

Orange Spiel



Juicy News from ASHRAE's Orange Empire Chapter



MEETING INFORMATION

TUESDAY, MARCH 21, 2017

EL ADOBE

SAN JUAN CAPISTRANO

31891 Camino Capistrano
San Juan Capistrano, CA 92675
(see map on page 6)

Event Time.....6:00 – 9:00 p.m.

PLEASE E-MAIL

(PREFERRED),
PHONE, OR FAX YOUR
RESERVATIONS TO:

Carlton Haywood
c/o Signet Controls, Inc.
carlonh@signetcontrols.com
Phone (805) 990-8846
Fax (877) 888 4648

PRICE SCHEDULE

Members (before 3/14)..... \$40.00
Members (after 3/14) \$45.00
Non-Member (before 3/14).... \$45.00
Non-Member (after 3/14)..... \$50.00
Student.....\$20.00
At the Door \$55.00

IF CANCELLATION IS NOT
RECEIVED YOU WILL BE BILLED
FOR THE SESSION

SEE PAGE 6 FOR FAX ORDER FORM

DINNER PROGRAM

*"Engineering a Successful Water
Treatment Program"* by Jeff Modglin

NO TECHNICAL SESSION

Orange Spiel Editor

Robert Hagstrom, P.E., LEED AP
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Irwindale, CA 91702
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PAX 43432
Cell (626) 609-9791
Robert.Hagstrom@sce.com

MARCH MEETING NOTICE

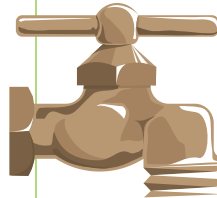
TUESDAY, MARCH 21, 2017

DINNER PROGRAM ENGINEERING A SUCCESSFUL WATER TREATMENT PROGRAM

This month's speaker, Jeff Modglin, will discuss design considerations for alternative water sources in mechanical applications covering:

- Water Treatment Equipment
- Thermal Energy Storage (TES) Systems
- Pre-Operational Cleaning
- White Rust Passivation
- Filtration Considerations
- Green Technologies

Jeff Modglin is a Senior Technical Services Consultant with Trident Technologies, a division of ChemTreat Inc. He has over 20




**DON'T BE A DRIP!
BE SURE TO JOIN
US FOR THIS MONTH'S JOINT
MEETING ABOUT ALTERNATIVE
WATER SOURCES.**

years of experience in the water treatment industry specializing in the design engineering of water treatment systems, project

management of start-ups, and troubleshooting of condenser, closed and steam systems.

Mr. Modglin works extensively in the Commercial and Institutional, Healthcare, Food and Beverage, Steel and Military

industries. He is renowned for his out-of-the-box thinking and ability to implement simple solutions to complex water treatment issues. 

ERIC'S BLOG

It's that time of the year...not St. Patty's Day, it's the joint meeting of Orange Empire and San Diego Chapter! This year Orange Empire is hosting the meeting at El Adobe Restaurant in San Juan Capistrano. It's Tuesday, March 21st, so mark your calendar if you haven't already.

Our Dinner Topic will be "Engineering a Successful Water Treatment Program" and we'll discuss design considerations for alternate water sources in

mechanical applications. This date is fast approaching so make sure to register and come out to enjoy the meeting.

Thanks again for all the continued support this year. We are still finalizing the topic for our April Dinner but we'll make sure to close out the year strong.

Please let me know if you have any comments or suggestions for the chapter. We can always use input and ideas.

Eric Decker 



FEBRUARY MEETING MINUTES

Date: February 28, 2017

Time: 4:41 – 5:53 PM

Place: Holiday Inn
2726 S. Grand Ave.
Santa Ana, CA 92705

MEETING ATTENDEES

Eric Decker (ED)

Jeff Conrad (JC)

Carlton Haywood (CH)

Craig Hofferber (CH)

David Lawson (DL)

Karine LeBlanc (KLB)

Steve Rawski (SR)

John Sawyer (JS)

Matt Waller (MW)

David Yancosky (DY)

CALL TO ORDER

1. Meeting called to order at 4:41 PM
2. Quorum established
3. Announcements
4. Next Meeting Date:
March 21, 2017

DISCUSSION ITEMS

1. Coyote Hills booked as golf location, DD has placed a deposit for the date 10/12/17.
 - a. Netted \$14k
2. State of CA incomplete registration needs to be sent back to Attorney General office. ED has sent an email and is in progress of fixing the issue.
3. Treasurer to complete the move to UPS; Motion was approved in previous meeting
4. Roster Options discussed, \$300 option for password protected functionality.
 - a. DY would like to keep (2) websites for redundancy (Google and Weebly).
 - b. JC to send DY information

- on SiteGround for website options
 - c. Motion raised by ED to increase Weebly Functionality; CH seconds motions
 - i. Motion passed
5. DY waiting on pricing to launch event. ED will confirm this week.
6. No April presenter or tech session presenter. DY will look into Cx options with Carl Newth, Director of Engineering at UCLA.
7. KG doing research for hosting future meetings at Dave & Busters
8. Check turnout number for ASPE members; November meeting was low due to ASPE not meeting that month
9. Presenter for SD meeting March 21st is set, no tech session. Projector screen will be needed.
 - a. Flag needed
 - b. Projector needed
 - c. Bartender option for an additional \$75
10. BaseCamp available as a beta test. KLB will send DY contact information for JR to set up and OE account.
11. Sacramento CEC in August, group registration would be most convenient.
12. JC spoke about Long Beach Event
 - a. 88 volunteers listed
 - b. Member's night band scheduled
 - c. Tech tours of Queen Mary and Long Beach State Central Plant
13. Meeting adjourned 5:53pm
UPS approved.
- End of Minutes -

Carlton Haywood 

CALL FOR VOLUNTEERS!

2017 ASHRAE ANNUAL CONFERENCE IN LONG BEACH June 24-28, 2017


Sessions Monitors are needed for the Annual Conference, June 24-28, 2017! Earn a discounted conference registration for 4 hours of service (\$395 value)

The Orange Empire and SoCal Chapters are hosting this Society event next summer and we can use your help staffing the technical sessions. This is a great way to contribute and take advantage of the numerous educational and networking opportunities available.

Sessions monitors (approx. 80 - 100 people needed) will usually work in pairs to host specific meeting locations, assist with ushering guests, maintaining the schedule, and collecting the attendee feedback surveys. Here's the schedule of when we need volunteer help:

- Sunday, June 25th – Morning and Afternoon shifts (8:00am-4:45pm)
- Monday, June 26th – Morning shift only (8:00am-12:00pm)
- Tuesday, June 27th – Morning and Afternoon shifts (8:00am-4:45pm)
- Wednesday, June 28th – Morning shift only (8:00am-12:30pm)

If interested please email Rob Fried at rob_fried@emcorgroup.com or Jeff Conrad at jconrad@accoes.com.

Specific time assignments will be coordinated and confirmed as we get closer to the event. Also looking for team captains to help recruit volunteers. 

VAV Terminal Calibration - Trust but Verify

By Adam Muggleton, RCx, Building Whisperer

Edited and amplified by Craig F. Hofferber, CxA

Why? Short Answer

VAV terminals with velocity controllers arrive in the field as “factory set” not calibrated. VAV terminal manufacturers do not “calibrate”. If they did, it would probably be on a sampling basis in “laboratory ideal conditions” followed by a certificate of compliance including errors linked to the product serial number. Once done, the “factory” would be responsible and liable for its product performance regardless of field installation issues and system effects not within its sphere of influence or control. Not an enviable position, hence “factory set” within terminal maximum and minimum capability bounds.

Using a water chiller example whose performance can be measured and guaranteed through factory testing in a realistic system environment, a VAV terminal becomes a control element in a system and must be tested in a system environment to be sure it works correctly with the “factory settings” in place. Like a standard control valve, each VAV terminal is a unique application subject to multiple variables that can affect its performance.

A VAV system and its individual terminals are composed of many third-party components, never tested prior to Commissioning. This is an issue because:

- Design assumptions are based on a fully operational and ideally calibrated VAV system.
- Energy model assumptions and consumption estimates



“Trust, but verify” is a Russian proverb, used by President Ronald Reagan in the context of nuclear disarmament

assume an operational and efficient VAV system operating in accordance with the design intent.

- VAV terminals must be calibrated in situ because when performance tested in the field, many do not meet the specified requirements for one or several reasons. Some of these items are resolved at the test and balance stage, but not the operating sequences.
- Sample field testing of VAV terminals often means rejecting many samples tested, giving rise to testing all VAV terminals in a system. This costs the Owner more to commission his property if sample testing was specified. Ignoring this protracted step costs the Owner more in poor system performance, low efficiency and trouble calls. A conundrum.

Long Answer

Start with clarity around the definitions:

- System: A set of connected

components consisting of air handler, distribution ducting, piping and terminal control units, plus arrangements to power and control operation (a VAV system).

- Component: Part or element of a larger whole e.g. a VAV terminal.
- Factory setting: Setting of VAV terminal controller to deliver specified parameters within range of product to perform. Part of factory manufacturing process.
- Calibration: Comparison of measured values delivered by a device under test in situ against specified requirements with a calibration standard of known accuracy.
- Performance Test: Procedures to establish performance, quality or reliability.
- Validation: Verifying accuracy and efficacy.
- Verification: Process by which specific documents, components, equipment, systems, and interfaces among systems are confirmed to comply with specified requirements.
- Performance Testing: Testing of a system to determine if specified performance criteria are met against a standard test protocol reflecting the actual operating scenario
- Commissioning: Advancement of a system from a state of static completion to full dynamic operation in accordance with specified requirements.

(See **TRUST BUT VERIFY** page 4)

TRUST BUT VERIFY

(continued from page 3)

- ASHRAE, LEED, GSAS, ESTIDAMA, ACG and NEBB Commissioning Agencies essentially require a “trust but verify” sampling process.

So why is this a debate?

Because VAV terminal and control systems salesmen often advise MEP design engineers and Contractors that their equipment can be or is “factory calibrated”, leading them to conclude that field testing in whatever form may be superfluous. Such an oversimplified perception leaves out the entire matrix of terminal controller performance measurement issues and its proper operating sequences.

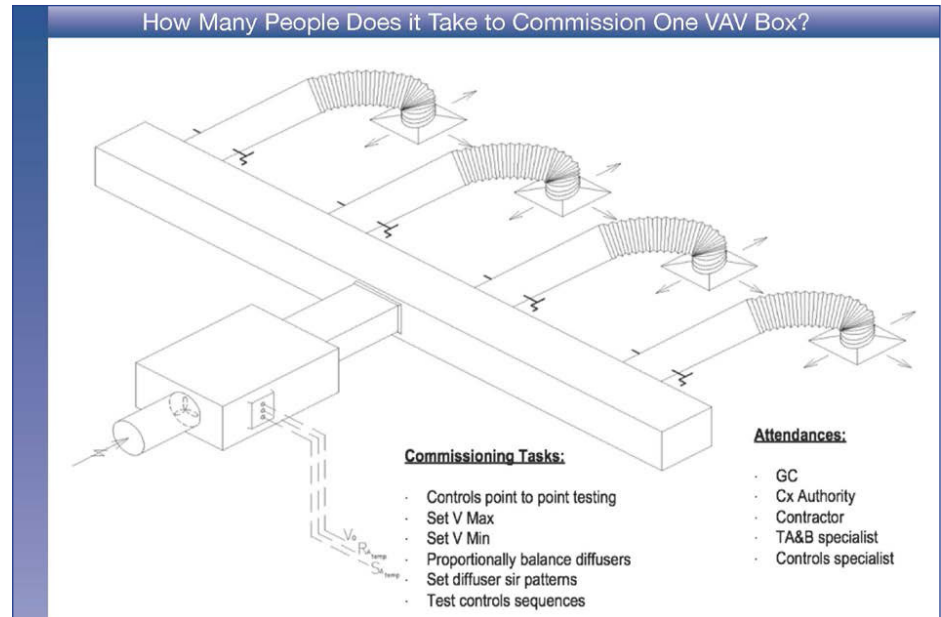
These days there are many hurdles to VAV terminal and system performance verification that must meet the local and national energy and IAQ codes. Reducing the VAV

terminal performance to the “factory” is inappropriate and irresponsible when designing and commissioning a facility system.

Proper system performance with VAV air terminals in place involves several individuals as depicted below. This step in the orderly process of job

construction should never be overlooked or bypassed at budget-cutting time. In fact, if the budget needs to be cut, this step should focus more heavily on system performance in the end, because budget cuts usually give rise to more system problems.

– END – 🍊



Don't miss the only MRO, Facilities Engineering and Green Building expo and conference in Southern California – it's free to attend! Seminars of interest to ASHRAE members include: tools for dealing with occupant comfort complaints, sustainable facility case histories involving energy/water savings, California energy efficiency requirements, predictive maintenance, and more.

FACILITY SOLUTIONS TO HELP YOU SUCCEED

For more information or to register, visit FacilitiesExpo.com

To exhibit, contact George Runckel at grunckel@facilitiesexpo.com or 800-827-8009 x4405



Commissioning Agent CxA (San Marcos)

A forward-thinking, San Marcos-based company is seeking a commissioning agent (CxA) to join our team.

Axiom Commissioning Group, Inc. Started by mechanical engineers, Axiom Commissioning Group focuses solely on commissioning projects. Axiom is looking for experienced, like-minded candidates for an immediate position who are either ACG certified or interested in becoming an ACG certified commissioning authority.

At **Axiom Commissioning Group, Inc.**, we believe our current and future success depends on hiring, developing, and retaining high caliber people. We invite you to learn more about us. Please view our website at www.axiomcx.com

Commissioning Agent CxA

Qualifications & Requirements:

- 3-5 years' experience in mechanical building design, including commissioning projects design review, commissioning specifications, startup review and all testing
- Functional Performance Testing (FPT) and Performance Verification Testing (PVT), and final commissioning report composition
- Technically proficient in HVAC systems design, DDC control systems and lighting control systems
- EIT or PE certification helpful but not required
- Certification with ACG as a Commissioning Authority for military, commercial, and hospitality projects helpful but not required
- Excellent written and verbal communications and some travel (mostly in Southern California) is required.

We offer a stimulating and collaborative work environment with competitive salary & benefits and opportunities for advancement. We are proud to offer a variety of benefits including medical, dental, vision insurance, 401K match & much more.

Please send your resume, a cover letter, and your salary requirements to:

accounting@axiomcx.com



Ranked as one of the top engineering companies in San Diego by the San Diego Business Journal, T-Squared Professional Engineers, Inc. is a 24 year-old, privately held, industry-leading consulting engineering firm specializing in HVAC, Electrical, and Plumbing Systems Design as well as Photo-Voltaic Systems Design.

At **T-Squared Professional Engineers**, we believe our current and future success depends on hiring, developing, and retaining high caliber people. We are always interested in hearing from exceptional candidates, and we invite you to learn more about us. Please view our website at www.tsqeng.com.

Mechanical Designer/Engineer (Carlsbad/Vista)

Overview:

Immediate opening for a Mechanical Designer/Engineer to join our team.

The successful candidate will be professional, self-motivated, energetic, & enthusiastic with excellent communication and inter-personal skills, and a desire to contribute to our continued success. Previous consulting engineering firm experience required.

We value your experience including the following qualifications, technical skills, and abilities:

- Strong technical skills and the ability to produce accurate and timely HVAC systems designs for commercial, educational, health-care and military facilities
- Design and documentation skills
- The ability to develop layouts and detailed schematics for HVAC systems
- Expertise in piping and hydronic designs
- Comprehensive understanding of energy conservation reports
- Title - 24 calculation
- LEED design experience with a focus on energy efficiency and sustainability
- LEED documentation and coordination skills

Qualifications / Requirements:

- Bachelor's degree in Mechanical Engineering (or related industry experience) and a minimum of 4 years' experience in Mechanical design, or equivalent combination of education and experience
- Recent relevant experience in the engineering/construction field
- Experience in packaged equipment and central plants
- Knowledge of CA Energy Standards - Code Requirements
- EIT or PE certificates helpful but not required.
- LEED – AP preferred
- Team-player: Demonstrated ability to effectively manage a projects and/or take direction from project managers
- Proficiency with MS Office and CAD
- Strong verbal and writing communication skills

Plumbing Designer/Engineer (Carlsbad/Vista)

Overview:

Immediate opening for a Plumbing Designer to join our team. The successful candidate will be professional, self-motivated, energetic & enthusiastic with excellent communication and inter-personal skills and a desire to contribute to our continued success. Previous consulting engineering firm experience required.

We Value Your Experience Including the Following Qualifications, Technical Skills & Abilities:

Design and assist with designing Plumbing Systems for commercial, educational, health-care and military facilities.

- Prepare detailed layouts for all drainage and water supply systems for all types of facilities, piping & hydronic designs
- Research & select equipment from various manufacturers
- Complete fixtures / equipment schedules
- Perform calculations for a project, such as equipment selection and sizing, fixtures calculations, product specifications, and design and layout for roof drains, sanitary lines, and water lines.
- Estimate construction costs and evaluate feasibility of construction
- Comprehensive understanding of Code Compliance
- Provide drafting support using AutoCAD and BIM to drafting staff

Qualifications & Requirements:

- A minimum 4 years of directly related experience in plumbing design or equivalent combination of education and experience.
- Recent relevant experience in the engineering/construction field
- Plumbing design from Schematic Design through Construction Administration
- Comprehensive knowledge of plumbing engineering fundamentals
- LEED – AP preferred
- Team-player: Demonstrated ability to effectively manage a projects and/or take direction from project managers
- Proficiency with MS Office and AutoCAD
- Strong verbal and writing communication skills

Be part of our team and design your success. We offer a stimulating and collaborative work environment with competitive salary & benefits and opportunities for advancement. We are proud to offer a variety of benefits including medical, dental, vision insurance, 401K match & much more.

Please send your resume, a cover letter, and your salary requirements to jobs@tsqeng.com

Please be sure to include the following in your cover letter:

- 1.) Why you are interested in this position,
- 2.) The special talents or strengths you will bring to our team and
- 3.) An example of a success that demonstrates your skills and abilities, for you are particularly proud.

CHAPTER OFFICERS

PresidentEric Decker
 President-Elect..... Kenneth Golovko
 Vice President..... Derrick Wyka
 Treasurer..... Greg Glover
 SecretaryCarlton Haywood

BOARD OF GOVERNORS

Craig F. Hofferber
 Stephen J. Rawski, P.E.
 John Sawyer
 Matthew Waller, P.E.

CRC DELEGATE

Eric Decker

CRC ALTERNATE

Kenneth Golovko

**ASHRAE
 ORANGE EMPIRE CHAPTER**

**2016-2017
 PARTIAL ROSTER**

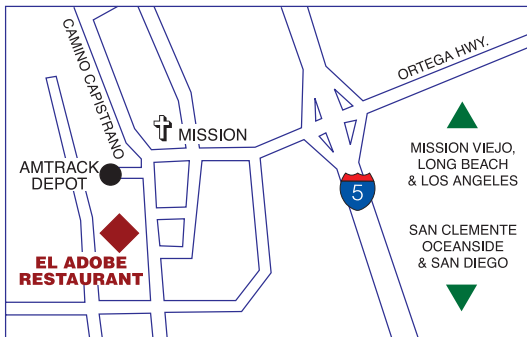
SPIEL DEADLINE
The April deadline
for articles or ads is
FRIDAY,
APRIL 14, 2017

COMMITTEES AND CHAIRPERSONS

Attendance.....Carlton Haywood
 Electronic Communications....David Yancosky
 Golf Tournament..... Dan Davitt
 GGAC Michael Garabedian
 Historian..... Craig F. Hofferber
 Membership Promotion Jeff Hanzel
 Newsletter Editor.....Robert Hagstrom
 ProgramsDerrick Wyka
 RefrigerationDavid Yancosky
 Research Promotion John Sawyer
 Student Activities.....Margaret Peterson
 Table Top DisplaysGreg Glover
 Webmaster/Homepage Editor..David Yancosky
 YEA Chair..... Charlotte Wan Dean



**March 21, 2017
 Meeting Location Map**



**2017 ASHRAE ANNUAL
 CONFERENCE IN
 LONG BEACH
 June 24-28, 2017**



The Long Beach Annual Conference Host Committee is looking for volunteers to serve as a Committee Chairperson on the following committees:

- Hospitality Committee • Information/Publicity Committee

If anyone is interested in serving as a committee member to aid in planning, we can use help and all of our committees:

- Hospitality • Sessions • Entertainment
 Tours • Information/Publicity

If you are interested, please contact Jeff Conrad (jconrad@accoes.com) or Ricson Chude (ricson.chude@sce.com)

PLEASE RSVP FOR THE MARCH 21 MEETING

by Thursday, March 16, 2017 at noon, Cancellations by Monday, March 20, 2017 at noon
(non-cancellations will be billed)

Carlton Haywood c/o Signet Controls, Inc.

Phone (805) 990-8846 • Fax (877) 888 4648 • E-mail: carlonh@signetcontrols.com

ASHRAE MEMBERS: \$40 (\$45 late) | NON-MEMBERS: \$45 (\$50 late) | STUDENTS: \$20 | AT THE DOOR: \$55

Name(s): _____



Menu Choice:

1. 2. Company: _____
 1. 2. Telephone: _____
 1. 2. E-mail: _____

To be removed from our e-mail list, please notify Chris Tindall at (949) 296-3136 or email ctindall@mcparlane.com or Steve Rawski at e-mail srawski@semprautilities.com.

PLEASE DO NOT CONTACT THE RESERVATION LINE TO REMOVE YOUR FAX NUMBER FROM OUR LIST

ORANGE EMPIRE CHAPTER

WINTER/SPRING 2016/17 SCHEDULE

MEETING LOCATION:

EL ADOBE SAN JUAN CAPISTRANO

31891 Camino Capistrano
San Juan Capistrano

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SEPTEMBER 27, 2016

Dinner: Arena Ventilation

Theme: Membership Appreciation

Place: Holiday Inn, Santa Ana

OCTOBER 25, 2016

*Tech: Optimizing Tomorrow's Steam System
Through Knowledgeable Design Today*

Dinner: How Not To Design a Steam System

Theme: Steam Night

Place: Holiday Inn, Santa Ana

NOVEMBER 15, 2016

*Event: Water Chemistry & IAQ – A Soup
to Nuts Look at Indoor Waterpark
Environments*

Theme: Joint Meeting with ASPE

Place: Great Wolf Lodge, Garden Grove

DECEMBER 13, 2016

Dinner: Adapt Today to Shape Tomorrow"

Theme: Joint Meeting with Tri-County Chapter

Place: Quiet Cannon, Montebello

JANUARY 17, 2017

Dinner: Refrigeration and Microbrewery Tour

Theme: Refrigeration and Membership Night

Place: JT Schmid's Anaheim

FEBRUARY 28, 2017

*Dinner: A New Air System Design Concept
Using Chilled Boxes*

Theme: Research and Past Presidents Night

Place: Holiday Inn, Santa Ana

MARCH 21, 2017

*Dinner: Engineering a Successful Water
Treatment Program*

*Theme: Joint Meeting with San Diego,
Hosted by Orange County Chapter*

*Place: El Adobe Restaurant, San Juan
Capistrano*

APRIL 25, 2017

Tech: TBD

Dinner: TBD

Theme: Student Night

Place: Holiday Inn, Santa Ana

MAY 23, 2017

*Theme: Officer and Board Installation and
Golf Tournament*

Place: TBD



Orange Spiel



www.oeashrae.org

MEETING SUMMARY

**TUESDAY,
MARCH 21, 2017**

DINNER PROGRAM

*"Engineering a
Successful Water
Treatment Program"* by
Jeff Modglin

NO TECHNICAL SESSION

Orange Empire ASHRAE

P.O. Box 15603
Santa Ana, CA 92735