ASPE American Society of Plumbing Engineers
SOUTHWESTERN OHIO

Newsletter

December 2024 Volume 44 Issue 4

Chapters are not authorized to speak for the Society

AFFILIATE SOCIETIES COUNCIL
AMERICAN SOCIETY OF PLUMBING ENGINEERS
SOUTHWESTERN OHIO CHAPTER
5100 Springfield Street, Suite 100
Riverside, OH 45431
www.southwesternohioaspe.org

President
Andrew M Hemmelgarn, EI, CPD
KZF Design
andrew.hemmelgarn@kzf.com

Vice President, Technical
Samuel Church
Campbell Equipent Co.
samuelc@campbellequipment.com

Vice President, Legislative
Jeremy M. Williams, PE, LEED AP BD+C
Heapy
JMWilliams@Heapy.com

Vice President, Membership
Brian Selander
StreamKey, Inc.
brian@streamkey.com

Treasurer
Christina B Elliott
BraHan, LLC
crissy@bra-han.com

Secretary/Affiliate Liaison
William B Berger
Kohler
bill.berger@kohler.com

Newsletter Editor
John H Fox
Midwest Spec
jfox@mwspec.com

Board of Governors Chair
Brian C Fraley, CPD, LEED AP
Danis
Brian.Fraley@Danis.com

Fundraising Chair
Andrew T Monnig, CPD
Heapy
atmonnig@heapy.com

Chapter AYP Liaison
Izsak Rapp
Motz Engineering

Chapter WOA Liaison
OPEN

December CHAPTER MEETING

Date: **TUESDAY, December 17, 2024**

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

Cost: **$20** online

Schedule: **11:30PM-1:30PM**

Water Demand Calculator w/ IAPMO

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, December 16th,** so that a head count can be established. As always, guests are welcome.

LOOKING AHEAD

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

January 14th: Water Quality Testing w/ Solid Bend Technologies

February 10th: Stainless steel push fit drainage w/ Josam

March10th: Infection Prevention w/ Franke Sinks

April 14th: High Purity Water w/ Water Control Corporation

Presidential prose…

Starting in 2025 we will be shifting our meeting day to the 2nd Tuesday of the month. This is to share space with the Cincinnati ASHRAE meeting which coincided with our usual date of the 3rd Tuesday of the month. The date change will continue indefinitely in after 2025. We apologize to anyone this inconveniences, it is ultimately an attempt to accommodate those engineers, designers, and affiliate partners who would normally attend both meetings.

This year the Southwest Ohio ASPE Chapter is teaming up with Toys for Tots to give back to local children.
If you bring a new, unwrapped toy appropriate for a boy or girl ranging in ages from 0 to 13 years old you will be entered into a raffle for a $50 Amazon gift card. Food or realistic looking weapons will not be accepted.
Some examples include LEGO sets, books, and sports equipment (think baseball, soccer ball).
Thank you for partnering with us to give back this year.

Our next Chapter meeting will cover the Water Demand Calculator, as presented by Toju Omaghomi with IAPMO. Southwest Ohio is proud to have Toju as a member of our own Chapter! Toju recently presented on the Water Demand Calculator at the ASPE Convention and Expo to a full room; there is certainly a lot of interest around this topic.

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.

The Board is exploring a golf outing of our own. Potentially to be hosted in September 2025, let Andrew know at andrew.hemmelgarn@kzf.com if that piques your interest. Andrew is not a golfer and is trying to learn what it takes to host a successful outing.

Thanks for being here, we like having you.

– Andrew Hemmelgarn
President

Technically Speaking…

Technically Speaking

I hope everyone is having a cheerful holiday season. This is our last meeting of the year, and what better way to host than with one of our own? We are very fortunate to have a peer in Toju Omaghomi, also an ASPE Convention and Expo speaker, who will be presenting and navigating the Water Demand Calculator with IAPMO. As I reflect on this past year's presentations, I can only have gratitude to work in a locale with so many bright minds like Toju's. I have no doubt we could book each monthly meeting with a member of Southwestern Ohio. I do hope you join us for the year's final presentation.

Cheers,

– Samuel Church
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 this month:

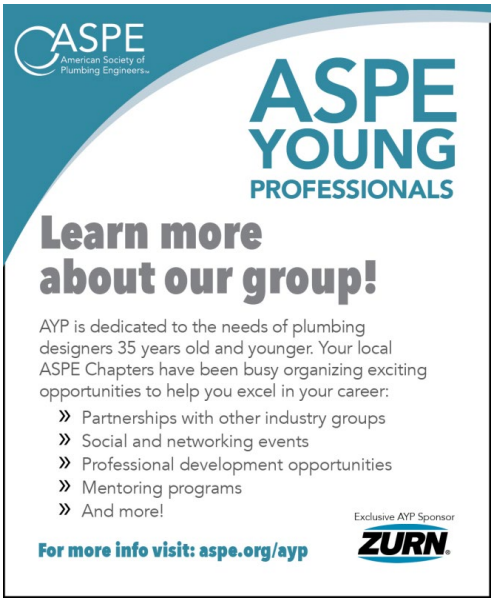
Bret Abner, Terry Cannon, Chris Carter, Doug Gregory, Jon Hall, David Hudson and the Late Jim Miller

And the Chapter would like to wish a

Happy Anniversary

to the following members commemorating their ASPE anniversary this month:

Tyler Crone, Daniel Daly, Crissy Elliott, Michael Hagan, Bill Hutchinson, Alexander Lukashevich, Oksana Lysenko, William McCamey, Michael Rahe, Steven Tate, David Texter and Matthew Wyles



Legislative lingo…

New Ohio Codes change for Medical Gas Systems
The Plumbing Code with Ohio Amendments can be found on ICC website here: Ohio Building Codes - ICC Digital Codes (iccsafe.org)

2024 OBC added SECTION 527 MEDICAL GAS SYSTEMS. This section was pulled from Section 5306 of the 2021 IFC. The notable change between these sections and the 2017 OFC still in effect is that the required high and low vent on "One-hour exterior rooms" require 36 square inches of free area per 100 cubic feet of gas instead of 24 square inches. This increases the louver sizes for natural ventilation of the medical gas storage room. It is open to interpretation, but it has been accepted that these are not required if you utilize mechanical ventilation to increase the Maximum Allowable Quantities (MAQ) per Chapter 50 of the Fire Code. Coordination among the whole team when addressing these storage rooms is important.

2024 OBC
427.2.1 One-hour exterior room.
A 1-hour exterior room shall be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, with a fire-resistance rating of not less than 1 hour. Openings between the room or enclosure and interior spaces shall be provided with self-closing smoke- and draft-control assemblies having a fire protection rating of not less than 1 hour. Rooms shall have not less than one exterior wall that is provided with not less than two vents. Each vent shall have a minimum free air opening of not less than ~~24~~ 36 square inches (232 cm^2) for each 1,000 cubic feet (28 m^3) at normal temperature and pressure (NTP) of gas stored in the room and shall be not less than 72 square inches (465 cm^2) in aggregate free opening area. One vent shall be within 6 inches (152 mm) of the floor and one shall be within 6 inches (152 mm) of the ceiling. Rooms shall be provided with not fewer than one automatic fire sprinkler to provide container cooling in case of fire.

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

Membership musings…

This month we have our former President and current Board of Governors Chair, Brian Fraley, for our Spotlight. Brian, thanks for all you have done and continue to do for our chapter.

What's your favorite ASPE memory?

I've really enjoyed serving our Chapter in some capacity on the Board for a while. While President, I backed members to attain Life Membership. I also really enjoyed seeing Ron Bartley be recognized as a Fellow.

Favorite sport's team and how did that come to be?

I've been a lifelong UD Flyers men's basketball fan. My grandfather started buying season tickets around 1949 and they have been in my family ever since. I can remember going to games since I was about 5 years old.

Favorite hobby and how did that come to be?

My favorite hobby is to play golf or bow hunt white tail deer. Hunting was something I never thought I would enjoy until I sat in the woods one morning and watched the world wake up. It's amazing to see it go from such a quiet place, then when first light hits, here the birds start to sing, the squirrels start to wrestle around.

How has your career path developed to get you where you are today?

I started in the industry as a laborer. I tried the wholesale counter sales which I didn't really enjoy. I came back to the field, went and got my journeyman's license. After doing this for a bit, I know I couldn't stay in the field my whole career. This is when I started to learn to be an engineer. I did that for a total of 10 years which lead me to my current position as a Plumbing Estimator for Danis Construction.

What's your best piece of advice for someone who is just getting started in their career?

I would say, don't let shortcomings and failures get you down. It is through these that you learn what not to do. I would tell them, to make sure you make time for yourself regardless of how much pressure there is on you from work. The mental health aspect of our industry is documented so make sure to get help if you need it. In my experience though, I haven't found anything I couldn't work through. Even working for more than 24 hours straight on several occasions up to a deadline. It can be stressful, but working through it is something I have always found to be very rewarding.

I hope you all can make it to our upcoming meeting about the IAPMO Water Demand Calculator at the Countryside YMCA in Lebanon. I'm certainly looking forward to it.

We are 108 members strong this month with no new members to report on this month, we have 57 Full members, 17 Associate members, 31 Affiliate members, 2 Life members, and 1 Retired member.

A big thanks to all those who renewed last month including Ron Cobb, James Huesman, Timothy Lehman, Bill Schnelle, Chris Schreel, Maddie Suggs, Dave Texter and Jeff Watern. We appreciate your continued support.

Total Membership		
	Dec 23'	Dec 24'
Buffalo-Niagara	41	45
Central Indiana	122	134
Central Ohio	103	123
Cleveland	94	96
Eastern Michigan	104	114
Southern Indiana	34	42
Johnstown	30	30
Kentucky Bluegrass	26	34
Pittsburgh	96	103
Rochester	77	85
Southwestern Ohio	103	108
Toronto	109	103
Western Michigan	93	94
Region 2 Total:	1032	1111

Have a great Holiday Season!

– Brian Selander
VP, Membership

Through the pipes…

- **Save the Date!**

Are you sad that the 2024 ASPE Convention & Expo has come and gone? Never fear! ASPE Staff is already hard at work on the next national event, the 2025 ASPE Tech Symposium, which will be held September 24-28 in Orlando, FL. To learn more about the event and sponsorship opportunities, visit aspe.org/2025-aspe-tech-symposium.

- **Steele Scholarship Application Deadline Is January 31**

ASPE's Alfred Steele Scholarship offers up to $5000 in scholarship p monies to qualified applicants each year. The scholarship is limited to ASPE members and their immediate families who have a GPA of 3.0 or higher who are in or plan to attend a college, university, or technical school on a full-time basis (minimum 12 credit hours), enrolled in an engineering program. You can learn more about applying on ASPE Pipeline.

- **2025 MedGas Workshops Start in March**

Registration is now open for the first in-person MedGas Workshop next year, which will be held March 20-23 at ASPE's headquarters in Rosemont, IL, just a short ride from Chicago's O'Hare Airport. Get the 32 hours of training needed to take the ASSE 6060 exam as well as earn 1.2 ASPE CEUs

in just a few days. Register now on ASPE Education>>

● **New Educational Offering!**

As part of ASPE's commitment to train the next generation of medical gas system designers, the Society has created a new MedGas Basics class bundle on ASPE Education. The four instructional video classes provide an introduction to medical gas as system design for those looking to get into this exciting specialty of plumbing engineering. Learn more>>

● **Need CEUs?**

At ASPE Education you can find archived webinars, the popular Read, Learn, Earn program, and more to help you earn the CEUs needed for, among other registrations/certifications, CPD and CPDT recertification. Get started now>>

● **Showcase Your Skills with the GPD**

The popular Green Plumbing Design program is available on demand on ASPE Education, enabling you to earn your GPD certificate at your own speed, in your own timeframe. Get started now>>

● **ASPE's Book of the Month** program continues with the **CPD Study Guide** (eBook version).

Through December 31, 2024, you can purchase the digital edition for 25% off the regular member price. Just enter the coupon code **holidaycheer** 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.

MATHCOUNTS®

●

On Saturday, February 8, 2025 (a change in date this year), the **Greater Dayton MATHCOUNTS Competition** will again be held on the campus of Wright State University. Our Chapter will be lending an assist to the Dayton Society of Professional Engineers (with members functioning as proctors, scorers and runners). To lend a much-needed hand (it is appears there will be a 50% increase in schools competing), please contact Competition Coordinator Kyle Stankowski at kgstanko@mtu.edu,

Students enrolled in the sixth through eighth grades are eligible to participate in the MATHCOUNTS Competition Series. MATHCOUNTS is a national middle school mathematics competition, designed to foster an interest in mathematics and science in students.

Each competition, which takes approximately 3 hours to complete, consists of the following four events:

- **Sprint Round:** Focuses on speed and accuracy. Students have 40 minutes to complete 30 problems without the use of a calculator.
- **Target Round**: Focuses on problem-solving and mathematical reasoning. Students receive 4 pairs of problems and have 6 minutes to complete each pair, assuming the use of a calculator.
- **Team Round:** Focuses on problem-solving and collaboration. Working as a team, students have 20 minutes to complete 10 problems, assuming the use of a calculator.

Only the 4 students on a school's team can officially participate in this round.

- **Countdown Round:** Focuses on speed and accuracy. The Countdown Round is an oral, single-elimination competition in which the top 12 individual scorers compete head-to-head. Students have a maximum of 45 seconds per problem without the use of a calculator.

To whet your appetite for the competition, give the following problem, which involves one of the rituals of the holiday season, some thought:

Chiquita and Rhonda are each building a snowman. Rhonda tells Chiquita that she is making each of her 3 balls of snow 20% smaller than the one below it.

*Chiquita planned to do the same thing as Rhonda, but she misunderstood what Rhonda meant when she said "…20% smaller than the one below it." Chiquita made her first ball the same size as Rhonda but then decreased the **volume** by 20% for each subsequent ball. How much taller is Chiquita's completed snowman than Rhonda's completed snowman? Express your answer as a decimal to the nearest tenth.*

The solution will appear in next month's newsletter. Good luck; we know you can get it.

● With the holiday season at hand, we feel it quite proper to once again offer **George Washington's Eggnog Recipe.** Enjoy!

Ingredients

1 pint brandy

1/2 pint rye whiskey

1/2 pint Jamaican rum

1/4 pint cream sherry (optional)

12 eggs

12 tablespoons sugar

1 quart milk

1 quart heavy cream

Freshly grated nutmeg

Cinnamon sticks

Directions

Combine all of the spirits and set aside.

Separate the yolks and whites of the eggs.

In a large bowl, beat the egg yolks until thickened, then add sugar to the beaten yolks, mixing well. Add the combined liquors, then the milk and finally the cream while slowly beating the mixture.

Whip the egg whites until they form stiff peaks and slowly fold into the creamy yolk-and-liquor mixture.

Cover and let sit in a cool place for several days (five days are recommended). Taste frequently.

To serve, ladle into punch glasses and garnish with freshly grated nutmeg and a cinnamon stick.

As you can tell, the Father of our Country was quite serious about his eggnog. We recommend you exercise some discretion with the instruction, "Taste frequently".

Around the water cooler…

● The holiday season is truly upon us, with many related activities calling for our attention and attendance. So why not take a breather and peruse another round of Water Cooler discussions? We start with a Cooler who has a question that is frequently asked with many opinions generated: who is responsible for **exterior appurtenances such as lift stations?** Read on:

If I have a building that requires all of the plumbing waste to be pumped from a lift station, who is responsible for the design and who owns the lift station? Typically, we as plumbing design professionals will size exterior equipment such as grease or oil interceptors, and in this particular case I have a grease interceptor as well as an exterior acid waste neutralization system that will be outside of the building. Both of those, along with the sanitary waste, will end up at this lift station.

Should I as the plumbing designer-of-record take responsibility for the pit, pumps, and piping to the lift station (but not the force main to the city)? Should the civil engineer claim the pit & piping to/from and I claim the pumps? In terms of design, we size ejectors based on potential peak demand from a diversity of plumbing fixtures, but from my experience civil engineers are more concerned with the daily volume discharge.

Any thoughts/comments on the situation are welcomed (not just for this specific project, but in general).

Most interesting. Our first question would be, "What does your contracted scope-of-work have you holding responsibility for?" Typically, most plumbing codes mandate that anything within the

building shall drain by gravity whenever possible. But what you are describing is facility that does not have an accessible gravity public sewer to which it can waste. Hence, the facility will require a "lift station" to pump the waste to a public sewer in the area. The next question would be, “Who will own this lift station, the facility owner or the local purveyor?”

As a plumbing design professional, per most plumbing codes, you are responsible for anything within 30-inches of the building envelope (the generally accepted concept of anything within 60-inches of the building envelope being the responsibility of the plumbing design professional is something of a “gentlemen’s agreement” that has existed through the years). There are some exceptions to this as you noted: the FOG (Fats, Oils and Greases) interceptor and an acid waste neutralization system.

A lift station, outside of the facility, is not covered by the plumbing code. It is covered by civil engineering standards and the local purveyor's regulations. Hence, the lift station should be the responsibility of the civil engineer or the local purveyor, unless your firm is contractually bound to hold that responsibility.

● **Supporting fixtures** and piping can be similar but definitely different. Consider the following question from a Cooler:

The Plumbing Code typically states:

2) Floor-mounted and wall-mounted water closet bowls shall be securely attached to the floor or wall by means of a flange and shall be stable.

Can the ceiling toilet flange be relied on to securely support its ceiling hung 3" toilet drain or does it require a dedicated pipe hanger similar to a shower drain p-trap?

You are mixing the code requirements. The section of the code you provided "Floor-mounted and wall-mounted bowls shall be securely attached to the floor or wall by means of a flange and shall be stable," is referring to the anchorage of the bowl. It is not referring to the associated piping and how that piping is supported or secured.

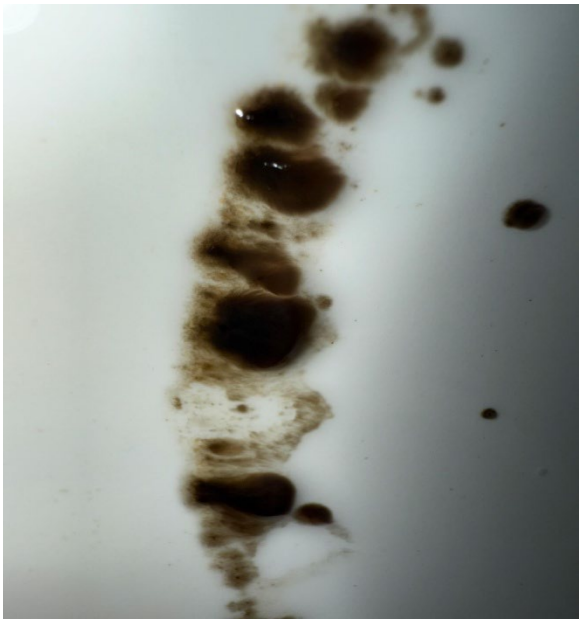
The flange upon which the bowl is secured must be anchored to the floor or wall as appropriate. The flange is what secures the bowl to the piping system in addition to securing the piping into the correct position.

Your question relates to how the piping should be supported and secured. And given that you are showing "No-Hub" piping, anchoring and supporting the piping must occur. No, the floor-set closet flange cannot be relied on to securely support the ceiling hung 3" toilet drain. The closet flange's responsibility is to provide a secure connection point for the closet bowl. It also provides a secure anchor point for the sanitary waste piping that serve that water closet. As for the piping it is supported by the frictional forces of the "No-Hub" band. As these frictional forces are limited, the piping must be supported and anchored in accordance with the prevailing code or manufacturers' installation instructions (whichever is more stringent).

● We now turn to a Cooler who has a **“moldy oldie”** to address. Read on:

We have a toilet that is totally clean and builds up this over time (below). It's at the waterline, and it's happening on only one toilet. Do you have any idea on what this is and how to address it?

It appears to be a type of mold growth. This will happen if a fixture sets unused for a period of time. Is this a flush valve or tank operated style fixture? If it is a tank type water closet, check the tank and clean it with a bleach solution. Assure that the bleach solution is flushed through the bowl flush ring several times, as the mold could be contained within the biofilm in the flush ring and will take some effort to remove it.



You indicated that it only happens in one toilet. I suspect that this water closet does not get much use. The other water closets probably get a greater usage. Hence, the water age within the bowl of this water closet is older that the other fixtures. Clean the fixture with a strong bleach solution and assure that the fixture is flushed on a more regular basis.

Remember that you are probably handling a mold, so do not breath it in form that could be aspirated into the air and assure you wash and cleanse your hands of any potential contact. If you collect a sample and allow it to dry, do not allow the powder to become airborne. Get your photograph and then seal the mold off with a cellophane tape to encapsulate the mold before disposal.

● When routing piping, **negotiating building structure** can sometimes be a tricky proposition. Consider this query from a Cooler (highlights by the submitter):

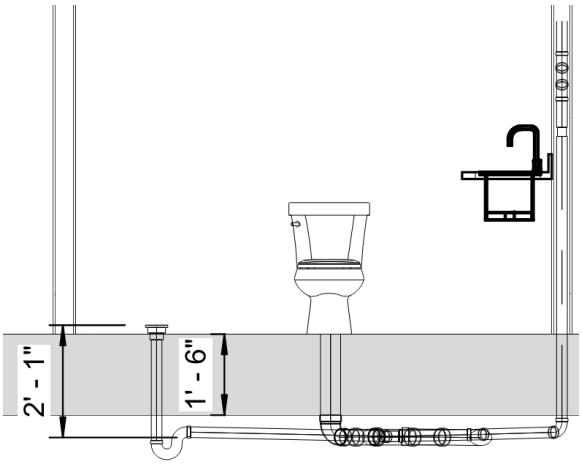
I'm working on the design of sanitary risers for a hotel. The second floor slab is an 18" thick transfer slab, and I'm evaluating the best way to handle tub and shower plumbing at this floor. IPC (Section 1002.1 in 2018) limits the vertical distance between the fixture outlet and the trap weir to 24". Allowing a couple of inches for the bed depth, it looks like this installation could meet code if the top of the trap is installed within an inch of the slab.

SECTION 1002

TRAPS AND SEPARATORS

1002.1 Fixture Traps. *Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches, and the horizontal distance shall not exceed 30 inches measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.3.3. A fixture shall not be double trapped.*

We are currently using horizontal wet venting at each restroom group, and the elbows from the lavatories and water closets are pushing the entire line down so that the tub/shower traps are too low (below).



It looks like our options are to either recess the elbows into the slab above or switch to individual venting of tub/shower fixtures on that floor. Both of those options add quite a bit of cost/complexity since this occurs for the whole floor. A separate Waste Stack Vent would be possible at a few of the fixtures but would not work for most of them.

Have you run into this before or have recommendations for the best approach?

Remember that the code is a minimum standard and that same code allows for Alternate Engineered Designs (AED). While it is preferred to limit the vertical distance between the fixture outlet and the trap weir, there may be physical limitations, such as what you describe, that prohibit strict compliance with the code language. You might consider using a "deep seal" trap on the fixtures for this floor to better assure trap seal maintenance.

We suggest working with your Engineer of Record (EOR), the person sealing and signing off on your design as well as the local Authority Having Jurisdiction (AHJ) to address this situation. Provided your EOR is comfortable with using the AED, the AHJ should be willing to allow this approach as the AHJ has done their due diligence.

As with any design, standard or AED, it is the EOR who holds the responsibility and liability for the design.

This is not an unusual design problem when a transfer slab is involved.

BTW: For projects in the Buckeye State, we should mention that if the EOR elects to submit part of their design as an AED, the EOR needs to keep the following section from the 2024 Ohio Building Code in mind when the Contract Documents are submitted for approval:

106.5.3 Technical data. The registered design professional is to submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of this code.

● Give, and it will be given to you. A good measure, pressed down, shaken together and running over, will be poured into your lap. For with the measure you use, it will be measured to you.

-Luke 6:38

We offer our sincerest, heartfelt wishes to you and yours from the crew that monthly gathers around the water cooler. **Season's Greetings…Happy Holidays…Merry Christmas to one and all.**

Parting thought…

A lot of businesses give away free Christmas turkeys. I don't know what the big deal is…I've been giving people the bird for years

-Maxine of "Crabby Road"

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