ASPE
American Society of Plumbing Engineers™
BALTIMORE

Monthly Newsletter SEPTEMBER 2022

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Upcoming Meeting

Date: **September 22nd, 2021**

Time: **6:00pm to 8:00pm**

Place: Olive Grove Restaurant

Topic: Heat Pump Water Heating Design and Technology

Speaker: Andrew Macaluso
Lync/Watts Water Technologies

Meeting Format
6-6:30 Social
6:30-6:45 Announcements and Table Tops
6:45 Dinner Served
7:00-8:00 Speaker

In This Issue

MEETING LOCATION

Olive Grove Restaurant & Lounge

705 North Hammonds Ferry Road
Linthicum, Maryland 21090
Phone: 410.636.1385

Local Chapters are not authorized to speak for the Society.
Newsletter questions please contact Jason Eagles

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Please Contact Jason Eagles or Jeff Edwards

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Kathy Dwyer
EJ Dwyer Company Inc.
kdwyer@ejdwyer.com

Jeffrey W. Edwards, CPD ,GPD
President

President's Report

Hello to all as we begin our 2021-2022 ASPE meeting season for the Baltimore ASPE chapter.

Our intent this season is to hold all our monthly meetings in person as we hopefully begin to get past all the Covid restrictions. If local and/or State mandates require us to change our plans, we will notify everyone.

I am happy to report that all our chapter officers agreed to remain in their current positions for this season.

We are planning to hold a Holiday Party this December and our annual golf outing in April 2022. We will also be holding Women of ASPE (WOA) and ASPE Young Professional (AYP) events this season. We will announce plans for these events as all plans are finalized in the coming months.

We are also planning on holding several special events for our chapter members. Those plans will also be announced as the plans are completed and dates gets closer.

The Baltimore ASPE chapter is dedicated to help all our chapter members in the field of plumbing engineering and designs. All our officers are available if needed so feel free to reach out to all of us as needed for assistance.

For those that are not aware, I recently retired from Mueller Associates and from the plumbing engineering field after 55 years of doing what I loved to do. I plan on remaining the President of the Baltimore ASPE chapter one more year. If you need to contact me for any reason, please email me at President@BaltimoreASPE.com.

I look forward to seeing you on September 22nd.

Best Regards
Jeff Edwards, CPD, GPD
President-ASPE Baltimore Chapter

Edwards Retires Following Distinguished Career in Plumbing and Fire Protection Design

Baltimore, MD—August 23, 2021

Mueller

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Mueller Associates announces the retirement of Jeffrey Edwards, CPD, GPD, the firm's chief of plumbing and fire protection services. Edwards had been with the firm for more than 35 years and contributed to many of Mueller's most notable projects.

Throughout a career that spanned more than 50 years, Edwards became known as one of the region's preeminent specialists in plumbing engineering and fire protection design. He designed systems for many of the Mid-Atlantic area's most acclaimed museums, libraries, and institutions of higher learning. His contributions include work on the award-winning Enoch Pratt Free Library; the John and Frances Angelos Law Center at the University of Baltimore; the historic renovation of the National Academy of Sciences; the new University of Maryland Baltimore County Performing Arts Center; the renovation and expansion of the Towson University Center for the Arts; the new Capital One Hall; and the renovation of the National Museum of Women in the Arts.

Most impressively, Edwards oversaw plumbing and fire protection systems for close to 200 projects for the Northrop Grumman Corporation, ranging in complexity and sensitivity including system design for industrial process facilities; electronics testing and assembly spaces; laboratory retrofits; engineering for cleanrooms, anechoic chambers, plating facilities, and secure areas; office fit-outs; equipment utility upgrades; and comprehensive infrastructure upgrades.

One of his final projects—the modernization of the Smithsonian Institution's National Air and Space Museum—was the largest and most ambitious of his career. The project features cutting-edge sustainable systems, including a massive rainwater harvesting system that will collect and reuse more than four million gallons of rainwater a year. The renovation is now under construction.

Edwards is also well known for his leadership in the industry and for mentoring students and young engineers. He has served as president of the Baltimore chapter of the American Society of Plumbing Engineers (ASPE). He is also a member of the National Fire Protection Association and the Society of Fire Protection Engineers.

"Jeff Edwards has made an enormous contribution to the industry, not only through his design expertise but also through his willingness to mentor and train other engineers," says Steven Gillis, PE, vice president and group manager with Mueller. "Whether meeting with high school students or reviewing projects with our up-and-coming team members, Jeff has been committed to sharing his knowledge and insights and preparing the next generation of engineers. We have been privileged to work with him and wish him the best in retirement. We know Jeff will enjoy playing golf, watching the Washington sports teams, and most importantly, traveling and spending time with his family.

About Mueller Associates

Established in 1966, Mueller Associates delivers mechanical, electrical, plumbing, and fire protection engineering services for cultural facilities, museums, higher education institutions, libraries, performing and fine arts centers, historic preservation, government facilities, and other institutional and corporate facilities. Mueller specializes in engineering solutions for complex and stringent environmental control and energy conservation. The firm is a leader and innovator in sustainability and resilience.

Current and recent projects include renovations to the Smithsonian Institution's National Air and Space Museum (NASM) in Washington, D.C.; the Enoch Pratt Free Library in Baltimore; the George Washington University Corcoran School of the Arts and Design in Washington, D.C.; the Art Museums of Colonial Williamsburg, Va.; the Peterson Family Health Sciences Hall at George Mason University in Fairfax, Va.; Morgan State University's Tyler Hall in Baltimore; the Smithsonian Institution's NASM Dulles Collections Center in Virginia; the College of Health Professions building at Virginia Commonwealth University in Richmond, the Duke University InterProfessional Education and Care Building in Durham, N.C, and numerous projects for Northrop Grumman Corporation. For more information,

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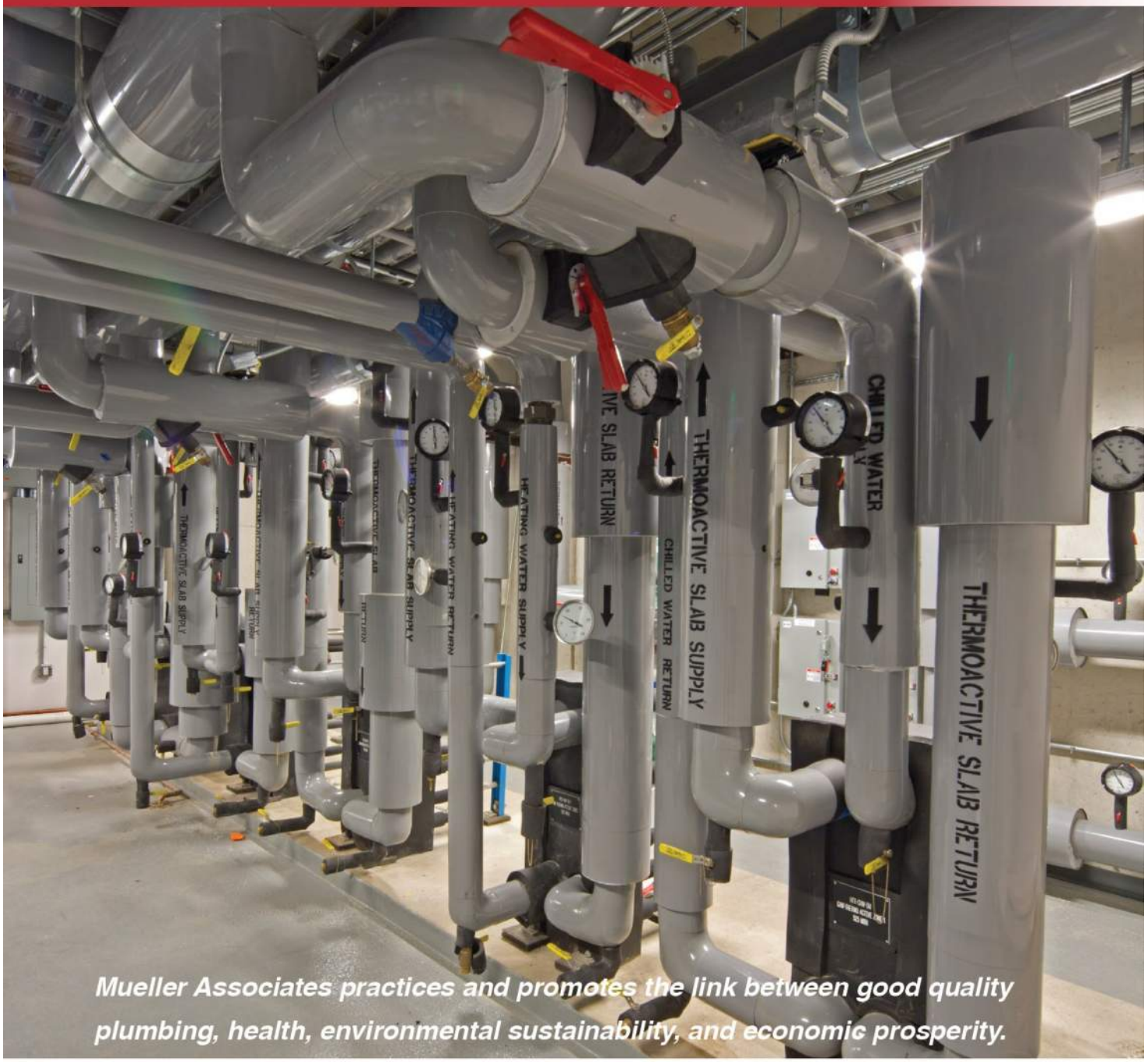

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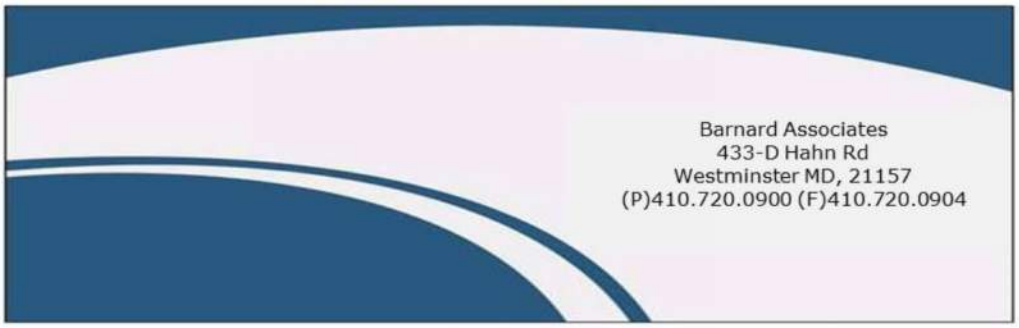

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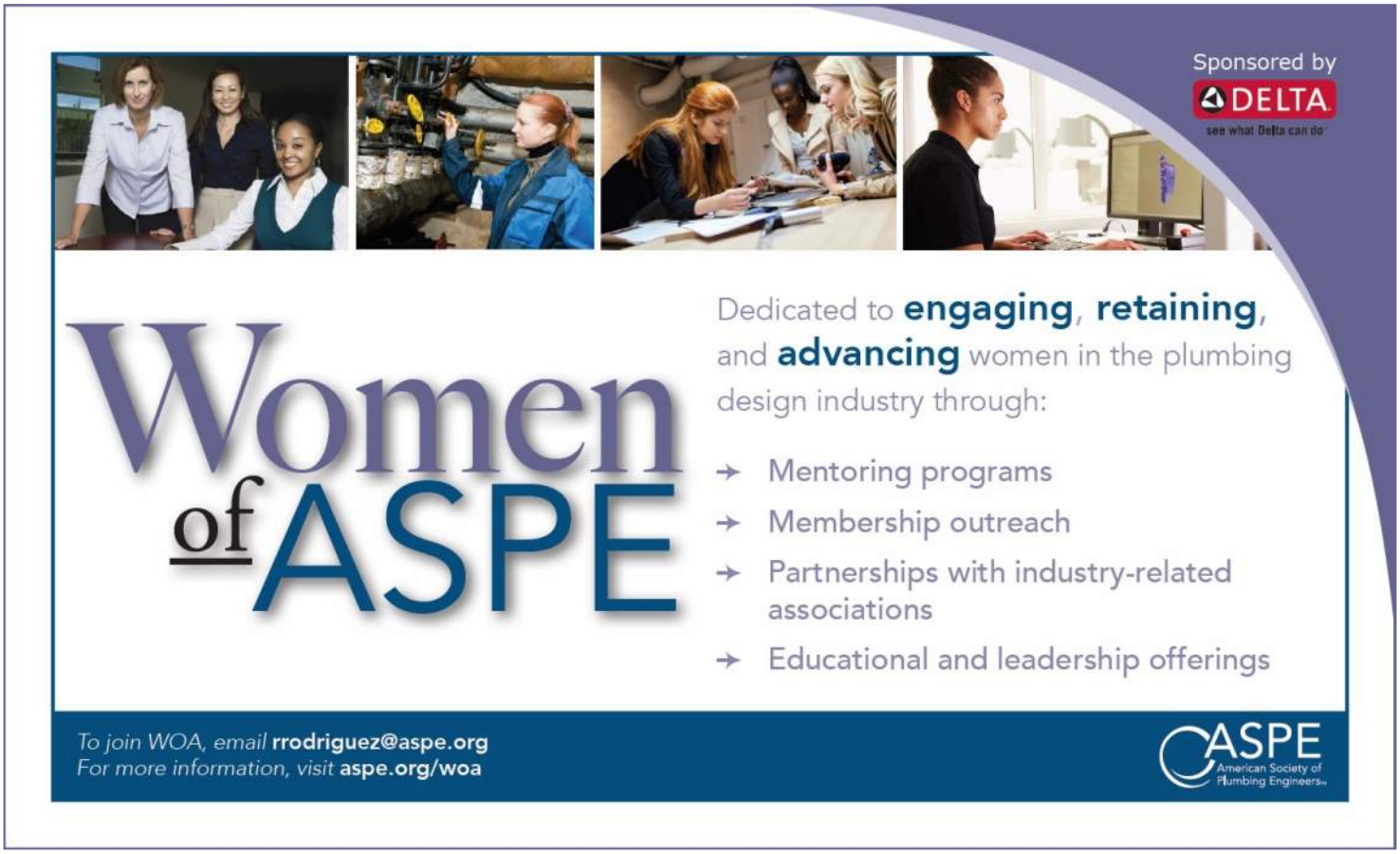
Karen Schulte, PE, CPD, LEED AP BD+C
WOA Liaison

WOA Report

As the new season of ASPE is upon us, we look forward to seeing you face to masked face! We are hoping to finally host our Women of ASPE cooking class after several postponements. Once we finalize the details in the coming weeks, we'll share the date and menu.

Best Regards,
Karen Schulte, PE, CPD, LEED AP BD+C



ASPE Design Guide Volume 4 Chapter 4

"The goal of the designer should be for the system to operate with as little energy as possible for a given demand."

"At no time is a booster at 100 percent flow based on Hunter's diversity curves"

"When selecting the total flow capacity, one preferred way to evaluate the operational efficiency is to use a method that can be scientifically proven, such as the 70 percent method."

"Tanks will typically be required when the manufacturer does not utilize low flow testing algorithms to detect low flow"

"New energy standards concede that reducing the speed of a pump during most of its operational time and restarting for makeup loads is more efficient than using tanks as "water storage batteries" during low-flow conditions."

** The above is taken from American Society of Plumbing Engineers design guide volume 4 chapter 4**

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Bradford White is an American, employee-owned company founded in 1881 with a simple vision, to deliver high-quality water heaters made by American craftspeople. They currently employ over 2,300 people and have four locations in America, with headquarters in Philadelphia, Pennsylvania, and three manufacturing plants in Middleville and Niles, Michigan, and Rochester, New Hampshire. Bradford White is Built to be the Best and American Strong.

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OmegaFlex was established in 1975 and located in Exton, Pennsylvania. They lead the flexible metallic piping industry with over 200 registered patents worldwide. In 2004, they introduced the **TracPipe CounterStrike** flexible gas piping used for natural and propane gas for residential and commercial applications.

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Watts was established in 1874 by Joseph Watts, the inventor of water pressure regulators. They are headquartered in North Andover, Massachusetts, with 10 locations in the United States, and 50 locations worldwide. They are the parent company to several brands, also located in the United States, including **Ames, Backflow Direct, Dormont, and Mueller Steam**. They proudly support the Buy American Act on

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Chuck Swope, PE, CPD, LEED AP BD+C
Vice President—Technical

Technical Report

Welcome to the beginning of another great season at the Baltimore ASPE chapter! I hope you all have managed to make it through another year relatively unscathed. We have a lot to look forward to this year, including the return of in-person meetings! Yes, that's right, you'll have to put names to faces all over again. This season we will present topics like Heat Pump Water heaters, Pressure Reducing Valves, Fire Pumps, Wastewater Systems, Emergency Fixtures, and more. We also have a hands-on presentation with Charlotte Pipe Foundry coming in April, so mark your calendars now!

Speaking of Heat Pump Water Heaters, our first topic of the season will be an interesting one. In years past, Heat Pump Water heaters were not viable in most plumbing systems and were relegated to residential markets. Bay Associates have brought Andrew Macaluso from Watts Water Technologies to help dispel some of these antiquated notions. For example, previous technologies were no capable of storing domestic hot water temperatures above 130° F reliably, but the newer technologies that will be discussed can generate at temperatures up to 185° F. That combined with eco-friendly refrigerants (spoiler, it's CO_2) and air/water cooled designs, there is a lot of potential to use this in many of our projects.

Andrew Macaluso is the Product Manager, Systems Solutions at Watts Water Technologies, Heat and Hot Water Solutions Division. Andrew has led the introduction of many cutting-edge technologies, including the newest commercial heat pump water heating technologies. He is an ardent advocate for highly efficient, environmentally friendly technologies and is passionate about applying those technologies where they can have the greatest impact. Andrew holds a Bachelor of Science in Mechanical Engineering from Columbia University and is an active ASPE member.

Finally, you may have read in our President's Report that Jeff Edwards has retired after 55 years in the plumbing field. Fret not, he will continue to be our chapter president for the upcoming season! There will more announcements coming, but please let us know if you are interested in joining our Chapter Board. We'd be happy to show you what we do behind the scenes.

Best Regards,
Charles J. Swope, PE, CPD, LEED AP BD+C
Vice President - Technical

Julius Ballanco: The move to lower global-warming refrigerants

Lower-GWP A2L refrigerants will be good for the environment and good for energy efficiency.

September 11, 2019
Julius Ballanco P.E., CPD

Editor's Note: Julius teamed up with Daikin Applied's ***Phil Johnson****, P.E., to author this piece.*

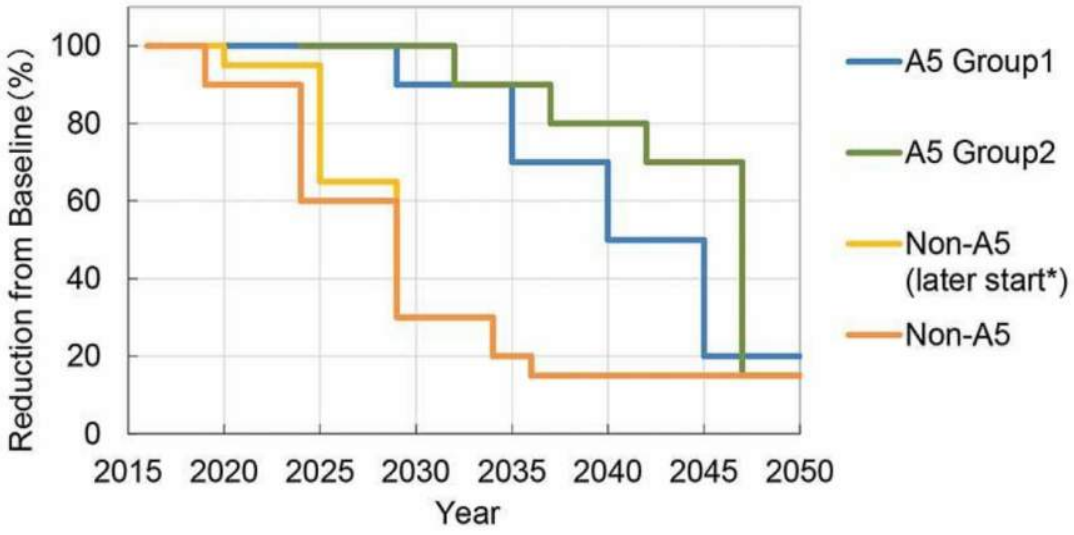
The engineering community and the world embraced the ban of chlorofluorocarbon (CFC) as a means of protecting the ozone layer. The 1987 Montreal Protocol was a landmark decision for protection of the environment. The predominant use of CFC was in air-conditioning and refrigerating systems.

The refrigerant industry quickly switched to replacement refrigerants that had a zero-ozone depletion potential. Some of the common replacement refrigerants were R410A for air conditioners, including heat pumps, and R134a for chillers. While these refrigerants were good replacements for CFC, it also was known that these newer refrigerants would have to be changed in the future. While the replacement refrigerants have a zero-ozone depletion potential, they also have a high global warming potential.

The mandatory switch to lower-GWP refrigerants will begin in 2023.

The continuation of the Montreal Protocol includes the eventual elimination of high global warming potential refrigerants. The movement to lower global-warming potential (GWP) refrigerants was further quantified by the Kigali Amendment to the Montreal Protocol. See Table 1 for the goals set by the Kigali Amendment. The refrigerant industry selected a value of 750 or less as defining a lower GWP refrigerant.

Article 5 Parties are divided into two groups:



Group 1: The majority of Article 5 parties;

Group 2: Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia and the United Arab Emirates.

Non-Article 5 parties: Later-start countries: Belarus, the Russian Federation, Kazakhstan, Tajikistan and Uzbekistan

Determining GWP of refrigerant: The GWP is a comparison of a chemical to carbon dioxide. Carbon dioxide has a GWP of 1. If a refrigerant has a lower GWP of 750, the release of one pound of refrigerant would be equivalent to releasing 750 pounds of carbon dioxide into the environment. Refrigerant molecules with reduced numbers of fluorine atoms generally have lower GWP, however, that leaves more hydrogen atoms, which increases flammability.

All of the currently accepted (and listed in ASHRAE 34-2019) alternative refrigerants for R410A fall into the category of Group A2L refrigerants. Many of the alternative refrigerants for chillers also fall into the category of Group A2L. See Table 2 of alternative refrigerants.

Alternative Refrigerants

Alternative To	ASHRAE Number	Class	GWP (<750) (IPCC AR4+)
R410A (A1, GWP=2088) Residential	R452B	A2L	698
	R32	A2L	675
	R447A	A2L	583
	R454B	A2L	466
	R290 (Propane)	A3	3
R404A (A1, GWP = 3920) Commercial Refrigeration	R454A	A2L	239
	R455A	A2L	148
	R457A	A2L	139
	R454C	A2L	148
	R744 (CO_2)	A1	1
	R717 (NH_3)	B2L	0
R134a (A1, GWP = 1430) Chillers, Commercial and Light Commercial	R513A	A1	631
	R450A	A1	604
	R515A	A1	392
	R600a (Isobutane)	A3	11
	R1234ze(E)	A2L	6
	R1234yf	A2L	4
R123 (B1, GWP = 77) Chillers	R1336mzz(E)	A1	18*
	R1336mzz(Z)	A1	2*
	R1233zd(E)	A1	1*
	R514A	B1	2*

*IPPC AR5

ASHRAE designation of refrigerants: Group A2L is a new safety classification of refrigerants added to the 2019 edition of ASHRAE 34. Prior to the update of the standard, A2L was considered a subclass of Group A2. The A and B designations indicate toxicity classification, A being lower toxicity while B is a high toxicity. The 1, 2, 3 designation indicates the burning characteristics of the refrigerant. No. 1 indicates "no flame propagation" when tested in accordance with ASTM E681. No. 2 indicates "flammable" and No. 3 indicates "higher flammability." A typical A3 refrigerant is propane, R290.

The new designation 2L indicates "lower flammability." In simple terms, a 2L refrigerant can sustain a flame, but it does not burn very well. It also requires a high energy source to ignite. Common A2L refrigerants are R32 and R1234yf. A common B2L refrigerant is ammonia, R717.

A2L refrigerants are included in current blends of A1 refrigerants. R410A is a blend of 50% R32, a lower GWP A2L refrigerant, and 50% R125, a high-GWP A1 refrigerant. The blend of the refrigerants lowers the flammability of the refrigerant into the Group A1 classification.

The misconception with refrigerants is that A1 and B1 refrigerants do not burn and are often called non-flammable refrigerants. However, all but nine refrigerants will burn and provide a fuel source. The A1 and A2L refrigerants just don't burn well. Of the nine truly noncombustible, nonflammable refrigerants, none are commonly used in refrigerant systems. However, one refrigerant is gaining in popularity, that being carbon dioxide, R744, although not for air-conditioning systems.

Over the last decade, there has been extensive research on Group A2L refrigerants. One of the concerns is the use of a refrigerant falling into a lower flammability classification. Another issue is the type of lubricant that needs to be used with these refrigerants. Of course, compatibility and replaceability are factors that were researched.

Maximum refrigerant charge: ASHRAE 34 establishes the refrigerant concentration limit (RCL) for each refrigerant. For A1 refrigerants, the RCL is based on the toxicity level of the refrigerant. For Group A2L, A2, and A3 refrigerants, the RCL is based either on the lower flammable limit (LFL) or the toxicity level, whichever is lower. For all but a few A2L refrigerants, the RCL is based on the LFL. The RCL is established at 25% of the LFL for the room concentration. Hence, it would require four times the concentration to reach the point where the refrigerant would ignite.

With a minor leak, there isn't enough refrigerant to cause a fire or toxicity hazard. The real concern is a catastrophic leak of A2L refrigerant.

When comparing A1 to A2L refrigerants, the RCL is normally much lower for A2L refrigerants. For example, R410A has an RCL of 140,000 ppm, which equates to 26 pounds per 1,000 cubic feet, while R32 has an RCL of 36,000 ppm, which equates to 4.8 pounds per 1,000 cubic feet. The allowable refrigerant charge of R32 is 18.5% of the charge allowed for R410A.

Engineers have had a tendency to not pay much attention to the RCL for A1 refrigerants. With the move to A2L refrigerants, the RCL will become an important factor in the design of a refrigerant or air-conditioning system. One of the many benefits of A2L refrigerants use is that most are more efficient, requiring a smaller charge size than their comparable replacement refrigerants.

New A2L standard requirements: After more than a decade of research and analysis of Group A2L refrigerants, ASHRAE has published requirements regulating the use of A2L refrigerants in the 2019 edition of ASHRAE 15. This is the standard on which every mechanical and fire code refrigeration requirement is based. ASHRAE 15 includes requirements for the use of A2L refrigerants in high-probability systems used for comfort cooling, and for systems installed in machinery rooms.

High-probability systems include rooftop units, heat pumps, water-source heat pumps, split systems, package terminal air conditioners, mini-splits and multi-split systems. Prior to the changes to ASHRAE 15, all of these systems typically used Group A1 refrigerants. Only systems using less than 3 kg of refrigerant were allowed to use a refrigerant in a safety classification other than Group A1.

The safety requirements added to ASHRAE 15 for the use of A2L refrigerants for comfort cooling include listing of the equipment, refrigerant detection and ventilation (when necessary). The charge limitation, which also is a safety provision, remains the same based on a maximum concentration equal to 25% of the LFL.

The new requirement for listing of the equipment by a nationally recognized testing laboratory is unique to ASHRAE 15. This is the first time the standard is mandating a listing for a given category of products. Previous editions addressed listing, but never mandated that products be listed.

The listing of A2L equipment will be to the 3rd edition of UL/CSA 60335-2-40. This consensus standard, which will be published this month, includes new requirements for refrigerant equipment using A2L refrigerants. The safety requirements of UL/CSA 60335-2-40 mandate that a refrigerant detector be installed internal to the refrigerant equipment. The internal detector is consistent with the requirement in ASHRAE 15 for refrigerant detectors.

Engineers do not typically pay much attention to equipment standards used for manufacturing, testing and listing equipment. UL/CSA 60335-2-40 is about 250 pages in length, with detailed requirements directed to the manufacturer. The standard specifies all the equipment requirements in addition to the safety requirements for using A2L refrigerants. The A2L safety requirements were developed through the international IEC standard process and harmonized for use in North America. Safety requirements were developed after a thorough evaluation of all the major research done on A2L refrigerants.

Early research verified that minor leaks of A2L refrigerant are of no consequence. The vast majority of refrigerant piping leaks are minor leaks. With a minor leak, there isn't enough refrigerant to cause a fire or toxicity hazard. The real concern is a catastrophic leak of A2L refrigerant.

The committee responsible for the development of the 3rd edition of UL/CSA 60335-2-40 based the safety requirements on a 4-minute leak of refrigerant. This means the entire refrigerant charge will enter a room or space in a period of 4 minutes. It should be noted this rarely, if ever, occurs.

The goal of the UL/CSA committee was to maintain a safe environment even with a catastrophic 4-minute leak. That was accomplished with the published requirements in the updated standard.

While ASHRAE 15 bases the RCL on 25% of the LFL, UL/CSA 60335-2-40 went further in regulating the charge size, basing it on the height of the installation of the refrigerant unit. Knowing that refrigerant is heavier than air and sinks to the floor, the room volume is based on equipment height rather than the actual room volume. This often results in a smaller charge being allowed in UL/CSA 60335-2-40 compared to ASHRAE 15.

Mitigation to maintain safety: Research has also proven that mixing the refrigerant in the room air by use of a fan is all that is necessary to prevent a concentration of refrigerant from reaching the LFL. As a result, the standard requires the fan to activate in the event of a refrigerant leak. The refrigerant will move throughout the building and eventually to the outdoors, not creating a fire or toxicity hazard.

There was research into the possibility of adding odorant to A2L refrigerant similar to natural gas and propane. However, studies have proven that odorant cannot be added to A2L refrigerants. While there is no odorant added, catastrophic leaks will alert building occupants. A 4-minute leak is very loud. The refrigerant at high pressure escaping into the environment can be heard. The leak is also visible because the refrigerant condenses the moisture in the air. Finally, the refrigerant can be felt. Floor temperatures have been measured at -40° F when there is a catastrophic leak. Frostbite of the feet is a concern before there is any fire or toxic hazard.

While there is no odorant for A2L refrigerants, you can hear it, you can see it and you can feel it when there is a catastrophic leak requiring attention. In addition, refrigerant detectors within the unit will start the remediation action to prevent any fire or toxic event.

Switch to A2L refrigerants: Manufacturers have started the transition to A2L refrigerants for high-probability equipment used for comfort cooling. States, including California and Washington, have already passed legislation requiring the use of lower-GWP refrigerants. The mandatory switch to lower-GWP refrigerants will begin in 2023. There are already more than 70 million A2L air-conditioning units installed worldwide.

Other states will soon follow California and Washington. Now that ASHRAE 15 has been updated to address the safe use of lower GWP A2L refrigerants, the global change to A2L refrigerants is inevitable.

Like the ban of CFC, parts, components and refrigerants will continue to be available for existing systems using higher-GWP refrigerants. Refrigerants such as R410A and R134a will remain available for charging existing systems. Existing equipment using higher-GWP refrigerants can remain in use for the life of the equipment and system.

In addition to the environmental benefits of lower-GWP refrigerants, many of the newer refrigerants are more efficient. Smaller charge sizes will produce the equivalent level of cooling. This results in energy savings. Hence, newer systems using lower-GWP A2L refrigerants will be good for the environment and good for energy efficiency.

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Nikita Patel, EIT, MBA
AYP Liaison

AYP Report

Hello and welcome back to our 2021-22 technical season! I am very excited to see everyone again. Over the past few weeks, I've been meeting with our National AYP Liaison and the other Liaisons throughout Region 1. Just like we did last year, we would like to prepare events to include more AYPs in Region 1 at once. We will have more information on these events in the upcoming months, so please continue to follow this section in the newsletter.

Thanks,

Niki


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WHEN PRESSURES RISE,
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High performance butterfly valves from Milwaukee Valve handle it all. They stand up to the harsh rigors of chemical and paper processing, fluid reclamation in the hydraulic fracturing process, and high temperatures and corrosive liquids that would degrade standard rubber-seated butterfly valves. Outstanding reliability makes them the perfect choice for data centers and other operations where failure could be catastrophic.
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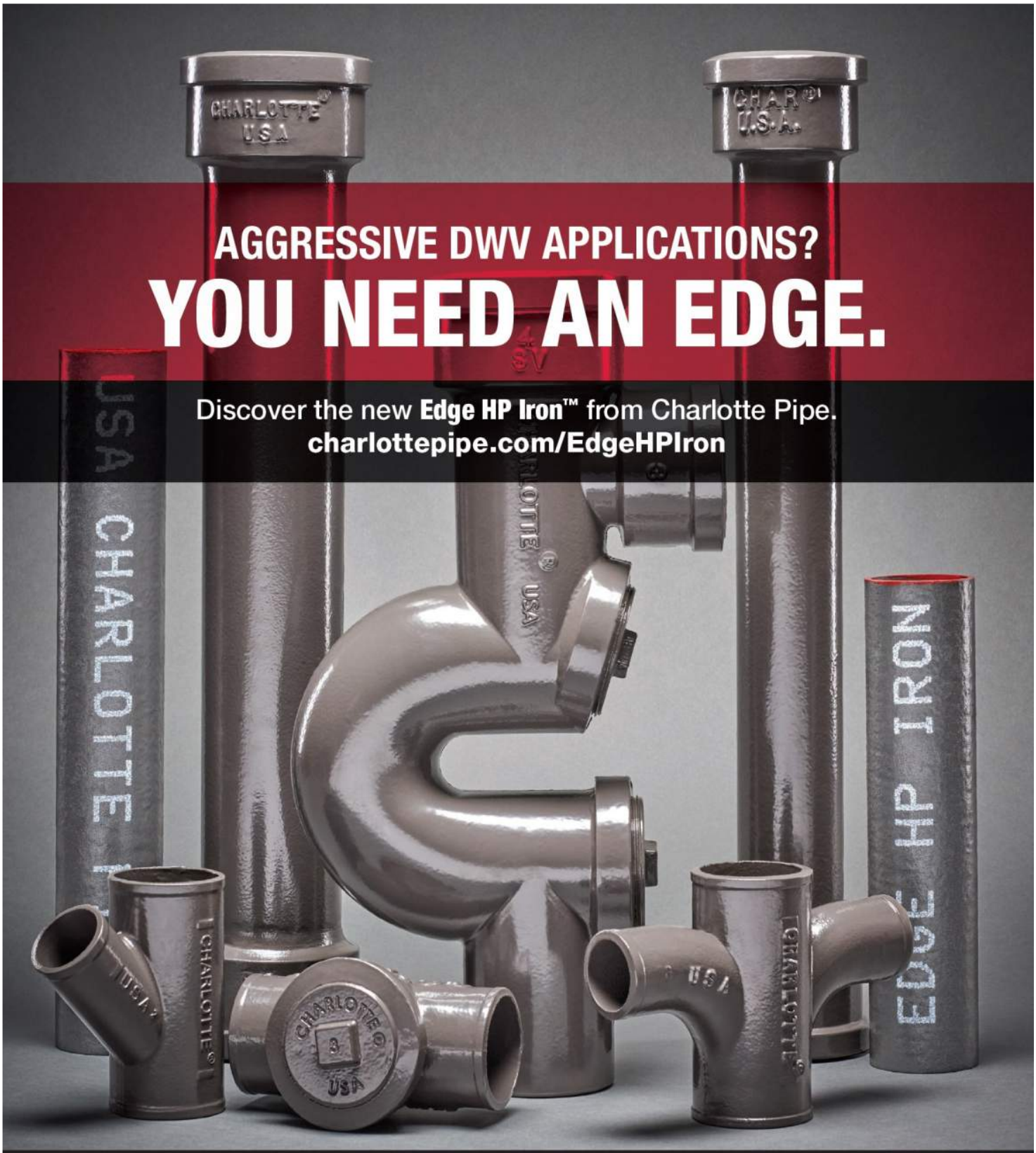

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Christopher Imhof, PE, CPD
Education Committee Chair

Legislative and Education Reports

Legislative

I am a member of the Plumbing, Fuel Gas, and Mechanical Code Action Committee(PFGCAC) for 2024 code development for the ICC codes. Between September 21st and 22nd, the ICC will be hosting Public Comment Hearings for Group A codes in Pittsburgh, PA. The IPC, IMC, IFGC, and ISPSC hearings will be September 21st and 22nd

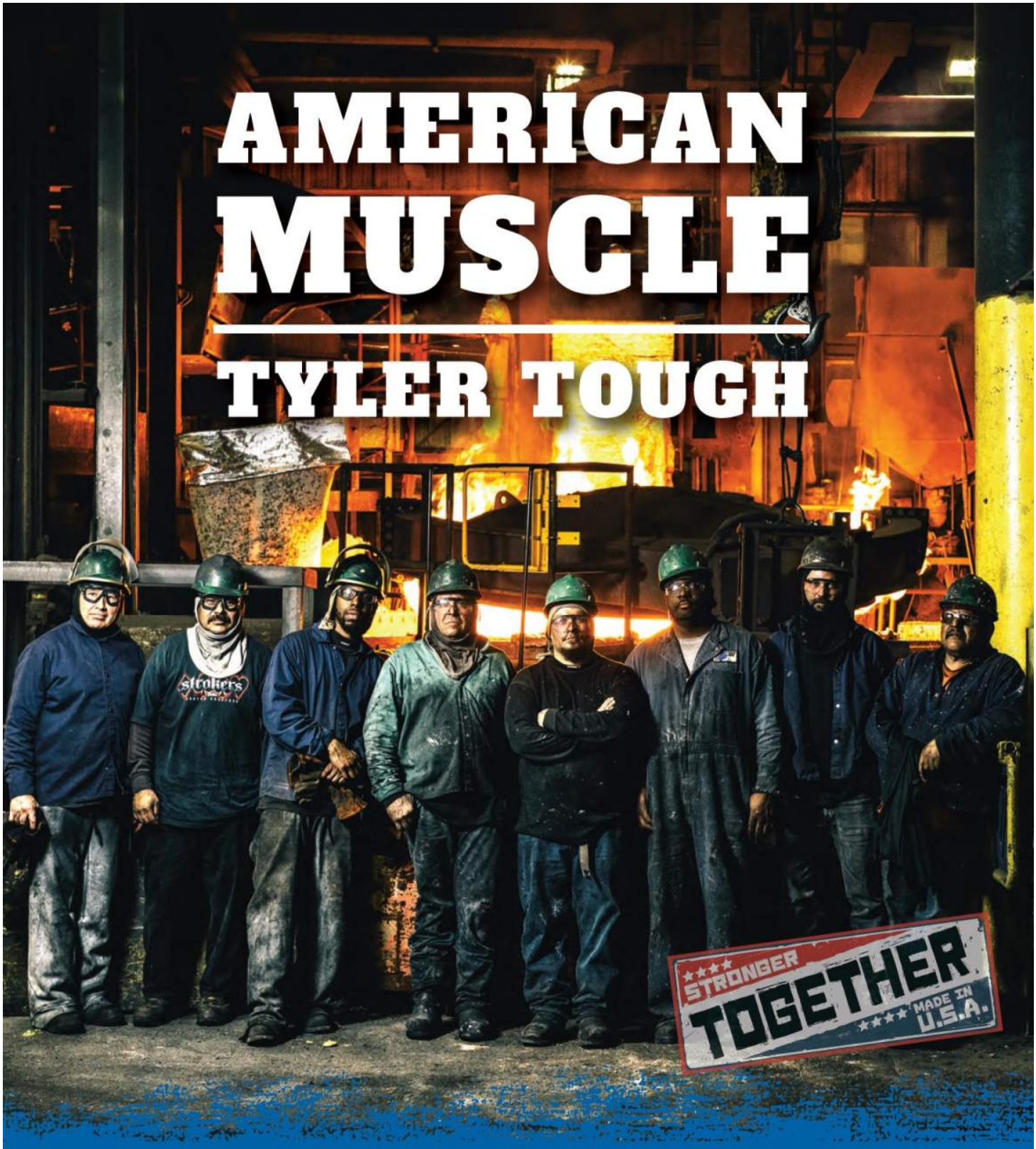
More info can be found on the ICC website,

https://www.iccsafe.org/products-and-services/i-codes/code-development-process/2021-2022-group-a/

Education

Summer is over but you can still visit https://education.aspe.org/ to complete free Read, Learn, Earn articles.
Regards,

Chris Imhof, PE, CPD
Vice President – Legislative
Education Chair



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Kathy Dwyer
Treasurer

Treasury Report

Welcome to 2021-2022 ASPE kickoff newsletter. We are all looking forward to a great year and many exciting topics. Crazy how much our lives have changed since last year.

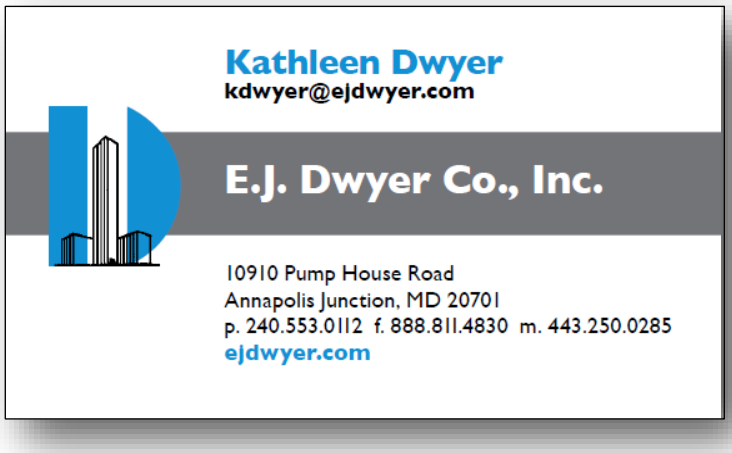
I am happy to report our chapter is in solid financial position. We have had many supportive companies step up and advertise which is much appreciated. I hope you will support those who support ASPE. We have a new payment method right on the sign up for the monthly meetings so it will be easier for you to pay when you sign up!

The Olive grove restaurant is still open so they will be ready with their yummy crab cakes and hospitality!

I look forward to seeing all of you soon!

Thanks,

Kathy



Brian Crisp, CPD
Vice President - Membership

Membership Report

Welcome everyone to another ASPE Calendar year. This year should be more exciting and hopefully less stressful…we are returning to our physical meetings finally! If you're comfortable, please join us at the Olive Grove once again.

We like to recognize the contributions of our members, so we are again providing Membership Tenure awards this year. Those of you who didn't receive their awards last year (it was a tough one) will receive them at the September meeting, so be sure to attend! We will be presenting the Membership Tenure awards for *this* ASPE season at the October and November meetings.

2020 Membership Tenure Award Winners

10 Year
James Watkeys
Matthew Morgan
Edward Burke
Rob Thomas

20 Year
Philip Holthaus
Robert Kegan
Patrick Plourde
Eric Sellers

Baltimore is holding strong at 107 members and even had several additions since May.

Nick Bowley – Bowley Jones Engineers
Joshua Hocking – Allen + Shariff
Khalid Khalifa – KK Engineering
Daniel Lavin – N.H. Yates
Cole Romanoski

Please join me in welcoming them to our chapter, perhaps "buying" them an adult beverage at our upcoming meeting.

If you or anyone you know is interested in joining, or at least hearing about the benefits of membership, please don't hesitate to reach out to me. You can also join directly at https://www.aspe.org/join.

Thanks and "see" you at the meetings!

Brian Crisp, CPD
Vice President, Membership
vpmember@baltimoreaspe.com

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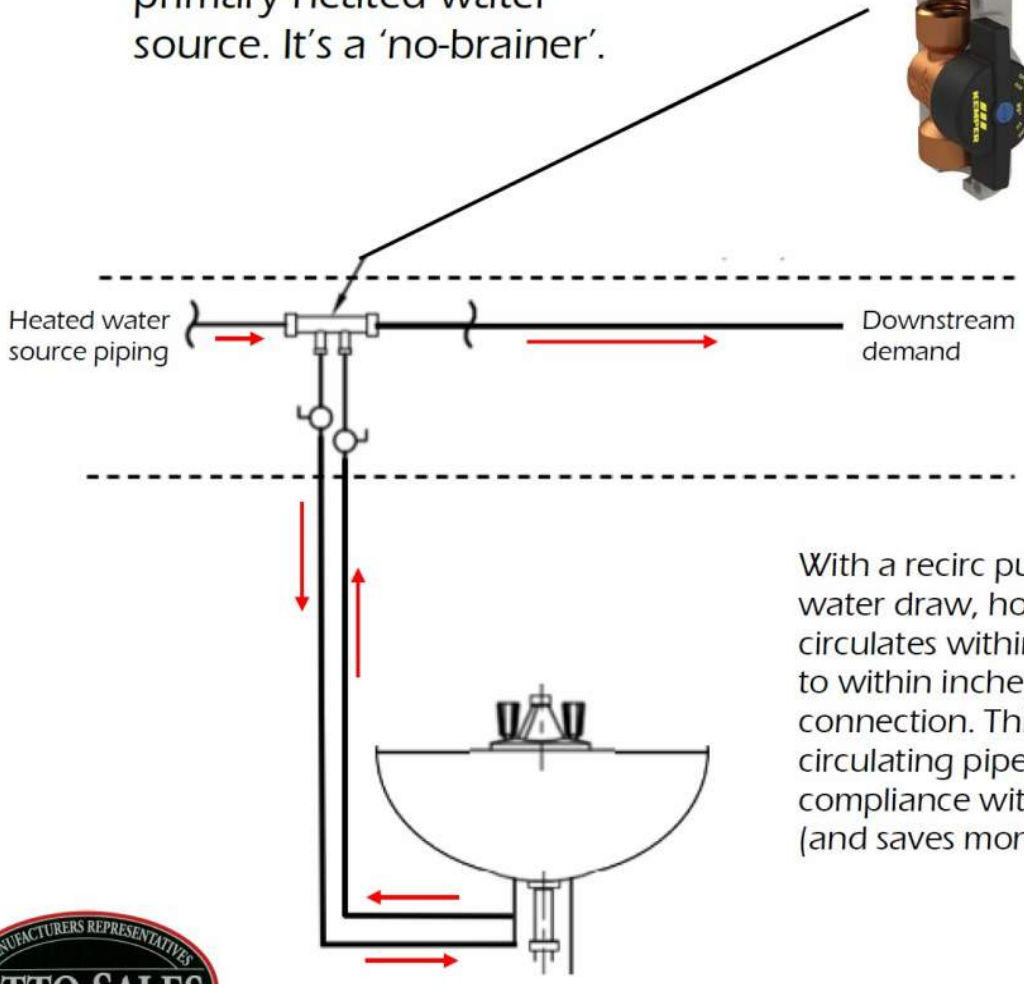
How to comply with the Energy Code C404.5.1 (requiring a maximum of only 24" of non-circulating pipe length).

The **Kemper Flow-Splitter** gives the designer the ability to route smaller circulation loops to public lavs and other fixtures from the primary heated water source. It's a 'no-brainer'.

Flow-Splitter
Figure 651 06 XXX



With a recirc pump or downstream water draw, hot water automatically circulates within the connected loop to within inches of the fixture connection. This minimizes non-circulating pipe lengths for compliance with the energy code (and saves money).

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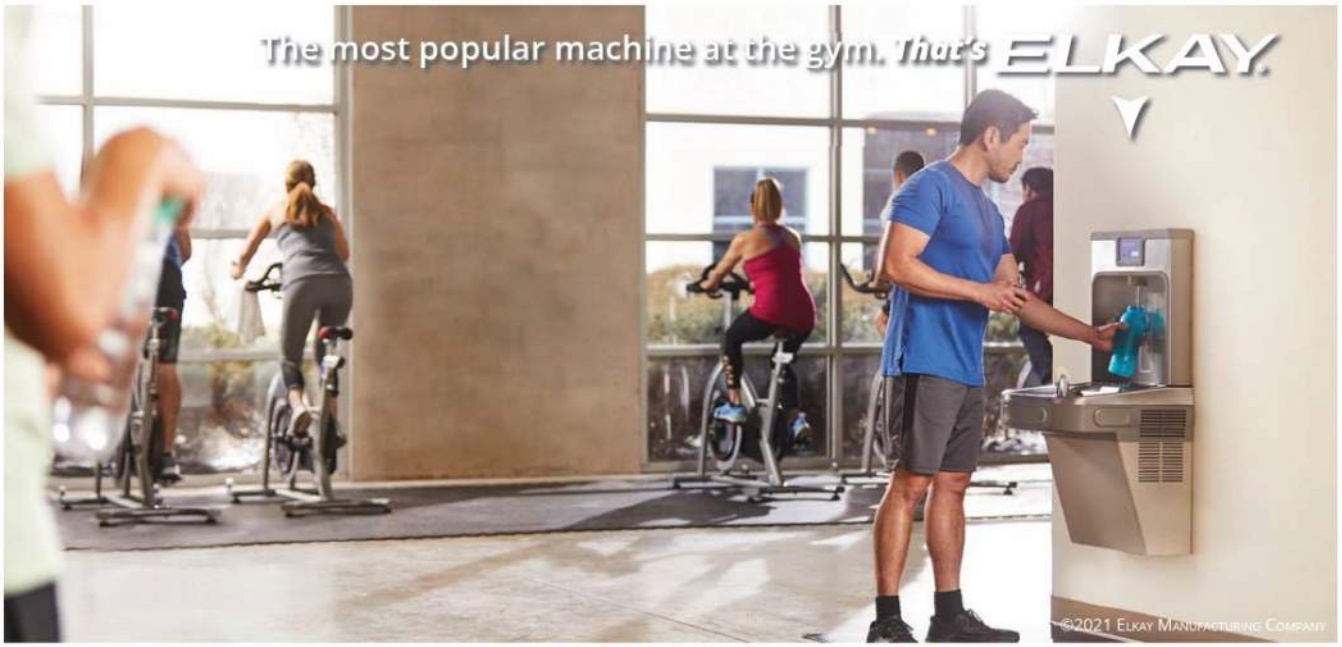

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2021-2022 ASPE Baltimore Chapter Meeting Schedule

Date: **September 22nd, 2021**
Speaker: Bay Associates
Topic: Heat Pump Water Heater Technology

Date: **October 27th, 2021**
Speaker: Highland Tank
Topic: Oil/Water Separators

Date: **November 17th, 2021**
Speaker: Ames
Topic: Direct Inline Pumping Systems for Sanitary and Storm

Date: **December 10th, 2021**
Holiday Party –TBD

Date: **December 15th, 2021**
Speaker: Joyce Agency
Topic: Pressure Reducing Valves

Date: **January 26th 2022**
Speaker: STH
Topic: Fire Pumps

Date: **February 20-26th, 2022**
Engineer's Week

Date: **February 23rd, 2022**
Speaker: Prof. Ken Isman
Topic: ESFR and Cloud Ceilings

Date: **March 23rd, 2022**
Speaker: Otto Sales
Topic: Wastewater Systems

Date: **April TBD, 2022**
Event: Annual Golf Outing

Date: **April 27th, 2022**
Speaker: Charlotte Pipe
Topic: Hands-on Starter Fittings

Date: **May 25th, 2022**
Speaker: EJ Dwyer
Topic: Emergency Fixtures

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Monthly Sponsorship Opportunities

The Baltimore Chapter of ASPE continues to have successful meetings and is looking to continue improving throughout the year.

The Chapter has the following sponsorship opportunities for each month:

Tabletop Presentations: $100 to provide a tabletop presentation of equipment or material relative to the plumbing profession. The tabletops will be set up from the beginning to the end of the monthly meeting and provides the opportunity to provide a brief (under 5 minutes) presentation.

Please make checks payable to the Baltimore Chapter of ASPE.
Contact Jeff Edwards or Kathy Dwyer if interested
jedwards@muellerassoc.com
kdwyer@ejdwyer.com

NOTE: ONLY APPLICABLE WHEN WE RETURN TO OUR REGULAR IN PERSON MEETING EVENTS