

Cleveland Chapter of The American Society of Plumbing Engineers February 2019

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From the President:



I would like to thank Craig Hausman with Lochinvar for being our guest speaker at the January Technical Meeting on the topic; System Fluids.

I would also like to thank our January table top presenters; Nitin Chauhan with Culligan and Tom Campbell with Campbell Equipment.

Please welcome our newest members to the Cleveland Chapter; Kyle Conklin with JM Verostko and Gary Skalecki with Bluestreak Consulting. Welcome back Gary!

The February Technical Session will be a joint meeting with ASHRAE on the topic: Engineering Ethics, presented by Devin A. Abellon, PE with Uponor.

The February 13, 2019 Lunch Meeting will be held at Harry's Steakhouse located at 5664 Old Brecksville Road, Independence, Ohio 44131.

11:00 – 11:45 Sign-In / Meet and Greet / Mini-Tradeshaw

11:45 – 1:30 Lunch / Seminar

1:30 – 2:00 Mini-Tradeshaw / Tabletop Display

Please RSVP by February 8, 2019 with Kevin Noble at knoble@sbmce.com. Registration is required. Lunch price is \$26 per person.

Let us know if there are any specific topics or field trips you would like to see our chapter sponsor. We are always looking for new ideas. Remember, without membership and participation, there is no local chapter.

Regards,
John A. Varga, P.E.
President, ASPE Cleveland Chapter

**2018-2019 ASPE Meeting/Plumbing Class Schedule
February 2019**

<u>Date – Time – Place</u>	<u>Agenda</u>	<u>Speaker</u>	<u>Exhibitors</u>
September 12, 2018 – 6:00 PM <i>Cleveland Yachting Club</i>	Clam Bake Topic – Social Event ASPE Cleveland Chapter	N/A	N/A
October 10, 2018 – 6:00 PM <i>Harry's Steakhouse</i> Cost: \$26.00	Topic – Air Compressor Sizing, Selection, and Accessories	Scott Springli of Gardner Denver	Gardner Denver
November 14, 2018 – 11:30 AM <i>Oatey Company</i> * Complimentary Lunch for attendees provided by Oatey	Topic – Oatey Company Tour	Adrien Scherer Technical Sales Specialist	N/A
December 12, 2018 – 11:30 AM <i>Harry's Steakhouse</i> Cost: \$26.00	Topic – Axial / Lateral Pipe Movement and Expansion Fittings	Arlene Chase Hyspan Precision Products	Mastroianni
January 9, 2019 – 11:30 AM <i>Crown Plaza Hotel in Independence</i> Cost: \$26.00	Topic – System Fluids	Craig Hausman Lochinvar	Campbell Equipment Culligan
February 13, 2019 – 11:30 AM Harry's Steakhouse Cost: \$26.00	Topic – The (un) Ethical Engineer : A Study in Principle and Practice ** Joint Lunch Meeting with ASHRAE **	Devin Abellon Uponor	Trade Show with many local manufacturers and manufacturer representatives on hand !!
March 13, 2019 – 6:00 PM <i>Lubrizol</i> Cost: \$26.00	Topic – Lubrizol R&D Tour	Rob Janowiak, Market Manager North America Commercial Plumbing	N/A
April 10, 2019 – 6:00 PM <i>Harry's Steakhouse</i> Cost: \$26.00	Topic – Legionella & Pathogen Control	Water Control Corporation	Rep Source LLC. Additional tabletop opportunities available for this meeting!
May 8, 2019 – 6:00 PM <i>Harry's Steakhouse</i> Cost: \$26.00	Topic – Water Heaters and Boilers	TBD	Tabletop opportunities available for this meeting!

**2018-2019 ASPE Meeting/Plumbing Class Schedule
February 2019**

The above is the meeting/plumbing class schedule for the 2018-2019 ASPE year. Updated information will appear in subsequent newsletter issues. All meetings will be at Harry's Steakhouse, 5664 Old Brecksville Road, Independence unless otherwise indicated. The meeting/plumbing class, including dinner, is \$26.00. Reservations are required. A mini product show will be held before each meeting/plumbing class highlighting some of the materials discussed in class or products that will assist the engineer in understanding what they are designing or specifying. All plumbing classes will qualify for 0.1CEU hours and will assist in preparation for the ASPE CPD examination.

The following times will be enforced as strictly as possible.

Make your reservations a minimum of two days before the meeting/class and try to be on time.

Evening Seminars:

- Mini product show 5:00 - 6:00 pm
- Dinner 6:00 - 6:30 pm
- ASPE business 6:30 - 6:45 pm
- Presentation 6:45 - 7:45 pm

Lunchtime Seminars:

- Mini Product Show 11:30 - 11:45 am
- Sign-In / Meet and Greet 11:45 - 12:00 pm
- Lunch 12:00 - 12:30 pm (Seminar to begin during lunch)
- Presentation 12:00 - 1:00pm

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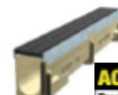
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Hello ASPE. I learned about a new plumbing system last month and I am quite excited to share some of my initial questions and answers with you. The Eastern Michigan ASPE Chapter's last Technical Session was about Vacuum Drainage systems – who has designed one before?

As a sustainability 'enthusiast' my initial thought was; were going from a 'free energy' drainage system to vacuum pumped? Humm.

Let's take a look at some of the properties of vacuum drainage, from my perspective of course, summarized from the conversation we had with the vacuum drainage design team, Acorn Vac.

Q: What is vacuum drainage?

Vacuum drainage is nothing more than gravity drainage with vacuum assist. It is a closed system instead of open and uses gravity and differential pressure to transport waste.

General Advantages:

- Drainage piping can reside in the ceiling space
- Floor penetrations are virtually eliminated
- Flush volumes reduced to 0.5gpf
- "Saniwipe" problem eliminated – can combine system with grinders to aid downstream system blockages
- No vent stacks needed

Q: Where are these systems primarily used currently?

In hospitals, renovations & retrofits for medical facilities and correction facilities.

Q: What are some potential cost savings?

- New construction 2-4% more expensive
- Remodel/renovation is cheaper

Q: Who is competing against this system?

- Gravity (but is it really free?)
- Maintenance Teams (Changes to habits are usually discouraged)

Q: How do we test the system?

- Vacuum testing to leak rate of zero
- Not made for positive pressure test
 - Do not pressurize accumulator
- Perform leak test in all sections
- Testing procedures usually differed to Authority Having Jurisdiction

Q: What are some important design considerations?

1. Bracing
2. Tank Draining
 - a. Usually redundant design where 2 tanks online, one isolated and drained by gravity
3. Vacuum Pump Exhaust
 - a. Location is important – liquid waste will go through vacuum pump if tank overflows

As a sustainability 'enthusiast' my initial thought was – We're going from a 'free energy' drainage system to vacuum pumped?

Humm.

4. Alarms
 - a. Sensor for pump differential pressure to get notification of leaks
5. Cleanouts
 - a. Cleanout with mechanical joint instead of standard C.O. joint due to pressure leaks
6. Floor Drains
 - a. Floor penetration with shallow accumulator in wall
 - b. Other option is suction wand tapped off toilet riser or main with shut off valve to vacuum up spills etc.
7. Leaks
 - a. Leaks are air entering the system, no liquid leakage
 - b. Can fix with 'tape'
 - c. Noisy to help find leaks
8. Piping
 - a. Main pipe sizing is same as gravity
 - b. Fixture pipe sizing is smaller – 1 ½" fixture drain size
 - c. Piping to have smooth coefficient of friction with low resistance
 - d. Designed with DWD pattern fittings
 - e. Polypropylene
 - f. Low flow fittings to reduce energy and pressure drop (increase)
 - g. Not good with cast iron due to porosity
9. Vent Piping
 - a. Not required
10. Pump run time
 - a. Healthcare 10%
 - b. Correction Facilities 25%
11. Fixtures
 - a. Can use existing toilet fixtures
 - b. Vacuum drainage specific fixtures to give most water and efficiency savings
12. Emergency Power
 - a. System can be put on emergency power if occupied in the scenario
 - b. Otherwise pressure should remain in emergency power scenario

I hope my notes and thoughts on the Vacuum Drainage system was helpful to those who, like myself, have never come across it – yet! If I understood anything incorrectly in my summary or you just want to talk about Vacuum Drainage systems please reach out!

Thank you,

Kari Rosteck

AYP Liaison
Field Engineer at Horizon Engineering
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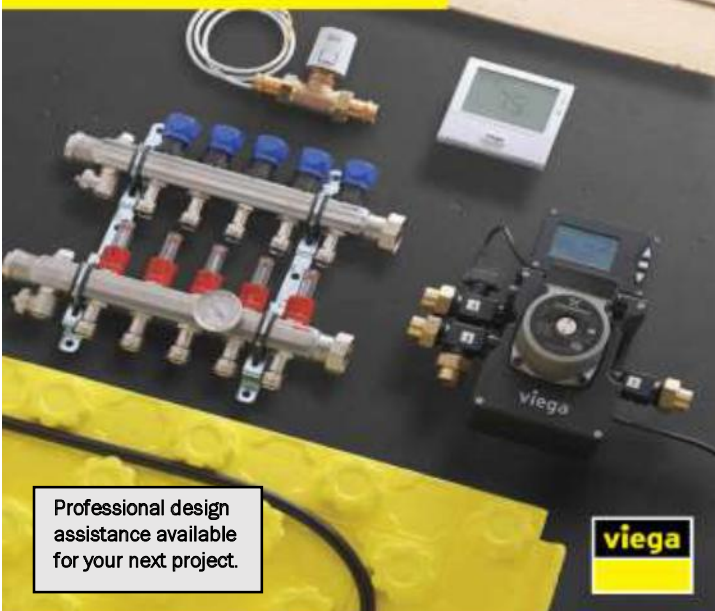
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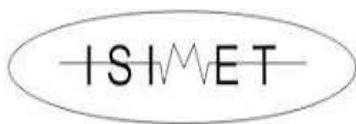
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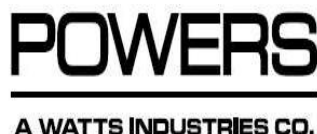
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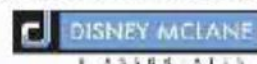
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Region 2 Affiliate Report

Legionella Conference 2019

Building Water Systems: The Sustainability and Public Health Nexus www.legionellaconference.org

In my January article I wrote about the many events happening in ASPE Region 2 this year. These include the February 28-March 1 Basic Design Workshop in Pittsburgh; the May 31-June 1 President's meeting in Rochester; and the August 6-8 HITS Conference in Buffalo. I expressed how much we have available to us in our region this year and how thankful we all must be for these educational opportunities. I closed in saying I would write more about the Legionella Conference 2019 as information became available.

Why a *Legionella* Conference? Simply put, because *Legionella* is the big 'L' in the room. Ears perk up at the slightest mention of the word. Hospitals go into panic mode and implement an immediate shutdown of water in section of their facility when they get a positive test result for it. It's complicated, it's important, and if we listen to many industry professionals, we all know we can store our hot water at 140°F and control this beast. If this is what you've been told, if this is what you believe, then you best put this conference on your "MUST ATTEND" list.

If you deal with healthcare, then you should understand *Legionella* isn't their only concern. *Pseudomonas aeruginosa*, *Acinetobacter*, NTM (Nontuberculous mycobacteria), and fungi are just some of the bacteria and fungi in these environments.

Today, all healthcare facilities must have an active water management plan in place. I hate to report to you that many of these plans are two, and three pages in length describing that "they have a WMP". They, or their consultants have used their computer Snipping Tool to snap a section out of the CDC Tool Kit and use that snip to illustrate their flow diagram, to show their control measures, and corrective actions. I hate to tell you this but the CDC Tool Kit is

only a reference guide; an example to help you understand a process. A process that is only looking at the control of *Legionella*. IT IS NOT YOUR WATER MANAGEMENT PLAN.

There is no way any facility can have an effective Water Safety Plan without conducting a risk assessment that includes an onsite review of all their water systems.

So Why Should You Attend This Conference?

The *Legionella* Conference, hosted by NSF International and the National Environmental Health Association, is a unique, annual event that focuses on emerging issues related to building water systems - and brings professionals together to work toward solutions.

The 2019 *Legionella* Conference theme, "Building Water Systems: The Sustainability and Public Health Nexus," centers on how both industries can help align water and energy sustainability and public health goals. This event will bring together thought leaders from across the sustainability, public health, water management, water utility and academic communities. Working in collaboration with diverse stakeholders, we can develop systems to prevent illness associated with building water systems while meeting our sustainability goals.

Important topics include:

- Creating a successful water management program
- Advancing water reuse opportunities
- Monitoring a successful water management program
- Intersection of sustainability and public health for cooling towers
- Water conservation goals and public health – responding to unintended consequences
- Strategies for benchmarking building water systems for sustainability and public health outcomes
- *Legionella* outbreak surveillance and response strategies – identifying best practices
- Domestic hot water systems – safely and efficiently managing water temperatures
- Plumbing design

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