE RESEARCH SUBCOMMITTEE MEETING MINUTES – Louisville
TC 2.3 - Gaseous Contaminants/Removal Equipment

6/21/09
5:00-7:00 pm

1. Meeting was called to order at 5:06 pm. Attendees introduced themselves.
2. Minutes from Chicago accepted.
3. Presentations/Up-Dates on Current Research Project
 - A. 1457-TRP “By-product Production from Photocatalytic Oxidation Associated with Indoor Air cleaning Devices” has been awarded to Dean Tompkins University of Wisconsin. [PMC- Kathleen Owen (Chair), Gemma Kerr, Matt Middlebrooks, Marilyn Listvan & Eric Kuiper (not present)]

The objective of this project is to investigate products released during photocatalytic oxidation of selected indoor air contaminants to obtain data and improve and make safer air cleaners that use this technology.

A presentation was made by Ramsey Kropp, Dean Tompkins’ Ph.D. student. Significant progress has been made. A proposed list of chemicals to include in the project was presented and discussed with the PMC. A no cost extension will be requested. Eric Kuiper has done a wonderful job as PMC chair but has not be able to attend the last 2 ASHRAE meetings, Karin Foarde as Research Subcommittee requested a volunteer from the PMC to take over as PMC Chair. Kathleen Owen has agreed to take on the responsibility. Need regularly quarterly reports submitted to ASHRAE.

- B. 1302-RP “Comparison of Gas Phase Air Filtration Equipment (GPAFE) Lab Tests to Field Experience. Principal Investigator – Donald H. Stedman, University of Denver [PMC- Gemma Kerr (Chair), Bill Lull, Matt Middlebrooks, Paolo Tronville, and Nick Agopian]

The objective of this project is to provide directly comparable performance data and or methods (i.e., correlate approaches) to make comparisons for various media used in GPAFE designs at both accelerated (high challenge concentration) and application (very low challenge concentration) conditions within a lab setting.

Final report was received in October 2007. As noted before, the final report was not acceptable. The PI has chosen not to complete the project to the satisfaction of the PMC even after repeated attempts on the part of the PMC to rectify the situation. The PMC sent a letter to the PI after Karin Foarde, Mike Vaughn and Iain Walker reviewed and provided input. No satisfactory response was received from the PI. The PMC considers the project over. The PMC chair will prepare and submit the final disposition of ASHRAE sponsored research results.

- C. 1243-RP “Detection and Measurement of Gaseous Byproducts of Fungal Growth That Affect Indoor Environments - Phase II”. Don Cortes/Elliott Horner, AQS. [PMC- Karin Foarde (Chair), Paul Nelson, Brian Krafthefer, Marilyn Listvan, Gemma Kerr and Charlene Bayer].

Objectives are to develop MVOC database, improve sampling protocol, and expand usable mVOC list.

The final report was received at ASHRAE in 2005 (?). AQS prepared a paper for submission to ASHRAE. Paper was submitted in 2008 or 2009. The PMC chair will prepare and submit the final disposition of ASHRAE sponsored research results.

4. Work statements & RTARs

- A. 1548-RTAR In-Duct Full-Scale Laboratory-Evaluated Comparison of Photo-catalytic Oxidation (PCO) Filters Versus Dry-Scrubbing Media Filters. Dean Tompkins leading preparation of WS. Jensen, Nick, Erik, and Brad Stanley will co-author. WS must be submitted by 5/15/10 or dropped by RAC.
- B. 1557-WS Evaluation Lab Comparison of Relative Performance of Gas Phase Filtration Media at High and Low Challenge Concentrations. Matt Middlebrooks lead preparation of WS. Bill Lull, Paolo Tronville, Mark Stutman, and Nick Agopian review. Submitted 5/15/09. Conditionally accepted. Minor comments will be coming from RAC. PMC will become PES.
- C. 1579-RTAR Testing and Evaluation of Ozone Filters for Improving IAQ has been accepted. Jensen Zhan as lead. Mark Stutman and Gemma Kerr have worked with him on WS. WS must be submitted by 12/15/10 or dropped by RAC.

5. Research Plan 2008-2009

At the summer meeting we develop the research plan for the next year (2009-2010), a champion is identified for each, and the ideas are prioritized by subcommittee attendee vote. The top 3 ideas will be determined and submitted to the full committee for the champions to prepare RTARs for submission to ASHRAE.

TC 2.3 2009-2010 Research Plan

1. Comparison of passive and active air cleaners in duct-testing to support development of 145.2P for air cleaners that are “active” (energetic or chemical). (Byproduct analysis focus) (Charlene)
2. Odor retention and release from heat recovery and desiccant wheels (Bill)
3. Siloxanes (Si-) and mercaptans (S-) as compounds that affect air cleaner performance (Ramsey)
4. “Sorbents as Air Cleaners” - Use of 145.1 “test rig” to study ability to regenerate desiccants upon cycling them through fresh-hot-purge gas (RP475 ... dozens of compounds studied). (Bill)
5. Evaluating air cleaning technologies/devices for treating formaldehyde (past R&D work is/can be/ relevant?!) (Jensen)

TC 2.3 2008-2009 Research Plan

1. Real lab environment comparison tests of PCO vs. carbon filter (flow, pressure drop, RH, temp, multiple VOCs, etc) - Dean Tompkins
2. Evaluation of combined particulate and gaseous filters (combi-filters): What happens to gas phase contaminant levels with particulate loading? - Paolo Tronville
3. Evaluating formaldehyde cleaning devices - Jensen Zhang

6. Report from Research Subcommittees Chair meeting
 - A. Next due date is September 15, 2009.
 - B. RAC is preparing internal measures to help TCs with literature searches for RTAR/WS preparation.
 - C. PMS must monitor research projects
 - i) There are Research Project Performance Evaluation Forms that need to be filled out by the PMS Chair at the ASHRAE meetings and submitted to MORTS.
 - ii) Paper or email are acceptable. Should be on the ASHRAE website and in the files outside the office. Make sure that you have paper copied and give Karin Foarde a copy or copy on an email submission.
 - D. Disposition of ASHRAE sponsored research forms need to be filled out. Should be on the ASHRAE website and in the files outside the office. Make sure that you have paper copied and give Karin Foarde a copy or copy on an email submission.
 - E. RAC is soliciting feedback on RL and RAC performance suggestions.
 - F. RAC meetings are open. Saturday mornings. Best to let Mike Vaughn know would like to attend (through Karin Foarde) to save scheduling time.
 - G. New 2010 Research Strategic Plan in preparation. Heavily energy focused.
 - i) Draft goals will be sent out for member/TC review and input in winter 2009-2010
 - ii) Strategic rather than tactical
 - iii) Larger projects
 - iv) Multi-TC involvement
 - v) Aggressively attract co-funding
7. The research subcommittee adjourned at 7:00.