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Sol*Air



Newsletter for the Southern California Chapter of ASHRAE

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NOVEMBER MEETING

Tuesday, November 7, 2023 5:30 PM - 8:00 PM

**Where There's Smoke, There's Fire...
But is There Preparation??**

Mike Gallagher - President, Western Allied Corporation

Chapter Members: \$70
Non-Members: \$80
Students are free!

**SAVE \$5 with
Early Bird sales!**

REGISTER

LOCATION:

Quiet Cannon Conference Center
901 Via San Clemente
Montebello, CA 90640

UPCOMING EVENTS

Women in ASHRAE Fall Mixer
November 15, 2023



Research Promotion Casino Night
December 8, 2023



Visit us: ashrae-socal.org

For ASHRAE news and society
headlines, please check:
ashrae.org/about/news



About the Meeting

SOUTHERN CALIFORNIA
ASHRAE PRESENTS:

WHERE THERE'S SMOKE, THERE'S FIRE... BUT IS THERE PREPARATION??

HOW TO USE ASHRAE GUIDELINE 44 TO
PROTECT BUILDING OCCUPANTS
DURING WILDFIRES AND BURN EVENTS

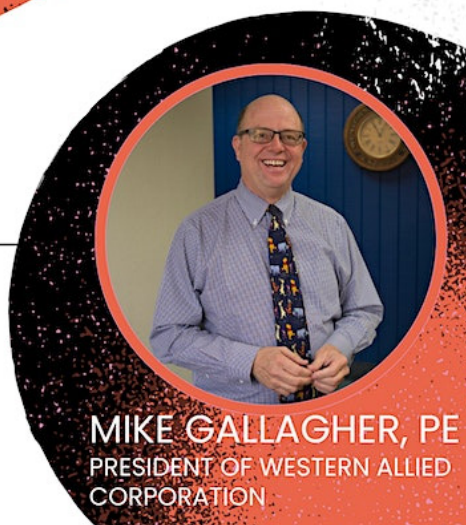
Nov 7th, 2023
5:30-8:00pm

Quiet Cannon, Montebello CA

RSVP:

[https://nov-2023-](https://nov-2023-ashrae.eventbrite.com)

[ashrae.eventbrite.com](https://nov-2023-ashrae.eventbrite.com)



MIKE GALLAGHER, PE
PRESIDENT OF WESTERN ALLIED
CORPORATION

Abstract

ASHRAE Guideline 44: "Protecting Building Occupants From Smoke During Wildfire and Prescribed Burn Events" is a recently completed Guideline that is currently in the public review process, with anticipated release early in 2024. Mike Gallagher of Western Allied, who is a member of the committee who generated the guideline, will discuss the key takeaways in the November meeting. Mike considers this Guideline and the issue that it addresses to be one of the greatest marketing opportunities to building owners that the mechanical consulting field has seen in decades. We all remember the summer of 2020 in Los Angeles, and none of us are dumb enough to think that we won't see prolonged smoke of that kind again. Canada, the Pacific Northwest and much of the US east of the Mississippi River have gone through months (yes, months) of their worst prolonged air quality issues in modern history this year. due to wildfire smoke. This is a subject on the minds of many building owners. Find out what ASHRAE recommends...and here is a hint: it all starts with planning and a site survey

Speaker Biography



Mike Gallagher, P.E. President Western Allied Corporation

Mike Gallagher, PE, is President of Western Allied Corporation in Santa Fe Springs, CA. Mike has 43 years of HVAC experience. After joining Carrier in 1980, he spent 14 years in commercial sales with Carrier in Oklahoma, Texas and California, the last four years of which in charge of commercial sales for Southern California. He has spent the last 29 years as a mechanical contractor at Western Allied. Mike's client responsibilities as a contractor have related mostly to service, retrofit and system optimization in existing buildings. During his career, he has spent time working in four major cities across the United States and has been involved with virtually every type of HVAC system used in the United States.

Mike's ASHRAE involvement at the society level has included membership on two major standing committees (Research and Standards); Chair of TC 9.12 (Tall Buildings); and as a member of various committees. At the chapter level Mike was Past President of the Northeast Oklahoma chapter, past member of the Board of Governors of the South Texas chapter; and currently is an active member of the Southern California Chapter. In the SoCal chapter he has served on the Board of Governors, as Research chair, and twice organized and taught a full day SoCal Spring Seminar in Psychrometrics. Mike has written a monthly technical column in the SoCal chapter's Sol Air newsletter since 2006.

Mike is an animated speaker, waving his hands almost as much as he talks. His presentations are not dull, and he enjoys interaction with the audience. If you learn nothing from his presentation, it will be your fault, not his!

President's Message

Dear ASHRAE SoCal Members,

Welcome to November! This month we have our very own Mike Gallagher speaking about ASHRAE Guideline 44 to protect building occupants during wildfires and burn events. This is a vital issue for the future of our industry and Mike is the perfect guy to help us to understand it.

Looking forward to next month, we are having a joint meeting with our friends across the 57 freeway, Tri-County. The event will take place at the Cal Poly Pomona hotel, and will feature Luke Leung, DL, speaking about healthy built environments – how to connect the parameters in our built environment with human centric holistic design. We are so lucky to have Luke as our speaker, and even more so that we get to share it with our Tri-County friends!

With the holiday season coming up, we know everyone starts to get busier. However, we have some really great events coming up that we hope you can make space for on your calendar!

First up we have our annual Women in ASHRAE mixer on Wednesday November 15th at Common Space Brewery in El Segundo. The event is open to all women and those who support women in our industry! We will have board games and dinner, and of course beer!

Next up we have our annual Casino Night! Last year was a blast, and this year is shaping up to be an even bigger event. We will have a food truck, open bar, and lots of gambling tables. All proceeds from the event will go towards ASHRAE Research Promotion.

Have a great November,

Elyse Johnson McBride

ASHRAE SoCal President, 2023-2024





WOMEN IN ASHRAE FALL MIXER

Come eat, drink, and play board games with
Women In ASHRAE!

Wed. November 15th, 2023
5-7pm

\$20 PER PERSON
INCLUDES ONE DRINK TICKET AND
DINNER

Common Space Brewery
3411 W El Segundo Blvd,
Hawthorne, CA 90250

LIMITED TO THE FIRST 50 PEOPLE TO
REGISTER.

SPONSORSHIP OPPORTUNITIES
AVAILABLE



[CLICK HERE TO REGISTER](#)

ASHRAE SOCIAL PRESENTS

CASINO

Royale

A HOLIDAY PARTY



FRIDAY, DECEMBER 8TH, 2023

LIVERY STUDIO

155 S FAIR OAKS AVENUE, PASADENA

6:30-10:30PM

DINNER | COCKTAILS | CASINO GAMES



Mike's Monthly Maintenance

by Mike Gallagher, MGallagher@wasocal.com

My Annual Wet Bulb & Climate Evolution Discussion

I'm the speaker at the November meeting (Y'all come! It will be good!), so this is a column I've been saving up for when I did not have much time. It covers some points that neither the HVAC nor the Plumbing designers seem to consistently coordinate with each other. In my mind, making sure they get done are HVAC responsibilities, but I've had more than one HVAC engineer look down his nose and tell that least some of these are up to the plumbers...who often do not recognize their HVAC importance. Here are a few of my pet peeves.

1.) People who don't understand the term "PRV" and get it wrong even when they do... PRV is one of those misleading acronyms, since it has more than one meaning. Make up water goes through what I think of as a "dual PRV" before being introduced to a closed loop. The first PRV is a Pressure Regulating Valve. It is followed by the second PRV, a Pressure Relief Valve. The role of the Pressure Regulating Valve is to make sure that the make-up water pressure where it enters the closed loop is correct. This is a hydronic system issue. For a system where the make-up water enters at the high point of the loop (think of a VAV reheat boiler on a roof), that is pretty easy. Something in the 12-15 psi range is fine. But what about when the make-up water enters the loop in a basement, or on grade in a multi-story building? Then the static head of the loop has to be considered. Either way, the design pressure should be noted by the design professional either on the plans or in the equipment schedule with the equipment served by the loop (boiler, chiller, fluid cooler or whatever). The second PRV (the Pressure Relief Valve) is typically sized at least 15 psi higher than the Pressure Regulating Valve. Its role is to bleed water when the Pressure Regulating Valve fails (and they do, in fact, fail) to prevent damage due to an over-pressure situation. The design Pressure

Relief Valve setting should also be noted in the same plan location as the Pressure Regulating Valve setting. Get a good detail that shows both, and be sure to note the pressure settings for both.

2.) There needs to be a "fast fill" bypass around the dual PRV for the purposes of enabling loop filling and flushing. Without such a bypass, in the real world the dual PRV's will slow the flow so much that the initial loop cleaning will not be done properly, and refilling the loop later in the building's life will cost the building owner a lot of delay and unnecessary labor expense.

3.) We are back to seeing air cooled units located on a roof with no hose bib. I'm not sure why, because that is incredibly ignorant. The move from tube & fin condenser coils to microchannel designs has made the ability to rinse and clean condenser coils even more important. Microchannel is already inferior in terms of life expectancy to tube & fin. Add Microchannel's lack of refrigerant storage capacity (particularly during hot weather, when head pressures run high) and if you can't regularly rinse/wash the condenser coils, you are asking for trouble. Put a hose bib on the roof (or better yet, a quarter turn ball valve with a hose connection) for cleaning purposes. And as I've noted many times before, be sure the valve or hose bib is **threaded**. If it is brazed or soldered, the building engineer will usually not replace it when it starts to leak.

4.) Floor by floor air handling units or water cooled packaged units require a real floor drain in their equipment room. That is something that the plumbing designers or plumbing contractors can skirt if they run the condensate drain directly to a riser to a lower floor, and plumbing contractors routinely "value engineer"

Mike's Monthly Maintenance

that approach because it lowers first cost. But then what do you do when using water to clean the condenser, or wash the evaporator coil? A real floor drain (and not one of those ridiculous floor sinks, with a flange that stands $\frac{1}{2}$ " or more above the floor level and inhibits drainage) is required. That requires plumbing coordination.

5.) And finally, let's talk about drains on loops and risers. Every big vertical riser needs a drain at the bottom (at least $\frac{3}{4}$ ", though 1" is better) with a hose connection. And every floor loop take off from a vertical riser (both supply and return) also needs a drain. Why? The initial reason is for loop cleaning. Without those drains, a loop will never be cleaned...no matter what the contractor tells you. The reason later in the building's life is so that the loop can be cleaned via a "drain and flush". If there are no drains on the risers (which are expensive to add after the fact, but very inexpensive if done when the loop is initially installed), it becomes impractical to perform a drain & flush. Especially in a building with a lot of steel pipe, the inability to perform a full drain & flush is likely to be very costly at some point. Include those drain valves!!

Please let me know if you need backup for any of the above, or would like to discuss anything further. I'd love to hear from you! MGallagher@wasocal.com

ASHRAE SoCal Chapter Research Promotion

Corporation and Individual tax deductible **contributions** helped ASHRAE fund the following Research

IDENTIFIER	TC/TG	COST	RESEARCH TITLE OR SUBJECT	CONTRACTOR
1408-RP	2.06	\$149,839	The Effect of Lining Length on the Insertion Loss of Acoustical Duct Liner in Sheet Metal Ductwork	U. NEVADA- Las Vegas, NV
1455-RP	1.04	\$160,000	Advanced Control Sequences for HVAC Systems - Phase I Air Distribution and Terminal Systems	TAYLOR ENGINEERING - Alameda, CA
1469-RP	5.10	\$350,000	Thermal Comfort in Commercial Kitchens	KEMA, INC. - Oakland, CA
1515-RP	2.01	\$174,714	Thermal and Air Quality Acceptability in Buildings that Reduce Energy by reducing Minimum airflow from Overhead Diffusers	UC-BERKELEY - Berkeley, CA
1544-RP	6.06	\$194,850	Establishing Benchmark Levels and Patterns of Commercial Building Hot Water Use	APPLIED ENERGY TECHNOLOGY - Davis, CA
1588-RP	4.07	\$75,000	Representative Layer-by-Layer Descriptions for Fenestration Systems with Specified Bulk Properties such as U-factor and SHGC	WHITE BOX TECHNOLOGIES, INC. - Moraga, CA
1609-RP	7.03	\$110,000	Defining the Capabilities, Needs and Current Limitations of Building Information Modeling (BIM) in Operations and Maintenance for HVAC&R	HITCHCOCK CONSULTING - Kelsey, CA
1665-RP	3.02	\$103,685	R-40 Stability with HVAC&R System Materials	McCAMPBELL ANALYTICAL, INC. - Pittsburgh, CA
1673-RP	9.12	\$90,000	Revision of the ASHRAE HVAC Design Guide for Tall Commercial Buildings	B&S Analytics - Marina Del Ray, CA
1682-RP	5.02	\$117,719	Study to Identify CFD Models for Use in Determining HVAC Duct Fitting Loss Coefficients	Embry-Riddle University - Prescott, Arizona
Grant 14-15	2.01	\$20,000	Support for the Development of ASHRAE Thermal Comfort Database Mark II	UC-BERKELEY - Berkeley, CA & U. SYDNEY, Australia

Support Future Research in
Building Science & Air Conditioning !

For online contributions go to www.ashrae.org/contribute



Online Donation to ASHRAE Research Promotion

Resource Promotion Chair for SoCal Chapter

100% of this money will go to research, meaning not only you are helping creating jobs for some people (those who actually do the research projects) you are also helping advancement of our industry and helping green engineers such as myself learn faster and have better, more reliable resources. And for that we thank you!

You can make your contribution by:

- Going online and following instructions below (will take 2 mins !)
- Call me and give me your information and I will do it for you
- Send a check directly to headquarter
- Send a check to me
- Ask me to come pick your check up
- Or anything else you are comfortable with, be creative!

Thank you all and see you soon.

Online Contribution

Go the <https://xp20.ashrae.org/secure/researchpromotion/rp.html>

1. In the first rectangle put your contribution amount and check ASHRAE Research circle.
2. Check the box for endowed support
3. In existing fund name copy : S California Chapter
4. If you want to support scholarship please fill the scholarship amount and pick general
5. Click on personal contribution
6. Under contribution information field in red are required, fill out your information
7. SUBMIT and wait for your name to pop up a san honor roll investor !

Invest in ASHRAE and Help Shape our Future

I would like to financially support ASHRAE's mission, programs, and member services indicated below: (indicate the amount you wish to contribute in U.S. dollars to any or all resources below)

U.S.\$ ☒ ASHRAE Research ☐ ASHRAE Research Canada
U.S.\$ ASHRAE Learning Institute and educational programs
U.S.\$ Endowed Research via ASHRAE Foundation.

☒ By checking the box, I indicate that I understand that these are endowed funds and permanently restricted for the support of ASHRAE Research.

Existing Fund Name (if known):
[Click here to see existing endowments](#)

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If "Other" is selected, please enter the name of the Scholarship

U.S.\$ ASHRAE General Fund
U.S.\$ Young Engineers in ASHRAE (YEA) Support
U.S.\$ Total contribution to be charged to credit card

Please check one:
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Alex Larson
alex.larson@dmghvac.com

REMEMBER: All donations to ASHRAE are tax-deductable!

Membership Corner



Membership Promotion

To become a member of the Southern California Chapter you must first be a member of Society (for more info, please visit www.ashrae.org/membership/join). If you are currently a member of Society and wish to join the Chapter, you can synchronize your renewal dates by paying pro-rated Chapter dues. Society membership is \$205 for Associates and Members, \$21/\$79/\$105 (Fee per year at a 3 year introduction) for Affiliates, and \$21 for students; Chapter membership is \$60 for Affiliates, Associates and Members and \$10 for students. Student Transfer membership allows you to maintain a reduced membership for the two years following graduation.

*Rate changes every year for the first 3 years.

If you have any questions about your membership, please don't hesitate to contact **Kari Stachowiak** by email at karis@CriticalAirTech.com.

HAVE YOU PAID YOUR MEMBERSHIP DUES?

Even though you have paid your Society membership dues, don't forget to pay your Chapter dues. Chapter dues go directly to the SoCal Chapter and are greatly appreciated. If you haven't paid your Chapter dues yet, please be sure to stop by reception at the next chapter meeting and we can accept your dues directly. Thank You!

SmartStart

Are you a Student Member that recently graduated? Do you know someone that is? First off, welcome to the real world! Secondly, you should all take advantage of the SmartStart Program! SmartStart is a 3-year program that allows Student Members to transfer to Associate grade membership at a fraction of the cost:

First Year: \$21

Second Year: \$79

Third Year: \$105

Join within 6 months of your graduation date to take advantage of the SmartStart program now!

(https://fs12.formsite.com/ashrae/form581146616/secure_index.html)

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