

# Benefits of Involvement in ASHRAE Technical Committees (TC)



Benefits of Involvement in ASHRAE TECHNICAL COMMITTEES (TC)

T.C. Overview: Presenter: Tom Watson Info: tom.watson@daikinapplied.com

T.C. 7.3 - Operation, Maintenance and Cost Management Presenter: Sonya Pouncy Chair: Sonya Pouncy Info & join: tcO7O3@ashrae.net & sonya.pouncy@gmail.com

T.C. 8.2 - Centrifugal Machines Presenter: Justin Prosser Chair: Ray Good Info & join: tc0802@ashrae.net

T.C. 9.2 - Industrial Air Conditioning and Ventilation Presenter: Erich Binder Chair: Erich Binder Info & join: tc0902@ashrae.net & erich.binder@worley.com Sept. 25, 2020

ASHRAE Region XIV

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#### ASHRAE Has Four Types of Committees Whose Focus is Primarily on Technical Information

- Technical Committees (TCs)
- Task Groups (TGs)
- Technical Resource Groups (TRGs)
- Multidisciplinary Task Groups (MTGs)
  - provide the Society with expertise in a specific field or subject.

**EHC (Environmental Health Committee)** – Not a TC but of great relevance today.

#### TC, TG, or TRG Members

# All members are

- Three types of membership
  - Voting
  - Corresponding (non voting)
  - Provisional Corresponding (non voting)
    - Opportunity to see if you want to be more involved

**MILLIBERS** 

### What do TCs Do?

- **Research** identify needs, develop and follow projects
- **Handbook** write and revised chapters
  - Great way to learn technology
- **Programs** develop and present them at conferences
- **Standards** initiate new standards & guidelines

#### How to get involved

- Cruise the ASHRAE website and find HB Chapters which are relevant to you
- Then choose a way to get involved
  - E-mail the secretary or chair about your interest (see TC website for specific email address)
  - Apply for provisional corresponding membership directly from the TC website(s).
  - Attend Society Winter and Annual meetings and the TC(s) you are interested in volunteer!

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#### **THANK YOU!**

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#### TC 7.3: Where We Fit In

**SECTION 7- BUILDING PERFORMANCE** 

TC 7.1 Integrated Building Design	TC 7.5 Smart Building Systems
TC 7.2 HVAC&R Construction & Design Build Technologies	TC 7.6 Building Energy Performance
TC 7.3 Operation, Maintenance & Cost Management	TC 7.7 Testing & Balancing
TC 7.4 Exergy Analysis for Sustainable Buildings	TC 7.9 Building Commissioning

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# TC 7.3: Our Direction

#### SCOPE

This TC is concerned with the operation, maintenance, and cost management of buildings and the use of life cycle cost analysis techniques for decision-making when considering investments in building performance.

#### **VISION STATEMENT**

People spend much of their time inside buildings. In some places around the globe, it's as much as 90%. So how buildings are operated and maintained can have profound impacts on people's lives. Our goals are to promote awareness that:

- Building operation, maintenance and cost management are equally important to building performance as is building design; and
- An important key to achieving high building performance is the effective management of the personnel entrusted to operate and maintain the building.

### TC 7.3: Who We Are

#### Industries

- Academia
- A&E Firms
- Controls Contractors
- Mechanical Contractors
- Commissioning Agents
- Facility Management
- Forensic Engineering
- Government
- Manufacturers
- Students

• Utilities

#### Countries

- Brazil
- Canada
- India
- Ireland
- Philippines
- United Arab Emirates
- United States

#### Cohorts

- YEA-3%
- Women- 13%
- International- 17%

### TC 7.3: Handbook Chapters

Chapter 38 OWNING AND OPERATING COSTS

#### Chapter 40 OPERATIONS AND MAINTENANCE MANAGEMENT

Operations and Maintenance as Part of Life Cycle Costs40.1
Operating a Facility for Optimal Performance40.2
Maintenance Strategies for Optimal Performance40.3
Documentation40.7
Staffing40.8
Managing Changes in Buildings40.10

ASHRAE HANDBOOK

HVAC APPLICATIONS

Supported by ASERAE Research

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#### TC 7.3: Standards and Guidelines

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#### Create a COVID-19 workplace health and safety plan.

• Start by reviewing the CDC Interim Guidance for Businesses and Employers.

#### Before resuming business operations, check the building to see if it's ready for occupancy.

- Evaluate the building and its mechanical and life safety systems to determine if the building is ready for occupancy. Check for hazards associated with prolonged facility shutdown such as mold growth 2 , rodents or pests 2 2 , or issues with stagnant water systems, and take appropriate remedial actions.
- Ensure that ventilation systems in your facility operate properly. For building heating, ventilation, and air conditioning (HVAC) systems that have been shut down or on setback, review new construction startup guidance provided in <u>ASHRAE Standard 180-2018, Standard Practice for the Inspection and Maintenance of Commercial Building HVAC Systems</u>
- Increase circulation of outdoor air as much as possible by opening windows and doors if possible, and using fans. Do not open windows and doors if doing so poses a safety or health risk for occupants, including children (e.g., a risk of falling or of breathing outdoor environmental contaminants such as carbon monoxide, molds, or pollens).
- To minimize the risk of <u>Legionnaires' disease</u> and other diseases associated with water, <u>take</u> <u>steps</u> to ensure that all water systems and features (e.g., sink faucets, drinking fountains, decorative fountains) and water-using devices (e.g., ice machines, cooling towers) are safe to use after a prolonged facility shutdown.

#### Identify where and how workers might be exposed to COVID-19 at work.

Employers are responsible for providing a safe and healthy workplace

#### TC 7.3: Research Projects



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### TC 7.3: Programs at Recent Conferences

#### Seminars

- How Revisions to ASHRAE Standard 180 will Help Improve Maintenance Services
- Operation and Maintenance Management Training: How Useful Is It Really?
- How was that Supposed to Work Again? The Importance of Documented and Understandable Sequences of Operation throughout the Life Cycle of a High Performance Building
- Requirements for Extreme Weather Operation of HVAC System
- The Rise of Building EQ: Educational Facility Case Studies in Central Florida (CS 7.6)
- Smart Is as Smart Does: Case Studies from Intelligent Florida Buildings, Campuses and Cities(CS 1.4,7.5,7.9)

- How to Field-Measure and Score the Performance of an Installed HVAC System
- Documented HVAC System Efficiency Deterioration: A Case Study

#### Workshops

- Construction, Operation and Maintenance of High Performance Systems of Large Central Plants and Distribution Systems
- Opaque OPRs Produce Obscure Objectives

#### Debates

- College of Fellows Debate: Designers Have No Obligation to Make Maintenance and Operations an Important Consideration in Design (CS1.7)
- BAS Graphics: Integrating Multiple Masters, Who Is the Boss?

### TC 7.3: O&M in ASHRAE Learning Institute

Fundamentals of Building Operation, Maintenance, and

Bradley Brooks

ient Exercises

Training Methods | Pricing | Course Books | Certificates | Textbooks

#### Continuing Education Opportunities from the ASHRAE Learning Institute

ALI offers Learning Texts for self-study or group training with instructor materials. Texts cover the basics of what pract needs, and skill development exercises are included to evaluate progress.

Few engineers entering the HVAC&R industry have a complete understanding of HVAC&R fundamentals. Now basics from self-directed and group learning course books. Designed to make the process easy and interesti Institute offers these flexible and affordable learning texts for evaluating success in HVAC&R.

Each course book includes the following:

- Clear and concise discussion of the technical topic covered
- · Examples that show how to apply the lesson's principles
- · Skill development exercises that test students' ability to apply the newly acquired knowledge progress in learning the material

## TC 7.3: O&M in ASHRAE Certifications





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# TC 7.3: Meetings

### • Committee-of-the-Whole

• Conference Tuesday 1:00 – 3:00 PM

- Leadership Dinner
  - Conference Sunday, 5:00 PM

- Education & Training Subcommittee
  - Conference Sunday 1:30 3:00 PM
- Handbook Subcommittee
  - Conference Monday 5:15 6:15 PM
- Programs Subcommittee
  - Conference Monday 3:15 4:15 PM
- Research Subcommittee
  - Conference Monday 4:15 5:15 PM
- Standards Subcommittee
  - Conference Monday 2:15 3:15 PM

### TC 7.3: Find Us on the Web

M TC 7.3 E-Meeting - sonya.pouncy	🗙 🛛 🚭 Research Plan	× 🕑 In	ndex   ASHRAE 7.3 Operatio	n, M × +				
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					ASHRAE TCs Home	ashrae.org		
					ASHINAL TOSTIONE	asiliae.org		
	ASHRAE		n, Maintena hnical Committee		ost Managem	ent		
	Home	Membership	Meetings	Documents	Functions	More		
	Agenda				Committee C Sonva Pouncy TC070			
	Agenda				Sonya Pouncy TC070	)3@ashrae.net		
	Upcoming	TC Meetings	eeting (Virtual)			03@ashrae.net <b>COPE</b> ith the operation, t management of		
	Upcoming	ook Subcommittee Me		EDT	Sonya Pouncy TC070 Committee S TC 7.3 is concerned w maintenance, and cost	03@ashrae.net <b>COPE</b> ith the operation, t management of		
	Upcoming TC 7.3/7.8 Handb	-	1, 1:00pm – 2:00pm	EDT	Sonya Pouncy TC070 Committee S TC 7.3 is concerned w maintenance, and cost	33@ashrae.net <b>cope</b> ith the operation, t management of of life cycle		
	Upcoming TC 7.3/7.8 Handb When Repeats Technical Commi Basecamp. Non-	Friday, September 1	1, 1:00pm – 2:00pm till Nov 6, 2020 ease access the mee n-ASHRAE member	eting link from s) please	Sonya Pouncy TC070 Committee S TC 7.3 is concerned w maintenance, and cost	33@ashrae.net <b>cope</b> ith the operation, it management of of life cycle More		

Website: <u>www.tc0703.ashrae.org</u> Email: <u>TC0703@ashrae.net</u> SHRAE Region XIV

# TC 7.3: Join Us

	Welcome to TC 7.3 D	ø	ß			
	Sonya Pouncy <sonya.pouncy@gmail.com> Wed, Sep 2, 11:43 AM (7 days ago)</sonya.pouncy@gmail.com>	4	:			
	Welcome, Henry!		- 1			
	I recently got word from ASHRAE that you've joined TC 7.3 My name is Sonya and I'm the Chair of the TC. David Norvell, copied on this email, is our Vice Chair. We are so excited officially joined our technical committee!	that yo	ou've			
	As you know, we're concerned with the Operation, Maintenance and Cost Management of building systems, as well as the Management of staff-persons tasked with taking care of ther Currently, we hold our committee-of-the-whole meetings on Tuesday afternoons during the Summer and Winter conferences. Subcommittee meetings are on Sunday and Monday afternoons Subcommittees are where most of the real work is done and we would welcome your participation on one or more of them. Currently, we have the following subcommittees:					
	Education & Training (we've got an O&M course in the ALI)					
	<ul> <li>Handbook (our chapters are Ch. 38 and Ch. 40 in the 2019 HVAC Applications Handbook)</li> </ul>					
	<ul> <li>Programs (we typically sponsor 2-4 sessions at each conference; for the planned 2021 Winter Meeting we hope to have sessions in the Building Performance &amp; Commis O&amp;M and Energy Conservation tracks )</li> </ul>	ssionin	g for			
<ul> <li>Research (we recently concluded one research project, RP-1650, which investigated the Training Requirements for Sustainable High- Performance Building Operations; an currently wrapping RP 1801, that we co-sponsored with TC 1.5, which delved deeper into Data Exchange for HVAC&amp;R Work Process for Operations &amp; Maintenance)</li> </ul>						
	Standards (we're responsible for Standard 180 and Guideline 32; and we have input into several other Standards and Guidelines)					
	If you already know where you'd like to get involved, please let us know and we'll put you in touch with the appropriate Subcommittee Chair. Or, if you want to sit in on a few meeting decide, that's fine, too. Just let us know how we can help and how you'd like to proceed.	gs and	then			
	Regards, Sonya M. Pouncy, CEM, CMVP, LEED-AP Ph. 313.729.0550   Email <u>sonya.pouncy@gmail.com</u>					

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#### THANK YOU!

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#### TC 8.2 Where We Fit In

SECTION 8- AIR-CONDITIONING AND REFRIGERATION SYSTEM COMPONENTS

TC 8.1	TC 8.7
Positive Displacement Compressors	Variable Refrigerant Flow
TC 8.2	TC 8.8
Centrifugal Machines	Refrigerant System Controls and Accessories
TC 8.3	TC 8.9
Absorption and Heat Operated Machines	Residential Refrigerators and Food Freezers
TC 8.4	TC 8.10
Air-to-Refrigerant Heat Transfer Equipment	Mechanical and Desiccant Dehumidification Equipment,
TC 8.5	Heat Pipes and Components
Liquid-to-Refrigerant Heat Exchangers	TC 8.11
TC 8.6 Cooling Towers and Evaporative Condensers	Unitary and Room Air Conditioners and Heat Pumps

### TC 8.2: Centrifugal Machines

**WEBSITE** 

https://tc0802.ashraetcs.org/index.php

#### **SCOPE**

TC 8.2 is concerned with packaged equipment which involves **centrifugal compressors**, including those heat exchangers, drivers, controls and accessories, which are specific to packaged centrifugal equipment.

#### **VISION STATEMENT**

The mission of Technical Committee 8.2, Centrifugal Machines, is to provide world class technical expertise on all aspects of **centrifugal refrigeration machines**. This committee is a resource to industry, academia, and others following society protocols through seminars, standards, technical papers/articles and other presentations.

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### TC 8.2: Handbook Chapters



#### **2020 HVAC SYSTEMS AND EQUIPMENT**

#### **COOLING EQUIPMENT AND COMPONENTS**

Section:

#### 38. Compressors (TC 8.1 and TC 8.2)

39. Condensers (TC 8.4, TC 8.5, and TC 8.6)

40. Cooling Towers (TC 8.6)

41. Evaporative Air-Cooling Equipment (TC 5.7)

42. Liquid Coolers (TC 8.5)

43. Liquid-Chilling Systems (TC 8.1 and TC 8.2)

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### TC 8.2: Standards and Guidelines

- 1. Standard 30. Method of Testing. Liquid Chillers
- 2. Standard 184. Method of Test for. Field Performance of Liquid-Chilling Systems
- **3. Standard 225.** Method for Performance Testing Centrifugal Refrigerant Compressors and Condensing Units
- 4. Guideline 22. Instrumentation for Monitoring Central Chilled-Water Plant Efficiency



### TC 8.2: Research Projects and Seminars

#### **Research Projects**

- 1. **Project 1677.** Measurement and Prediction of Waterside Fouling Performance of Internally Enhanced Condenser Tubes in Cooling Tower Applications
- **2. Project 1716.** Oil Concentration of Field Installed Liquid Chillers with Flooded Type Evaporators
- **3. Project 1793.** Development of Method of Test for Motor Component Thermal Conductivity

#### Seminars (Atlanta 2019)

- 1. Seminar 21. Uncertainties in Compressor Performance and Field Performance of Liquid-Chilling Systems
- **2. Seminar 69.** Fundamentals of Centrifugal Chillers

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### TC 8.2: The best part

# For the Good and Wellbeing ....



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# TC 9.2 Where We Fit In

**SECTION 9- BUILDING APPLICATIONS** 

TC 9.1	TC 9.8
Large Building A C Systems	Large Building AC Applications
TC 9.2	TC 9.9
Industrial A C & Ventilation	Mission Critical Facilities
TC 9.3	TC 9.10
Transportation Air Conditioning	Laboratory Systems
TC 9.6	TC 9.11
Health Care Facilities	Clean Spaces
TC 9.7	TC 9.12
Educational Facilities	Tall Building

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### TC 9.2 Industrial Air Conditioning & Ventilation

Purpose

Is concerned the environment that supports reliable operation of manufacturing and industrial processes and equipment, and **strives to ensure the safety of personnel** working in industrial facilities. Recently Combined with TC 9.6 Industrial Ventilation' Numerous other TC's formed from TC 9.2

Membership

15 Voting Members / 100 Corresponding / 10 International / 2 YEA

### TC 9.2 Diverse Membership

Background	Industries	Internati	onal
Manufacturers	Mining	Argentina	
Consultants	Oil & Gas	Brazil	
Researchers	Energy/Power	Canada	
Universities	Manufacturing	India	
Utilities	Nuclear	Italy	
Regulators	Pulp & Paper	Pakistan	7 - Wo
Contractors	Hazardous Space	s Singapore	<b>2</b> - YE
Government	Laboratories	Turkey	
Students	Waste Disposal	United Arab Emirates	

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# **ASHRAE** Epidemic Task Force

TC 9.2 working with ACGIH to produce a White Paper and Guideline on Ventilation for Industrial Settings during COVID 19 and other Epidemics. **ASHRAE Webinar Soon** 



White Paper

on Ventilation for Industrial Settings during the COVID-19 Pandemic

by

American Conference of Governmental Industrial Hygienists (ACGIH®)

Industrial Ventilation Committee

August 2020

### TC 9.2 Related Standards



ANSI/ASHRAE Standard 128-2018 (Supersedes ANSI/ASHRAE Standard 128-2011)

#### **Methods of Rating Portable Air Conditioners**

Approved by ASHRAE on May 31, 2018; and by the American National Standards Institute on June 1, 2018.

ASHRAE® Standards are scheduled to be updated on a five-year cycle; the date following the Standard number is the year of ASHRAE approval. The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide) or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

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IEEE STANDARDS ASSOCIATION

**IEEE/ASHRAE** Guide for the Ventilation and Thermal Management of Batteries for Stationary Applications

Co-Sponsors

IEEE Power and Energy Society Stationary Batteries Committee

#### and

IEEE

USA

3 Park Avenue

New York, NY 10016-5997

ASHRAE Guideline Project Committee 21 (GPC 21)





IEEE Std 1635™-2018/ ASHRAE Guideline 21-2018 (Revision of IEEE Std 1635-2012/ ASHRAE Guideline 21-2012)

*<b>♦IEEE* 



# TC 9.2 Design Guides and Programs

#### Hazardous Spaces Design Guide

• At the printers due for print early - 2021

#### Oil & Gas Chapter for CCBDG

• Editing Stage due for print early to mid 2021

#### Oil & Gas HVAC Design Guide

• Development Stage

#### ASHRAE Epidemic Task Force

• Industrial HVAC

#### IEEE/ASHRAE Guideline 21R

• Being Updated to include Lithium Ion Battery Issues

# TC 7.3: Handbook Chapters



- Industrial Air Conditioning
- Engine Test Facilities
- Printing Plants
- Textile Processing Plants
- Wood & paper Products
- Power Plants
- Nuclear Facilities
- Mine Facilities
- Ventilation of Industrial Environments
- Unit Ventilators & Make Up Air Units

## TC 9.2 & MTG ACR Research

Evaluate the technical basis & adoption of airflow rate specifications in terms of Air Change Rate (ACR) for spaces such as cleanrooms, laboratories, patient rooms, operating rooms & other similar spaces.

### TC 9.2 Sponsored Conference

August 15-18 2021 Toronto, Canada 13th International Industrial Ventilation Conference for Contaminant Control



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Presenter: Erich Binder Chair: Erich Binder

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# **TOTAL TC Involvement**

- Number of international members on TC's <mark>645</mark>
- Number of members in Region XIV on TC's <mark>128</mark>
- Number of YEA members on TC's 844
- Number of YEA members in Region XIV on TC's 15



Sept. 25, 2020

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#### DISCUSSION

#### **Opinions & Questions Welcomed**

Moderator: Dimitris A. Charlambopoulos

e-mail: <u>dimitris@ashrae.gr</u>