

2019

April

Upcoming Event Excitement!

We have a lot of exciting
events around the corner!

“Government
Outreach Day”

Wednesday

April 3, 2019

Sustainability Activity

Date TBD



Next Meeting Tuesday, April 9th

Harbor Breeze at Patriots Point, Mt. Pleasant

BOG Meeting 5:00-5:30

Happy Hour 5:30-6:00

Chapter Meeting/Dinner 6:00-7:00

\$30/person

[REGISTER ONLINE](#)

April 9, 2019

Critical Cooling or Heating Applications and Controls

Malcolm Persaud (Panasonic USA VRF ECOi)

Presentation Summary:

The topic summary will be:

“Critical Cooling or Heating Applications and Controls”

Managing and Utilization of Lead/Lag, Redundant and Rotating Systems.

-Definition

-History

-Growth

-Solution

Speaker:

Malcolm Persaud

Malcolm Persaud is the National Sales and Product Manager for Panasonic USA Commercial VRF ECOi. Having been involved in the launch of Sanyo VRF to the US Market he brings a vast amount of experience providing advanced air conditioning solutions across residential, commercial and industrial applications with the Sanyo/Panasonic brand for over 35 years. After the acquisition of Sanyo by Panasonic, Malcolm has performed various Sales and Product management roles in route to his current position.



ASHRAE Research Investors

Thank you for your sponsorship. If you would like to support the chapter, please contact the President.

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CTTC Corner

For more information about this column, contact **Gene Brown** (gene3380@gmail.com).

At our March meeting Jody Samuel gave an outstanding presentation: **Maximizing Condensing Boiler Performance**. In 97% of installations a boiler can be condensing or non-condensing, depending on entering water temperature and combustion. The burner should be fully modulating. There is a loss every time the boiler cycles off or on. Minimum excess air is necessary for the best efficiency.

The condensate typically has a PH of 4. This is very corrosive. For natural gas the sensible heat is 89.8% and the latent heat is 10.2%. The CO₂ is 12% and the H₂O is 23% of the flue gas. A gallon of condensate accounts for 8,000 BTU which would have gone up the stack. Heat from condensate can be captured. A heat exchanger can transfer this heat to the water returning to the boiler. Flue gas temperature can be 26° to 28° above return water temperature. Lower boiler temperature will give lower radiant heat loss to the surroundings.

The the dewpoint is the point at which the flue gas begins to condense.

Excess air pulls heat away from the process. More excess air makes it harder to obtain condensation. Be sure to provide adequate air. If the mixture is too rich, carbon monoxide will be produced. The exhaust should have 9% CO₂ or greater. 8% CO₂ makes condensation more difficult. A pre-mix unit has a modulating blower with modulating gas control. Manufacturers pre-fire the burner and adjust to the optimum percentage of CO₂. Dialing in on site may take a half hour. Excess air should be 25% to 30%.

On low fire it is difficult to get condensation.

Low return water temperature is required in order to obtain condensation. Keep this in mind when installing a boiler in an existing building. Outdoor reset is recommended. This will allow low water temperature on mild days. With 120 degree return water, an efficiency of 90% can be obtained. At 100 degrees, 94% is possible. Many installations are accomplished with high temperature return water. If the temperature can be dropped, efficiency can be improved. The AHU determines the minimum supply and return water temperature.

A pressure independent control valve (PICV) is good for maintaining desired flow rate.

These valves have the ability to maintain the desired flow rate regardless of pressure changes upstream or downstream of the valve. Return water may be used to condense water from the flue gas. After this the return water can be sent to another AHU before it is returned to the boiler. For condensing boilers the proper polypropylene and/or stainless steel components should be provided to handle the condensate.



Regional Update:

All members are encouraged to submit entries for a technology award. This will be a good advertisement for your company and will help our chapter compete for regional awards.

Building Energy Quotients (BEQ). BEQ looks at buildings before they are built and after they are constructed. BEQ gives a list of low hanging fruit for saving energy. The potential for saving energy is typically 30% as compared with a few years ago.

Randy Jones
Treasurer

Research Endowments Update:

We would like to take a moment and thank those you sponsored the golf tournament, helping us come closer to reaching our research goals for the year.

**Allied Applications; Constantine Engineering Associates; Epting Distributors;
Hahn Mason; James M Pleasants; Research Air Flow; The Chapman Company;
Triad Mechanical Contractors; Victaulic; WBS**

For those you are still planning on making a research promotion donation, please think about donating to the Clarence Hamm endowment, we are about \$1,900 short from fulling this complete amount of \$3,000 or the scholarship fund

David Kauffman
RP Chair

Government Affairs Committee Update:

We have coordinated our legislative day at the SC Statehouse with the Greenville Chapter and the South Carolina Chapter. The scheduled date is Wednesday April 3rd. If you are interested in participating, or if you have a personal contact in the SC House or Senate, please contact me.

Pete Conroy
Government Affairs
Committee Chair



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Runyon, Pete Conroy

2019 Events

April 3rd, 2019 **ASHRAE Government Outreach Day**

[*Wednesday April 3rd, South Carolina Statehouse*](#)

April 9th, 2019 **Meeting @ Harbor Breeze—**

[*Tuesday April 9th*](#)

May 14th, 2019 **Meeting @ Harbor Breeze—**

[*TBD*](#)

June 2019 **Summer Low Country Boil Social @ TBD**

What is YEA?

To ensure a bright future for ASHRAE and the industry, the Young Engineers in ASHRAE (YEA) Committee was developed to create programs and develop a path for our young professional members. Any current ASHRAE Affiliate, Associate or Member who is 35 years of age or younger is considered a YEA member, and automatically has a wide variety of programs, events, and opportunities at their fingertips!

