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Chapters are not authorized to speak for the Society

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April CHAPTER MEETING

Date: TUESDAY, April 8, 2025

NEW Location: Countryside YMCA
1699 Deerfield Rd
Lebanon, OH 45036
Tel 513.932.1424

Cost: \$20 online

Schedule: 11:30PM-1:30PM

High Purity Water w/ Water Control Corporation

Reservations: Make a reservation and pay for the meeting through the Chapter Website or email Bill Berger at bill.berger@kohler.com or John Fox at jfox@mwspec.com before noon on MONDAY, April 7th, so that a head count can be established. As always, guests are welcome.

All content displayed at ASPE meetings is copyrighted. No one may copy any part of it without permission of the copyright owner. Violation of this rule can lead to monetary damages.

LOOKING AHEAD

Chapter Meetings to be held at Countryside YMCA, Lebanon, OH unless noted otherwise.

April 8th: High Purity Water w/ Water Control Corporation

May 13th: The History of Interceptors w/ Streamkey

August 8th: Night Out with the Dragons

The ASPE Newsletter is published by the Southwestern Ohio Chapter of the American Society of Plumbing Engineers. Opinions expressed herein are those of the authors and do not necessarily reflect the views of the Society, the Chapter or the Editor.

Presidential prose...



The 2025 Certified in Plumbing Design (CPD) exam is being held April 7-18. The deadline to register is April 1. If you missed the opportunity to register for this year's exam it will be offered in a similar time frame in 2026. Best of luck to Dan Ross and our other members sitting for the exam this year!

Our April Chapter meeting will cover high purity water systems. This ties off from last month's meeting that addressed hygienic hand washing, which included use of high purity systems. Please see the article from our new VP Technical later in this newsletter for more information.

We have begun coordinating our annual Night out with the Dayton Dragons. Please see Andy Monnig, atmonnig@heapy.com, if you'd like a ticket to join us on Friday, August 8th at 7:05pm. We hope to see you there!

As always we are open to programming requests, please reach out to a Board member or submit on the website YOUR ideas for a technical presentation.

Upcoming Events:
 April Chapter meeting – High Purity Water w/ Water Control Corporation
 April Chapter Meeting – The History of Interceptors w/ Streamkey
 Night out with the Dragons – August 8, 2025

Thanks for being here, we like having you.

– **Andrew Hemmelgarn**
President

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Technically Speaking...



Technically Speaking

Spring has been give and take so far, with one week in the 70s and the next in the 40s, but I'm certainly thankful for any sun we get. Chris Stackhouse visited us in March to present hygienic practices for clean facilities, particularly hospitals and medical care. This was a good course to review things like material and fixture selection, sanitation alternatives, and sanitary design.

Brian Soderholm with the Water Control Corporation is taking April and will be presenting "High Purity Water". This will be a great opportunity to learn more about treatment, filtration, and installation of these systems. For those who work in pharmaceutical, healthcare, and even food production, it's an easy recommendation. We hope to see you there!

Cheers,

– **James Fiorini**
VP, Technical

Looking to stay in touch
with the Chapter



www.southwestern-ohio.aspe.org

The Southwestern Ohio Chapter would like
to wish a

Happy Birthday

to the following members celebrating their
birthday in July or August:

Josh Cable, Carl Christy, Tyler Crone, Kyle
Gordon, Dan Heiskell, Andrew Hemmelgarn,
Bryan Hill, Denny Lammers, Oksana Lysenko,
Bill McCamey, Eric Nash, Michael Perry and
John Williams

And the Chapter would like to wish a

Happy Anniversary

to the following members commemorating
their ASPE anniversary in July or August:

Steve Ashpaw, Ron Bartley, Bill Berger, Chris
Carter, Bobby Davidson, James Fiorini,
Suellen Hukan, Derek Koogler, Thomas
Mastbaum, Pat Murphy, Benjamin Scott and
Ryan Voss

Legislative lingo...



Dialysis in Patient rooms

Had a lot of requests to put Dialysis boxes in patient rooms. Running into some grey area of the code that I see interpretations of on existing drawings. I wanted to spark discussion to get other points of view. First off, what code(s) applies specifically to Dialysis? FGI helps to define the space but not much on the plumbing outside of water quality requirements. Those are also more directed to dedicated Dialysis suites and typically have a dedicated RO. I am not writing about those; I am writing about portable dialysis machines with portable RO machines between the potable water and the dialysis in a patient room. Section 608 Protection of Potable Water System applies to protect the potable water from the “hazard” of the dialysis/RO setup. Specifically 608.3.1 shown below has “hospital fixtures” but it is not clearly defined. I am suggesting that dialysis equipment falls under “hospital fixtures” umbrella and therefore needs to be protected. Most machines I have seen recently have an “integral air gap” but no further information to give me a warm fuzzy that the system is protected That “meets” the requirements below if it is a true air gap as defined by code. If that machine is replaced by one that does not have the integral air gap or if that integral air gap is not functional, then what is protecting the potable water system? My ‘belts and suspenders’ solution are an RPZ or Vacuum Breaker. The push back recently is ‘my current facilities’ dialysis boxes don’t have those’. Just because it exists doesn’t

mean it is right. I am not 100% sure I am right, just falling on the side of caution. I am protecting the potable water supply, myself, the owner and the patient. Phew, if you got this far, thanks for your time and I look forward to further dialogue with you.

2024 OPC

608.3.1 Special Equipment, Water Supply Protection

The water supply for hospital fixtures shall be protected against backflow with a reduced pressure principle backflow prevention assembly, an atmospheric or spill-resistant vacuum breaker assembly, or an air gap. Vacuum breakers for bedpan washer hoses shall not be located less than 5 feet (1524 mm) above the floor. Vacuum breakers for hose connections in health care or laboratory areas shall be not less than 6 feet (1829 mm) above the floor.

– **Jeremy M. Williams PE, LEED AP BD+C
VP, Technical**



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Membership musings...



Hopefully you all are staying afloat during this rainy weather and maybe using as an opportunity to watch some of these final basket games.

Our next chapter meeting is Tuesday, April 8th 2025 at the Countryside YMCA in Lebanon on High Purity Water w/ Water Control Corporation. Looking forward to seeing you all there!

Did you know you can also take advantage of Multiple-Year Membership Renewal and save on your ASPE membership dues if you join or renew for more than one year! 5% Discount for a two-year renewal. 10% Discount for a three-year renewal.

The following members renewed in March, and we'd like to acknowledge them for their continued support to our local chapter, Doug Dockus, Kevin Hansman, Dennis Helmig, Mario Linares, Andy Monnig, Toritseju Omaghomi, Gregory Pearson, Keith Schloemer and Jeff White. Thank you all! I'd also like to welcome David Mohler with Louder Sales for the month of March, thanks for joining our group. We hope to see you soon.

This month we are starting to publish in arrears for our membership numbers. Our total membership for March is holding strong at 107 members this month with these new additions and renewals. We have 58 Full members, 16 Associate members, 30 Affiliate members, 2 Life members, and 1 Retired member.

Total Membership		
	March 24'	March 25'
Buffalo-Niagara	41	44
Central Indiana	122	133
Central Ohio	106	129
Cleveland	89	96
Eastern Michigan	105	116
Evansville	34	40
Johnstown	30	32
Kentucky Bluegrass	29	38
Pittsburgh	95	105
Rochester	78	83
Southwestern Ohio	103	107
Toronto	110	108
Western Michigan	92	93
Region 2 Total:	1,034	1,124

Thanks,

**– Brian Selander
VP, Membership**

Through the pipes...



- [Save the Date!](#)

If you weren't able to take part in the recent in-person MedGas Workshop in Chicago, IL, you have at least two more opportunities this year:

August 21–24 in North Andover, MA (hosted by Watts)

October 16–19 at ASPE's headquarters

To learn more about the ASSE 6060 training options, [visit aspe.org>>](#)

- [Second Public Comment Period for ASPE 45 Revision Is Open](#)

ASPE's Main Design Standards Committee and Working Group 45 have reviewed the comments received during the first comment period for the revision to ASPE/ANSI 45-2018: Siphonic Roof Drainage, and the substantive changes resulting from that review are now available for public comment until April 28, 2025. [Learn more>>](#)



- [Registration Opens Soon](#)

Are you looking forward to the 2025 ASPE Tech Symposium? Registration will open next month, so mark September 24–28 on your calendar and stay tuned!



- [Showcase Your Sustainable Skills](#)

ASPE's Green Plumbing Design designation signifies professionals dedicated to ensuring the efficient use of resources via water-conserving plumbing systems. [Get started>>](#)

- [ASPE and IAPMO Release Peak Water Demand Study](#)

Peak Water Demand Study: Full Study is a comprehensive analysis redefining water supply system sizing for residential and multifamily buildings. It provides an evidence-based approach to right-sizing plumbing systems—demonstrating reductions in water waste, construction costs, and public health risks. [Learn more>>](#)

- [Say Hello to Our Newest Member](#)

The Society is pleased to announce that more than 100 members have affiliated with new ASPE Chapters in the past month—congratulations! And this includes the newest member to the Southwestern Ohio Chapter: **David Mohler**. Welcome aboard, David, and please do not be a stranger to our monthly Chapter meetings.



- [ASPE's Book of the Month](#) program continues with the [ARCSA/ASPE 63 \(2020\): Rainwater](#)

[Catchment Systems](#) (eBook version). Through April 30, 2025, you can purchase the digital edition for 25% off the regular member price. Just enter the coupon code **volunteer** when you check out.

The discount is only valid on the digital version of the publication, and the coupon code can only be used once. If you are purchasing multiple items, the discount will be applied only to the assigned publication.

Don't forget to enter the coupon code when you check out to receive the discount.



● It is with a heavy heart that we report the passing of **Joyce Harper Vaughn**, the mother of Society Executive Director and CEO Billy Smith. Mrs. Vaughn passed away on Sunday, March 9, 2025, at Lineville (AL) Health & Rehabilitation Center.

Survivors include: one daughter, Lavenia Swann (Will) of Wedowee; two sons,

Billy Smith (Carol) of Montgomery and Kevin Smith (Diana) of Roanoke; one step-daughter, Sylvia Matthews (Bill) of Tallahassee, FL; two stepsons, Bill Vaughn of Athens, AL and Ken Vaughn (Donna) of Alex City; nine grandchildren, Leigh Smith, Kristi Wright, Taylor Gates, Allyson Smith, Brian Darda, Bobby Darda, Kayla Vaughn Estes, Nicole Vaughn Wilkerson and Kristen Gatlin; and 11 great-grandchildren.

Pallbearers were Robie Harper, Mark Lowry, Brian Darda, Chase Lowry, Adam Gates and Justin Wright. Honorary pallbearers were Bobby Darda and Blake Lowry.

A lifelong Randolph County resident, Mrs. Vaughn was born on July 23, 1931, the daughter of Green Clarence and Lizzie Johnson Harper. She was Christian by faith and had attended the First Baptist Church of Wedowee, Trinity Baptist Church and Rock Stand Congregational Christian Church. Mrs. Vaughn had worked as a supervisor at Hanes Hosiery before her retirement. Mrs. Vaughn was preceded in death by her parents; granddaughter, Elizabeth Nichole Swann; two sisters, Mary Bailey and Florence Hand; and five brothers, Walter, Leonard, Robert, Andrew and Clinton Harper.

Online condolences may be left at www.quattlebaumfuneralhome.com

The Board of Directors, Chapter Officers, Board of Governors and membership extend their deepest sympathies and condolences to the Vaughn family and friends during this difficult time.

Through the pipes...

After a brief hiatus, we have once again gathered around the ol' water cool for another round of discussions. This month, we begin with a look at **pipng test procedures...**

● *Guys, please review the following correspondence and advise what could plumbing contractors be doing better to help this not happen?*

To me, it appears that when PVC is used the clamp between the pipe and the drain is the issue. Should we think about cast iron for X linear feet downstream of drain? Thoughts?

Roof drains are a critical piece of building water management that go unnoticed until issues arise. Multiple types of roof drains exist in commercial settings: Primary, Secondary/Overflow, Scuppers, Retrofit, and Siphonic drains. We regularly install the first three, and try to steer clear of the last two. A roof drains' main purpose is to remove water from the roofs surface to prevent intrusion and overloading of the roof structure. The faster this is done, the less wear and tear on the roof.

Specifications provided by the architect will direct testing of roof drain assemblies. This will be a comprehensive test for water tightness of the roofing, basin, and drain pipe assemblies. ASTM D5957 is the most widely accepted standard for practical water tightness testing of roof drains. There are standards referring to roof drain performance, flow rates, and material performance from ASPE, ASME, ANSI, and other groups. Do not confuse these. Your Quality Control Manager will be able to help you discern the difference.

QC Managers have been assembling Test Logs for projects for the past few months as new projects start. The goal being to ensure all testing is completed as work is being put in place, and alleviating project closeout chaos, damages, and rework. Roof drain testing is one of the regular items being tracked. Please have your Co-Ops and PEs participate in this testing as possible.

Let's start with the following thought:

It is our experience that most (if not all) of the model- and state-written plumbing codes have listed their standards for the testing of the various pipe materials allowed for building systems. Some are taken from various third-party agencies that have performed their own testing on materials and means-and-methods; other are procedures they have developed on their own. And, of course, the material manufacturers have their own set of testing protocols (often times complying with the same third-party testing standards) to ensure their materials are responsibly specified and installed.

As design professionals, we do have a duty to remember that the testing procedures as outlined in the various model- and state-written codes represent the minimum standard-of-care. We do need to perform our due diligence and be certain

that we call for the most stringent and recommended testing procedure for the materials used in the building systems.

This is another instance where the design community will often assume that the listed standard and/or code-in-force is sufficient. But if there is something more stringent out there, we need to be sure we have taken steps to properly address the situation so it does not become a potentially expensive and embarrassing issue down the road.

And we have another thought to share:

As a team we should all work together to ensure a quality installation using the best practices of the profession. It is essential that we make use of the applicable code within the jurisdiction of the project, the recommended installation procedures of the manufacturer, and the best practice of the skilled trades professionals. As design professionals, our duty is to appropriately detail the design in accordance with best practices, manufacturers recommendations, and applicable standards to assure that the design meets or exceeds the minimum requirements of the applicable code. It is the design professional's obligation to exercise due diligence in developing the design that protects the public health, safety, and welfare in balance with the needs and expectations of the owner.

The mixing of materials is expected. Having said that, the design professional and skilled contractors need to ensure that the appropriate measure are taken to provide a quality and reliable installation. Provided the installation is installed as designed, utilizing the best practices of the skilled trades, one has done their due diligence and should avoid the potential of failure with the associated expenses of repair and embarrassment of a failed system.

We do have one comment on the provide "Quality Bulletin Issue 47." In the last paragraph of the 1st page ... performance from ASPE, ASME, ANSI, and other Is inaccurate. ANSI (American National Standards Institute) does not develop or publish standards. ANSI establishes the requirements and procedures for the development of said standards by organizations accredited by ANSI. Any time ANSI is used, it must be mated with the organization responsible be the development of the standard in an open consensus process. It is this process that allows such standards to be referenced within codes.

- Designing a **reverse osmosis (RO) system** can bring a unique set of design considerations. Such is what one Cooler has an inquiry...

I have some questions regarding designing the piping for Type 1 RO.

Are there any good resources for sizing and designing RO piping? The majority of the sources I see discuss the equipment and neglect the piping.

What is the best pipe material to use?

What is the best design velocity? Some say 5 fps, and other sources say 3 fps. I have also read in an article that it's best to keep the supply at 5 fps and the return at 3 fps.

What diversity should I apply to the system, and what is the best way to determine the diversity?

When sizing the piping, should diversity be applied to all pipe sections? For example, if I have a branch pipe serving 4 lab faucets at 1.5 gpm each, can I size it as $4 \times 1.5 = 6$, $6 \times 30\%$ diversity factor = 1.8 gpm for that branch?

Is adding balancing valves in the return loop okay and is it recommended?

What type of recirculation pumps do you recommend for the loop?

What are the general pressure requirements for the loop?

Would you happen to have any recommendations or sites that you can suggest?

Regardless of the type of water, pipe sizing practices do not change. Pipe sizing is based on flow rate and pressure drop due to friction.

RO water is water that has a reduced mineral loading. Hence, the RO water is seeking to attract minerals to make up for those removed during the treatment process. Piping downstream of the RO unit will require a polymer type or stainless steel, generally.

You are in a piping system; the velocity is continually changing as fixtures are opened and closed. In the "Closed Loop" condition, one generally try to maintain a constant velocity of between 3 to 5 fps. This velocity will allow for flush flow through the piping, while remaining in the laminar flow condition. Polymer piping can handle higher velocities than their metallic counter parts, such as copper or steel. The issue with higher velocities is generally a concern for erosion within the piping system. However, that is not the case with polymer piping. The concern in the polymer materials is "water hammer" at the higher velocities that can occur because of "quick" closing valves. Additionally, higher velocities result in turbulent flows and increased sound generation. The water hammer conditions can cause failure of the piping

system unless the system is appropriately installed to secure the piping to resist the pressure wave shock.

The diversity of the system must be based on the specifics of the system and type of facility into which the system will be used. Hence, diversity is an engineering judgment that needs to be discussed and worked out with the owner/user.

Yes, diversity varies throughout the system depending on the specific mix of fixture and how they are being utilized. As with your example of 4 lab faucets, one must consider the probability of all these faucets being utilized at the same time. That probability is also known as diversity. As noted above, it is engineering judgment in coordination with the owner/user.

Balance valve may be appropriate, depending on the system layout and the specific purpose of the RO water. If the system is being utilized for an elevated level of water purity, the system should be looped, hence not balance valves would be involved.

Depending on the system design, a pump may or may not be needed. If the RO system provides the pressure to the downstream side, no pump would be necessary. On the other hand, if the RO system is feeding a non-pressure storage tank, a pump to serve the system would be necessary. This pump could be a pressure pump (pushing the water around the system) or circulating pump (pulling the water through the loop). I prefer to push the water through the loop as entrained air is less of an issue. In the circulating mode, pulling the water can become problematic with air entrainment. Regardless, the pump selection must be based on materials that are compatible with RO water.

The pressure of the system is dependent on the purpose and usage of the system. Code generally limits the pressure to a maximum of 80 psig and a minimum of 15 psig. If this is a process system, the pressure is dependent on the process and pressure ratings of the materials within the system.

As for recommendations, work with the manufacturer or vendor of the equipment you have selected to base your design around. One source we have been working with Water Control, Inc. www.watercontrolinc.com.

• Dealing with plans examiners is part of the game when **submitting Contract Documents for permit**. But what happens when questions arise that are outside a Design Professional's field of expertise? Consider the situation one Cooler is experiencing...

Do you have any thoughts on the following situation I am dealing with regarding a Plans Examiner? Take a look at this comment from a plan reviewer for a project I'm working on.

- 3. Provide & submit the sprinkler design criteria based off the 48-hr. low hydrant test. A hydraulic adjustment is required to adjust the water supply curve to the lowest pressures the system encounters during a 48-hour time period. Adjustment of the water supply curve entails shifting both the static and residual pressures downward to the lowest static pressure the system encountered during the 48- hour test. The curve should show two curves in parallel shifted along the y-axis. See example: Water supply calculation example: 48-hour low: 70 psi static Conditions during flow test: 80 psi static 65 psi residual 965 gpm. Adjustment: 70 psi static 55 psi residual 965 gpm. It means, submit Design Density Criteria area for Hazard Classification per nfpa 13r-2013 - Add this info to plumbing sheet. Show how fire line enter to building & riser room.*

I am the EOR for plumbing. The only things I know about NFPA are that it exists, there are lots of rules, and I haven't read it. I am therefore unqualified to sign anything sprinkler-related.

For reference, the sprinkler is design-build on this and not by my firm.

How would you tell this guy he's wrong?

We do have a few questions, so that we can better understand the design and craft an appropriate response.

- Do your documents show anything related to the fire protection systems or is there a separate fire protection design?
- If your documents show fire protection criteria, what is shown?
- The plans reviewer refers to NFPA3R-2013, are you designing a residential building?
- Did you show a flow test on your documents? Was the flow test a 48-hour test?
- What notes related to fire protection, if any, are shown on your documents.
- Do your documents show the fire line entering the building along with the associated riser room?

Also, could you provide the plans in question so we can review them relative to the reviewer's comments? For now, there is simply too much

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