

**ASHRAE MTG – ACR  
Summer Web Meeting  
Friday, July 10, 2020  
Meeting Minutes**

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.  
1791 TULLIE CIRCLE, N.E./ATLANTA, GA 30329  
404-636-8400**

**TC/TG/TRG MINUTES COVER SHEET**

TC/TG/TRG No	MTG.ACR	DATE	July,10 <sup>th</sup> , 2020
TC/TG/TRG TITLE	Multidisciplinary task group on air changes rates		
DATE OF MEETING	July,10 <sup>th</sup> , 2020	LOCATION	Web Meeting

<b>Members Present</b>		<b>Members Absent</b>		<b>Additional attendance</b>	
Kishor Khankari	Chair	Bob Burkhead	TC-2.4	Erich Binder (Alt TC-9.02)	
Roland Charneux	Vice-chair	Tom Smith	AIH	Michael Meteyer (Alt TC-9.6)	
Roger Lautz	TC-9.6	Gaylon Richardson	TC-5.3	Joe Zulovitch	
Jim Coogan	TC-9.10	Daniel Doyle	I2SL	Yusuf Bhetasi	
Clifford Cooper (ALT)	AIH			Salil Sansare	
Kevin A Scarlett	SSPC-170			Gary Goodson, webmaster	
Michael Connor	TC-9.02				
Phil Naughton	TC-9.11				
Henry Hays	TC-2.2				
Ken Mead	NIOSH				

**DISTRIBUTION**

<b><i>All Members of TC/TG/TRG plus the following:</i></b>	
TAC Section Head	
TAC Chair	
All Committee Liaisons As Shown On TC/TG/TRG Rosters	
Standards liaison : Manager of Research & Technical Services	
Research liaison	

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**1. Call to order 11:05 (EST) and Introduction**

Kishor Khankari called the meeting to order and established a quorum with 9 voting plus one alternate plus the Chair out of 13 voting members (including chair).

Kishor reminds every attendee to adhere to the ASHRAE code of ethics. One attendee (non-voting) left the meeting at 11h40

**2. Approval of the Agenda**

The agenda is approved as submitted by Kishor Khankari.

**3. Approval of Minutes**

A motion to approve the January 20th, 2020, minutes, proposed by Henry Hays and seconded by Kevin A Scarlett (10-0-0-CV). Approved.

**4. Meeting dates**

The Fall MTG.ACR Web Meeting date to be determined. It should be at the end of September or early October.

**5. Report from Members**

No additional news from MTG-ACR Members.

**6. Presentation by Ken Mead**

6.1 Presentation on *the Control of Infectious Aerosols Using Air Exchange, Filtration and Source Control*.

6.2 Kishor sent a link to the Power Point presentation after the meeting.

**7. MTG document on ACR related to the COVID-19 pandemic**

7.1 MTG will offer help to the ASHRAE Task Force.

7.2 Jim will prepare a document concerning ACR impact. Mike Connor will help to prepare this document. Ken Mead accepted to review the document.

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## **8. Program Update**

### 8.1 Upcoming Winter Meeting in Chicago

#### A. Program

- Seminar suggestion: Air Change Rates and COVID-19.  
Phil Naughton accept to be the session chair for this seminar.  
Potential speakers: Kishor, Jim, Tracy Hanegan(?)
- Debate: Is Air Change per Hour (h-1), cfm/ft<sup>2</sup>, or Something Else?  
James Bennett, Joe Zulovich, Travis English, Dan Koenigshofe

## **9. Research Update**

9.1 RP 1833-Literature Review for Evidence of the Basis for Specified Air Change Rates (ACR) for Cleanrooms, Laboratories, Laboratory Animal Facilities, and Health Care Facilities with medium to high ACR. Phil Naughton and Roger Lautz reported on this research project.

TASK-1 “Definitions of Key Terms” was submitted and was not accepted by the PMS. With the documentation research tools used by the researchers, they have difficulties to find documents prior to 1979. Roger will send an e-mail to this committee members to ask for their help. The members of MTG-ACR will follow-up with their respective committees.

9.2 Volunteer internal research project-ACR and Space Volume (Tom, Cliff, Kishor)

- Kishor already presented 2 conference papers.
- Kishor presented a Power Point on findings
- Next steps:
  - Further analysis of data;
  - Analyze the data for others locations;
  - Comparison with CFD;
  - Evaluate ventilation effectiveness.
  - A brief report should be posted on the website

## **10. New Research**

Work Statement should be developed for the following two topics. Kishor will contact members individually to see how members could collaborate to the effort.

### 10.1 Group I (Roland, Yusuf, and Kishor, plus....)

- Investigate relationships between specified airflow rates and associated safety and risk for people and products.
- Evaluate a correlation between the strength and location of contaminant sources and airflow rates to obtain the desired levels of contamination control.

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- Develop an in-depth understanding of relationship between ACR and various (ventilation) effectiveness definitions.
- Evaluate the impact of HVAC configuration including airflow distribution, flow path of contaminants, and locations and type of supply and return devices on ventilation effectiveness.

10.2 Group II (Jim Coogan, Ken Mead, plus....)

- Quantitatively correlate concentration of contaminants with various measures of ventilation. Determine which measures correlate best, and the modeling assumptions necessary to support use of a variable as a design criterion. (?)

10.3 Final Outcome

- Based on the above evaluations publish the evaluations of the existing ACH specifications in the current ASHRAE guidelines and standards.
- Develop recommendations for appropriate units for the specification of dilution airflow rates.

**11. No old business**

**12. New Business**

12.1 Cliff mentioned that International Laboratory for Air Quality and Health in Australia has developed An “Airborne Infection Risk calculator”

<https://research.qut.edu.au/ilqah/projects/expiratory-aerosols-and-infection-spread/>

**11. The meeting adjourned at 13:10 pm.**