Orange County, California
2023 – 2024

Orange Spiel

Juicy News from ASHRAE's Orange Empire Chapter

MEETING INFORMATION

THURSDAY, APRIL 25, 2024

THE VILLA
510 E. Katella Avenue
Orange, CA 92806

Social Hour/Registration . . . 5:30 – 6:45 p.m.
Seating for Presentation . . . 6:45 – 7:00 p.m.
Meeting Start/Presentation . 7:00 – 8:30 p.m.

PLEASE E-MAIL (PREFERRED), OR CALL WITH YOUR RESERVATIONS TO:
Ryan Sibley c/o TK1SC
rsibley@tk1sc.com
Direct: 949.751.5923
Office: 949.751.5800

PRICE SCHEDULE

Member	$65
Non-Member	$70
Member Day of Even	$75
Non-Member Day of Event	$80
Students	N/C

Season Pass holders please reach out directly to Emily Yang at:
eyang@siglers.com

DINNER PROGRAM

"From Old to Gold: Retrofitting Buildings, Reducing Emissions"
Presented by Kent Peterson, PE, ASHRAE Presidential Fellow

Orange Spiel Editor
Robert Hagstrom, P.E., LEED AP
c/o Southern California Edison
6090-B N. Irwindale Avenue
Irwindale, CA 91702
Phone 626.633.3432
PAX 43432 | Cell 626.609.9791
Robert.Hagstrom@sce.com

THE APRIL MEETING
WAS THURSDAY, APRIL 25, 2024

The ASHRAE Orange Empire Chapter would like to welcome you to join us for our monthly Chapter Meeting this April 25th (Thursday). See below for details on the schedule and the presentation. We will no longer be holding pre-dinner technical sessions for the 2023-2024 ASHRAE year.

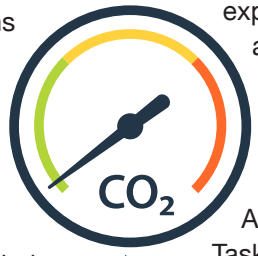
FREE DRINK TICKET INCLUDED WITH YOUR REGISTRATION

REGISTRATION IS CLOSED

DINNER SESSION

FROM OLD TO GOLD: RETROFITTING BUILDINGS, REDUCING EMISSIONS

Building electrification is often viewed as an essential strategy for building decarbonization, but electrification does not necessarily guarantee decarbonization. Building electrification refers to transitioning all or portions of building systems to electricity instead of on-site fossil fuel-based, non-electric energy. While designing new construction buildings with all-electric systems is becoming mainstream, converting existing buildings and their systems to all-electric designs presents unique challenges to owners, engineers, and architects. The challenges can change based on the building type, age, existing system types, load profiles, and the overall condition and efficiency of the building enclosure.



This interactive presentation will share challenges, opportunities, failures, and lessons learned on decarbonization retrofits. Mr. Peterson will also provide an update on ASHRAE's future direction towards helping to reduce GHG emissions in the building sector.

Attendees of this session will gain insight into industry trends and their implications for existing and new buildings, the greening of the grid, regulations, and what is practical over the next 15 years.

Kent Peterson is the Chief Engineer at P2S, a 300-person consulting engineering and commissioning firm with offices throughout the western United States. He has extensive experience working in the building and infrastructure industries. He provides leadership, inspiration, and technical direction for the firm's engineering practices.

Mr. Peterson is chair of the ASHRAE Building Decarbonization Task Force, past chair of the ASHRAE Building Decarbonization Position Document Committee, and recent co-chair of the GSA Federal Building Decarbonization Task Group.

He also chairs the California State University Mechanical Review Board. Mr. Peterson is an ASHRAE Presidential Member, an ASHRAE Distinguished Fellow, and the ASHRAE F. Paul Anderson Award recipient. He frequently authors articles and papers and has presented to governments and professionals worldwide on improving building sustainability.

CHRIS' CORNER

Dear ASHRAE friends,

I am reaching out to our over 300 plus members who may have not attended a meeting lately. It's hard to believe that we only have two meetings left for the 2023-2024 year and I would ask that you consider coming to one of those and reconnect with the chapter.

The March joint meeting with the SoCal/Tri Counties chapters featured Society President Ginger Scoggins. We had over 100 people in attendance to hear Ginger's presidential message about decarbonization and energy efficiency recommendations. She has a wealth of knowledge and was able to share insight from her 34+ years of experience in the HVAC industry.

As part of the Region X challenge set forth by Buzz Wright, DRC, we are currently ahead of the carbon offset goals for Region X travel items. For more information on this challenge please go to the following link – Challenge Accepted! | Region X: https://www.regionx.org/challenge

The April 25th meeting we are fortunate to feature Kent Peterson the COO of P2S Engineering which is always an entertaining and enlightening presentation. The topic will be "From Old to Gold: Retrofitting Buildings, Reducing Emissions".

I hope to see you at one of our next meetings and please bring a friend. ***Chris Farrington***

March

MEETING MINUTES

Date: February 8,2024
Time: 4:30 to 5:30 PM
Place: The Villas

MEETING ATTENDEES

Jackson Aplanalp (JA)
Cinthya Carrillo (CC)
Jessica Clark (JC)
Jeff Conrad (JC)
Eric Decker (ED)
Chris Farrington (CF)
Chris Mellen (CM)
John Sawyer (JS)
Brian Sybesma (BS)
Shivam Vadan (SV)
Emily Yang (EY)
Anthony Zanotti (AZ)

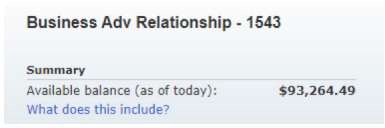
CALL TO ORDER

1. Meeting called to order at 4:37 PM
2. Quorum Determination (Minimum 5 Voting Members)

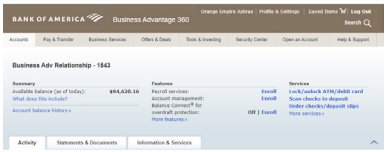
TREASURER DUTIES – Emily

1. BOA Balance

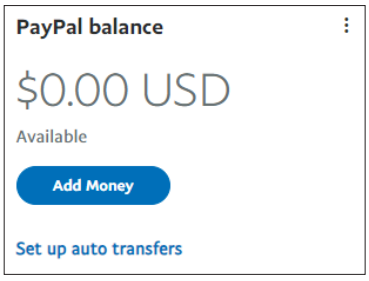
As of 3.5.24:



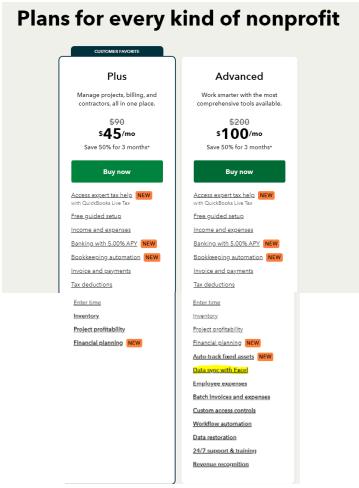
Last Meeting:



2. Paypal
   - All transfers are done as of today.



3. Quickbooks options
   - Need to sign up for this monthly service when the audit is done for the 2024-2025 year.
   - Need to pick a plan and order it so we can start looking how it would convert over. The more expensive one has data sync with excel but not sure if that helps.



VP/CTTC – Ryan

1. Vice President/CTTC Chair & Committee - Ryan
   - Meeting Dates
     b. April 25 – Kent Peterson, P2S "From Old to Gold: Retrofitting Buildings, Reducing Emissions
     c. May 30 – Installment Dinner Booked at the Villas for now and now Past Presidents Night.
     - Chris Mellen to work on

(*See* **MARCH MINUTES** *page 3)*

MARCH MINUTES

(continued from page 2)

the attendee list and filling out the google doc for May 30th meeting.

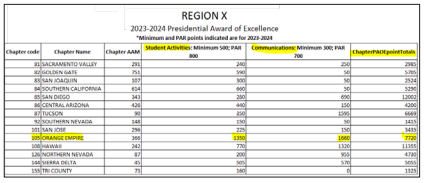
- Need to continue outrush and finalize the list of past President's names together so we can send a personal invitation. Steve Rawski has agreed to MC again. https://docs.google.com/spreadsheets/d/18wl676ouaG7_

Past Presidents List Thursday May 30th at the Villa

	Name	Year Served	Email address	Phone	Invitation sent to May Meeting	Attending May Meeting
1	Chris Farrington	2023-2024	cfarrington@sjglass.com	562-237-1667		Yes
2	Jeff Conrad	2015-2016	conrad@accoas.com	714/285552		Yes
3	Kent Peterson	?	kent.peterson@p2shc.com	682-264-6130		
4	Mary Johnson	2022-2023	mary@criticalairtech.com	714-553-3333		
6	Brian Sybesma	2021-2022	bsybesma@svaocal.com	662-413-3947		Yes

PAOE POINTS

1. Current Points 2023-2034 Year – 7720 (was 7245 as of last meeting)
2. We are ranked 3rd out of 14 chapters currently. San Diego 1st, Hawaii 2nd.
3. We are first in Student Activities and Communications!!!!!!!!!!!!

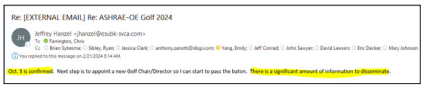


REGION X
2023-2024 Presidential Award of Excellence
*Minimum and PAE points indicated are for 2023-2024

Chapter code	Chapter Name	Chapter AAM	Student Activities: Minimum 500; PAE 800	Communications: Minimum 300; PAE 750	ChapterPAOEpointTotals
81	SACRAMENTO VALLEY	291	240	200	2980
82	GOLDEN GATE	753	590	50	5395
83	SAN JOAQUIN	107	300	50	2524
84	SOUTHERN CALIFORNIA	834	660	50	3295
85	SAN DIEGO	343	390	690	12002
86	CENTRAL ARIZONA	426	440	150	4260
87	TUCSON	90	350	1095	6669
92	SOUTHERN NEVADA	148	150	50	1415
101	SAN JOSE	296	220	150	3493
105	ORANGE EMPIRE	366	1250	1600	7720
108	HAWAII	242	770	1320	11355
126	NORTHERN NEVADA	67	200	950	4730
146	SIERRA DELTA	45	505	570	5055
150	TRI-COUNTY	75	160	0	1325

GOLF TOURNAMENT – Jeff Hanzel

1. New date is October 3rd and is reserved at Tustin Ranch.



Re: [EXTERNAL EMAIL] Re: ASHRAE-OE Golf 2024

Jeffrey Hanzel <jhanzel@csubk-svca.com>
To: Farrington, Chris
Cc: Brian Sybesma; Sibley, Ryan; Jessica Clark; anthony.zanotti@dbiqi.com; Yang, Emily; Jeff Conrad; John Sawyer; David Lawson; Eric Decker; Mary Johnson
You replied to this message on 2/1/2024 9:14 AM.

Oct. 3 is confirmed. Next step is to appoint a new Golf Chair/Director so I can start to pass the baton. There is a significant amount of information to disseminate.

RP – John

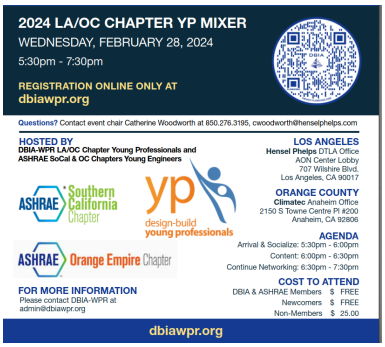
1. 2023-2024 Goal is $16,000.00 (last year we donated $14,026.00)
   - We donated $4,800.00 by Dec 8th and got 100 PAOE points.
   - Still owe balance of $9,926.00 at close of 2023/2024 year.

STUDENT ACTIVITY CHAIR – Cynthia

1. April 5th is Bubblefest and a good way to get PAOE points if officers attend.
2. Costa Mesa High school ACE mentors has multiple events to attend from 3:45 to 5:00 monthly
3. Cinthya to send out a sign-up schedule for Jackson to publish
4. Scholarships are due 3/31 and we need volunteers to read and vote on the winners.

YEA – Alejandro

1. YEA Event Wednesday February 28th.
2. Approx. 30 to 40 people in total attendance but not all were OE members.
3. Send out two reminders.



2024 LA/OC CHAPTER YP MIXER
WEDNESDAY, FEBRUARY 28, 2024
5:30pm - 7:30pm
REGISTRATION ONLINE ONLY AT
dbiawpr.org

Questions? Contact event chair Catherine Woodworth at 850.276.3195, cwoodworth@henselphelps.com

HOSTED BY
DBIA-WPR LA/OC Chapter Young Professionals and ASHRAE SoCal & OC Chapters Young Engineers

LOS ANGELES
Hensel Phelps DTLA Office
AON Center Lobby
707 Wilshire Blvd.
Los Angeles, CA 90017

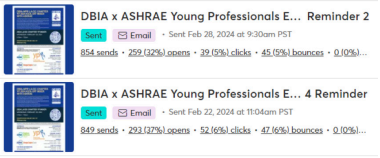
ORANGE COUNTY
Climatec Anaheim Office
2150 S Towne Centre Pl #200
Anaheim, CA 92806

AGENDA
Arrival & Socialize: 5:30pm - 6:00pm
Content: 6:00pm - 6:30pm
Continue Networking: 6:30pm - 7:30pm

COST TO ATTEND
DBIA & ASHRAE Members $ FREE
Newcomers $ FREE
Non-Members $ 25.00

FOR MORE INFORMATION
Please contact DBIA-WPR at admin@dbiawpr.org

dbiawpr.org



DBIA x ASHRAE Young Professionals E... Reminder 2
Sent · Email · Sent Feb 28, 2024 at 9:30am PST
854 sends · 259 (32%) opens · 39 (5%) clicks · 45 (5%) bounces · 0 (0%)...

DBIA x ASHRAE Young Professionals E... 4 Reminder
Sent · Email · Sent Feb 22, 2024 at 11:04am PST
849 sends · 293 (37%) opens · 52 (6%) clicks · 47 (6%) bounces · 0 (0%)...

NEWSLETTER – Robert

1. Newsletter was not sent out on time. President and secretary were both late.
2. President and Secretary responsibilities to get items to Robert on time.

WEBSITE – Jackson

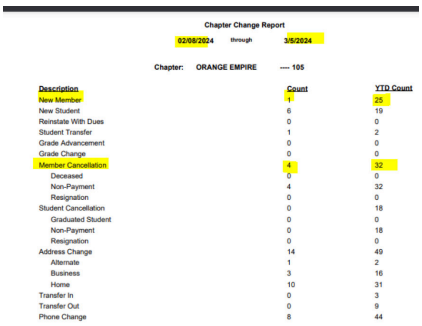
1. Website
   - Published all board meeting minutes for PAOE points
2. Jackson quote: "And now number one by 65 points over Tucson!!!!!!!!!!!!! Hey guys, can you send me PDF copies of all meeting minutes from 2023-2024 year so I can upload them to Basecamp? Easy PAOE points. I know I recently said I do not care about the points but I lied... I want to win. Currently in the lead for communications in Region X but I'd like to lock it in and get way ahead of #2.

HISTORIAN – Chris Mellen

1. Past Presidents night is now May 30th for the installation dinner.
2. Need to get the list finalized
3. I will offer to create and send out the invitations
   - Need to locate past presidents list from Society
   - Ask each one to come up and say a few words
   - Request a past photo of around the time they started in ASHRAE

MEMBERSHIP PROMOTION – Shivam

1. Batch order new membership badges once per month. Badge box has been culled down to one box.
2. 2023-2024 membership started at 345.
3. 2023-2024 Goal is to increase membership 5% (18 members). We have added 25 but lost 32 so -7 YTD.
4. 2023-2024 Goal to average 60 people per meeting (66 registered for March meeting)



Chapter Change Report
02/08/2024 through 3/5/2024
Chapter: ORANGE EMPIRE --- 105

Description	Count	YTD Count
New Member	1	25
New Student	6	19
Reinstate With Dues	0	0
Student Transfer	1	2
Grade Advancement	0	0
Grade Change	0	0
Member Cancellation	4	32
Deceased	0	0
Non-Payment	4	32
Resignation	0	0
Student Cancellation	0	18
Graduated Student	0	0
Non-Payment	0	18
Resignation	0	0
Address Change	14	49
Alternate	1	2
Business	3	16
Home	10	31
Transfer In	0	3
Transfer Out	0	9
Phone Change	8	44

– End of Minutes –

Jessica Clark – Secretary

ANALOG SENSING, WHEN TO USE 0-10 VDC OR 4-20 MA SIGNALING

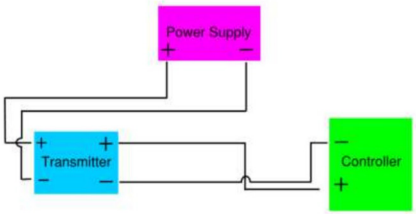
By Drew Mire, edited and enhanced by Craig F. Hofferber for the Spiel

In the HVAC field, various end devices send and receive data information to control a system. These devices transmit signals in either a binary or analog form. Binary signals are signals that can only come back with two values. Think of a switch. It is either on/off, enable/disable, or normal/alarm. An analog signal, which this article focuses on, offers a continuous range of values for a given parameter such as temperature, pressure, humidity, and others. When sending or receiving an analog signal, typically categorized into two options: voltage signal [0-10 Volts (V)] or current signal [4-20 milliamps (mA)].. Here are some differences and the advantages of choosing one over the other

0-10V SIGNALS

0-10V signals are more common in HVAC control compared to their 4-20mA counterparts, universally used in industrial control systems. Almost every HVAC controller can receive and/or send a 0-10VDC signal. One of the reasons for this is due to cost, as a 4-20mA signaling device is more expensive to produce and sometimes to receive than a simpler voltage device.

Voltage signals also have the benefit of being able to troubleshoot the signal wire without having to break the sensor circuit. To read a voltage signal, you probe the circuit in parallel with the signal. For the milliamp signal, the circuit must be opened to insert the mA measurement probes in series with the signal

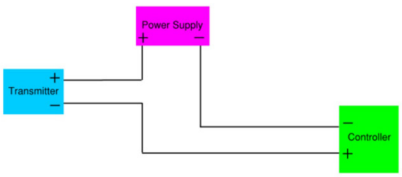


Another benefit is the ease of wiring for devices with a voltage signal output. Looking at the diagram, the wiring is straightforward. These end devices typically have two sets of termination ports: One for power and one for the signal output.

When using a current loop, the loop powers the sensor and sends the analog signal, so wiring a 4-20mA circuit typically has one set of termination ports. Some manufacturer's instruments produce a 4-wire configuration of 4-20mA end device (same wiring as voltage signal devices); however, these are not as common.

4-20MA SIGNALS

Apart from being slightly more challenging to connect, current signals offer numerous benefits over voltage signals. The first advantage is the ease of troubleshooting. Signal faults can be detected immediately. In a current loop, 4mA is designated as a live zero. This is so that there is enough current to power the end device over the two wires. The benefit from this is that if the BMS is reading 0 mA we know that there is a signal problem. Comparing this to a typical 0-10 VDC voltage signal where there is no way to differentiate a signal failure from a zero signal. While there are 2–10-volt DC signals offering the ability to detect signal faults, they are less common as well.



(See **ANALOG SENSING** *page 5)*

ASHRAE ORANGE EMPIRE CHAPTER

2023–2024 PARTIAL ROSTER

SPIEL DEADLINE
The May deadline for articles or ads is MONDAY, MAY 20, 2024

ANALOG SENSING

(continued from page 2)

4-20mA signals are also less susceptible to electrical interference or noise. This is because noise-induced voltage fluctuations along the transmission line are canceled (common mode) and do not affect the current signal flowing through the line. The receiver will have an isolated current input circuit to change the current digitization or a 0-10 VDC voltage input will have a resistor wired across it to ground, to read the voltage as a 2-10 VDC signal.

Another benefit is that the current is the same regardless of cable voltage drop, even when several receivers might be wired in series for remote readings (assuming that each device is isolated from ground). Longer wire runs have higher wire resistance for both methods, but when using a current loop, it is compensated for by the constant-current loop characteristic (current is the same in a series circuit).

Using a voltage source, longer wire runs will increase the signal voltage drop and cause the BMS to read incorrect values. The current loop does not suffer when its signal wire must run greater distances. There will be no signal degradation due to wire length.

CONCLUSION

It is important to consider many factors when selecting the signal type to use when making a device selection to address the needs of specific applications. When a voltage signal is used, factors such as wire gauge and distance must be taken into consideration. When controlling equipment in the same room where the controller is located, the signal wire cable resistance is much less of a factor than when sensing and controlling cables must run hundreds of to the controller.

Each variable sensing application is different and should be evaluated to ensure that the optimal solution is provided for each specific use case.

ALTERNATE CONSIDERATIONS

When preparing a mechanical room with air handlers and controllers in the same room, sensor wire lengths pose less of a problem. Using bare sensing elements such as thermistors and platinum resistance thermometers (PRT) is often a more cost-effective solution. Thermistors have a high and non-linear characteristic resistance relative to cable loss resistance, so they are useful as short-range point source elements. Platinum resistance thermometers are linear devices rated for 1000 ohms that can be configured in point, length (averaging), and other combinations. They are extremely stable and can be extended for long distances when using three or four-wire configurations. Even when using a two-wire configuration, they will provide accurate and stable readings for years when connected to controllers over short distances (50 feet or less).

Neither the thermistor nor the PRT require the use of signal transmiters except when the sensing wire length is long. However, thermistor curve fit is affected with long signal wires because the resistance of the wire over various lengths causes variable reading errors.

Our last meeting of the season is the May 30th Installation Dinner.

The theme is Past Presidents Night, and past OE ASHRAE presidents will be invited to say a few words about their experience.

Don't miss it!!

ORANGE EMPIRE CHAPTER

WINTER/SPRING 2023/24 SCHEDULE

MEETING LOCATION:

THE VILLA
510 E. Katella Avenue
Orange, CA 92806

THURSDAY, SEPTEMBER 28, 2023
Dinner: A new look at Variable Primary Flow and Primary Secondary pumping in chiller plants with brazed plate evaporators
Place: The Villa, Orange
Presenter: Don Brandt, Past Society VP, Past Region X DRC

THURSDAY, OCTOBER 26, 2023
Dinner: Applications for Healthy Buildings using ASHRAE Standard 62.1 – 2022 "Ventilation and Acceptable Indoor Air Quality"
Place: The Villa, Orange
Presenter: Brian Monk, P.E., ASHRAE DL

THURSDAY, NOVEMBER 30, 2023
Dinner: Reactive Air and Surface Treatment Systems: Advancements in Air Quality Management
Place: The Villa, Orange
Presenter: Devin A. Abellon, P.E. ASHRAE DL

TUESDAY, JANUARY 9, 2024
Dinner: Chilled Water System Decisions
Theme: Joint Meeing with San Diego
Place: Mission Pacific Hotel, Oceanside
Presenter: Mick Schwedler-DL, PE, FASHRAE, LEED® AP BD+C

THURSDAY, FEBRUARY 8, 2024
Dinner: Climate Change Realities: How to Decarbonize Through Innovation
Theme: Past Presidents Night
Place: The Villa, Orange
Presenter: David Shadpour-SC Engineers, PE, EE, PMP, BEMP, LEED, CxA

TUESDAY, MARCH 5, 2024
Dinner: Challenge Accepted: "Tackling the Climate Crisis"
Place: The Villa, Orange
Presenter: ASHRAE President, Ginger Scoggins

THURSDAY, APRIL 25, 2024
Dinner: From Old to Gold: Retrofitting Buildings, Reducing Emissions
Place: The Villa, Orange
Presenter: Kent Peterson, PE, ASHRAE Presidential Fellow

THURSDAY, MAY 30, 2024
Dinner: 2023-2024 Installation Night Dinner
Theme: Officer and Board Installation
Place: The Villa, Orange

Orange Spiel

ASHRAE Orange Empire Chapter

www.ashraeorangeempire.com

Orange Empire ASHRAE
2312 Park Avenue, #407
Tustin, CA 92782

MEETING INFORMATION

THURSDAY, APRIL 25, 2024

DINNER PROGRAM
"From Old to Gold: Retrofitting Buildings, Reducing Emissions"
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