

Chapters are not authorized to speak for the Society, the views and opinions of this Chapter are those of the respective authors and do not necessarily reflect the official policy or position of the Society or its staff.



INSIDE THIS ISSUE:

Greetings from the President
Page 2

Technical
Page 3

Membership
Page 4

AYP
Page 5

Industry Ads
Page 6-16

News
Page 17

Education
Page 18

DECEMBER 2021

TOPIC: GREY WATER SYSTEMS

PRESENTER: BOB DREW - INTEWA

**WHEN: WED., DEC. 8th
11:45 am - 1:30 pm**

WHERE: VIA ZOOM MEETING @

<https://moseleyarch.zoom.us/j/95282350445>

(highlight web address then right click & select Go To...)

BOARD OF DIRECTORS:

President

Joshua H. Landis - Moseley Architects
jlandis@moseleyarchitects.com

Vice President Technical

Vice President Legislative

Istvan Godri Martis - WSP
istvan.godri-martis@wsp.com

Vice President Membership

Robert V. Grubbs - Mason and Hanger
robert.grubbs@masonandhanger.com

Treasurer

Joshua H. Landis - Moseley Architects
jlandis@moseleyarchitects.com

Administrative Secretary

Jay Otto – Otto Sales
jayotto@ottosales.com

Corresponding Secretary

Robbie Shearon - Baskervill
rshearon@baskervill.com

Newsletter Editor

Cydney Johnstone – The Joyce Agency
cydney@thejoyceagency.com

Chapter Affiliate Liaison / Resource Enhancement Chairperson

Bill Lesemann, Jr. – W.G. Lesemann & Assoc.

Education Committee Chairperson

Tina M. Capece – Mason & Hanger
tina.capece@masonandhanger.com

ASPE Young Professionals Chapter Liaison

Eric Geisendaffer - Bay Associates
eric@bayassociates.com

GREETINGS FROM THE PRESIDENT

President's Message

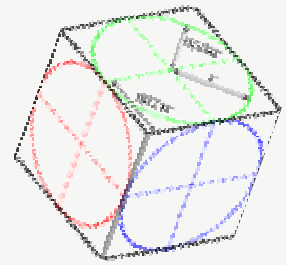
I apologize for the confusion with last month's meeting; one of the potential problems with being booked far in advance is that sometimes people make career moves and items can get dropped during transitions. Last month's meeting happened to be one of those items that got dropped. However, we hope to have a make-up scheduled sometime throughout out season to ensure we provide 9 technical presentations in total.

I hope everyone enjoys their respective holiday breaks and takes time to rest and recharge. Happy Holiday's from your ASPE Richmond Chapter family.

I look forward to seeing everyone tomorrow for the virtual monthly meeting, this Wednesday the 8th. As always, if you have any questions or concerns, please do not hesitate to reach out to me or anyone on the board.



**JOSHUA H. LANDIS, CPD
PRESIDENT, ASPE RICHMOND CHAPTER**



Presentation Lineup

(VIRTUAL VIA ZOOM UNLESS OTHERWISE NOTED)

- **January 12**
 - **Water Coolers & Drinking Fountains Moving Forward**
 - **Oasis**
- **February 9**
 - **Water Control Systems**
 - **Kemper**
- **March 9**
 - **Smart Water Management**
 - **George Fischer**
- **April 13**
 - **Digital Mixing Stations**
 - **Armstrong**

VP MEMBERSHIP - ROB GRUBBS



It's never too late to join ASPE! The monthly meetings are just one of the advantages to becoming a member. Current members, please encourage your colleague's to attend our monthly meetings and consider joining the ASPE family. Visit <https://www.aspe.org/join> for more information.

ASPE ANNOUNCES UPGRADES TO OUR ONLINE RENEWAL SYSTEM

As of this week, ASPE's entire online renewal system has been enhanced and streamlined for all members, and for those who are members of multiple ASPE Chapters, you now are able to renew all of your Chapter memberships online. If you want to join multiple Chapters, you have that option online as well. If you have any questions, please contact membership@aspe.org

WELCOME!

We are happy to welcome the following new member

- Douglas Cathell at Cathell & Associates

LET'S CELEBRATE!



BIRTHDAYS

Aaron Eastwood	12/2
Jay Otto	12/2
Vic Hines	12/21
Keith Workman	12/22
Jeff Mortensen	12/23

ANNIVERSARIES

Steve Lyons	12/14/2001
Jeff Mortensen	12/20/2001
Manan Haji	12/21/2006
Scott Gregg	12/9/2013
Lars Frost	12/10/2013
William Mills	12/8/2020
John Hogarth	12/9/2020

**ASPE
YOUNG
PROFESSIONALS**

19 JAN | 12 PM

Guest Speaker:
Andrew Macaluso

Hosted By:
Richmond Chapter
Zoom Meeting



HEAT PUMP WATER HEATER TECHNOLOGY

Attendance is **FREE** for Region 1 Young Professionals

Registration link will be provided at a later date



What's Old Is New Again:

THE ENVIRONMENTAL & OPERATIONAL
BENEFITS OF R744 HEAT PUMP WATER HEATERS

Andrew is the Product Manager, Systems Solutions at Watts Water Technologies. He has led the introduction of the newest commercial heat pump water heating technologies. He holds a Bachelor of Science in Mechanical Engineering from Columbia University and is an active ASPE member.

As electrification and decarbonization initiatives continue to grow throughout North America, there is increased scrutiny on the refrigerants being used. Heat pump water heaters powered by R744, better known as CO₂, provide a way to address everevolving energy savings and low-GWP requirements. This session will explore low-GWP CO₂ refrigerants that can provide high performance under a wide range of operating conditions. This rapidly growing product category offers many unique benefits. This session will examine the factors driving the adoption of R744-powered heat pumps, the keys to a transcritical refrigeration cycle, options for maximizing performance, strategies for applying this technology, and opportunities to integrate them with other ecofriendly water heating systems

REGION 1 ASPE YOUNG PROFESSIONAL LIAISONS

Nikita Patel
Baltimore

Amy Gebhardt
Boston

Jacob Otto
Hampton Roads

Daniel Blatto
New York City

Eric Geisendaffer
Richmond

Roger Schultz
Blue Ridge

Mike Jacobsen
Connecticut

Jean-Nicholas Beaudoin
Montreal

Jacob Schragar
Philadelphia

Patrick Dwyer
Washington D.C.

Hubbell WATER HEATERS

High Volume Tepid Water Delivery System

The Model EMV is a fully packaged system designed to meet the requirements of ANSI/ISEA Z358 for tepid water delivery to an emergency drench system. This heavy-duty water heater is constructed using a carbon steel tank and internally lined with ½' thick Hydrastone.



- ☉ Hydrastone cement lining provides tank longevity
- ☉ 3" thick polyurethane foam insulation reduces standby heat loss by over 24%
- ☉ Copper-silicon alloy tappings cannot rust or corrode
- ☉ Mixing valve designed specifically for emergency drench systems ensures a constant flow of tepid water
- ☉ High impact composite jacket cannot rust or corrode

Hubbell Heaters offers a full range of styles, sizes, and optional features to meet your exact heating needs.

Contact our representative, Eric Geisendaffer, today! eric@bayassociates.com



HubbellHeaters.com



Advanced technologies and innovative designs are fused with industry-leading manufacturing expertise in Lync's complete, cost-effective water technology solutions. Our expertly engineered, fully integrated and assembled systems minimize planning, design and installation time while maximizing your return on investment.

Learn more at lyncbywatts.com.

Fully designed and assembled solutions from one source



Commercial heat pumps, wireless leak detection, and water heating, water quality, and water wellness solutions



Bay Associates Group, Inc.
1432 Front Ave / Lutherville, MD 21093

Eric Geisendaffer
eric@bayassociates.com
410-825-6616



817.335.9531 | lyncbywatts.com

©2021 Lync

INDUSTRY ADS



**Power.
Performance.
Endurance.**

PVI water heaters feature greater BTU input for quick reaction, an optimized storage buffer for extra power when needed, the benefit of high water turnover, and exclusive duplex stainless steel AquaPLEX® construction for unmatched performance and longevity. **Learn more at pvi.com.**

Dynamic®
Water Heating



Bay Associates Group, Inc.
1432 Front Ave / Lutherville, MD 21093















Eric Geisendaffer
eric@bayassociates.com | 410-825-6616



800.784.8326 | pvi.com

©2021 PVI

Manufacturers represented by RMI

	Advance Products and Systems www.apsonline.com		Homestead www.homesteadvalve.com
	AquaShield www.aquashieldenclosures.com		Jones Stephens www.jonesstephens.com
	BK Resources www.bk-resources.com		Niagara www.niagaracorp.com
	Blue Angel Pumps www.blueangelpumps.com		Normandy Products www.normandyproducts.com
	Pipe & Foundry www.charlottepipe.com		Santec www.santecfaucet.com
	General Wire www.drainbrain.com		JC Whitlam www.jcwhitlam.com
	Bathware www.hamiltonbathware.com Swan www.swanstone.com IMI www.imitoday.com		Zurn Spec Drain, Wilkins, Commercial Brass, PEX www.zurn.com Just Mfg www.justmfg.com

**Richmond Office /
Warehouse**
2533 Mechanicsville
Turnpike
Richmond, VA 23223
Phone: (804) 643-7355
Fax: (804) 643-7380
General Email:
rmisales@rmisales.com

Website:
www.rmisales.com

**Northern Virginia
Warehouse**
4750 Eisenhower Ave,
Suite 2
Alexandria, VA 22304



INDUSTRY ADS

Ecovie

Grey water and Rainwater Solutions

Scan me



AQUALOOP

Assured Performance with Low Maintenance and High Water Quality



Greywater Recycling

Rainwater Collection

Applications: Greywater from showers, laundry, and lavatories to use in cooling towers, toilet flushing, irrigation, and laundry.

- ✓ The Only Listed NSF 350C Greywater System
- ✓ LADBS and LA County Accepted!
- ✓ NSF 350 Listing = No Costly 6 Month Field Test
- ✓ Scales to > 30,000 GPD
- ✓ Packaged and Custom Systems
- ✓ 99.9999% Bacteria Removal

Key projects - Proven Performance



Local Virginia, DC and Maryland Manufacturer's Representative:

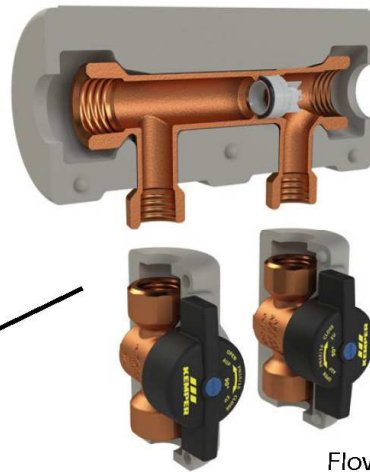
P.O. Box 6005
Ashland, Virginia 23005

info@ottosales.com
www.ottosales.com

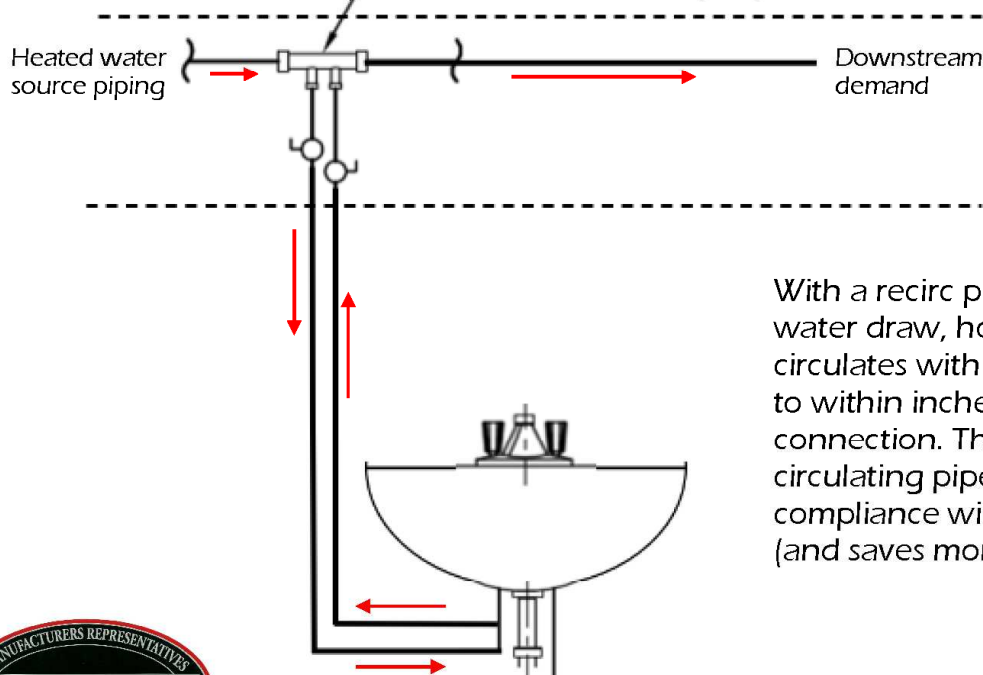
Tel: 804-798-2600
Fax: 804-798-1356

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).



P.O. Box 6005
Ashland, VA 23005
(804) 798-2600

info@ottosales.com
www.ottosales.com
FAX: (804) 798-1356

KEMPER
WATER CONTROL SYSTEMS

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**

Thank You for your support!



Your Trusted Partners

Please contact us for in person or virtual lunch & learn jayotto@ottosales.com 804-798-2600

QuantumFlo is an ASPE Accredited CEU provider

QuantumFlo received the 2020 ASPE Industry Award

INDUSTRY ADS



EXPERIENCE YOU CAN TRUST.

T&S has been supplying highly durable plumbing products to the healthcare industry for more than six decades. From hospital rooms and surgical suites to assisted living facilities and more, T&S' wide and deep range of specialized products helps meet the unique needs of today's healthcare facilities.



SPECIALIZED FEATURES FOR A SAFER, MORE HYGIENIC AND MORE EFFICIENT ENVIRONMENT

- ANTIMICROBIAL COATING
- ENERGY- AND WATER-SAVING DESIGNS
- PLAIN END SPOUTS/LAMINAR FLOW OUTLETS
- AUTOMATIC LINE PURGE FUNCTION ON SENSOR FAUCETS



Aaron Eastwood
MidAtlantic
REPSOUTH
10251 Sycamore Drive
Ashland, VA 23005
(804) 550-0026 office
(804) 550-0074 fax
(804) 516-4510 cell

aaron.eastwood@midatlanticropsouth.com

www.midatlanticropsouth.com

Water Dispensers

Standard In Wall ezH2O Liv Pro™
Commercial for Businesses



ezH2O Liv Pro™

Filtered, Stylish and Sustainable

Serve guests and colleagues cleaner, healthier water in a sustainable way with an ezH2O Liv Pro. This eco-friendly filtered water dispenser is engineered to accommodate the extra capacity needed in commercial spaces such as lobbies and conference rooms.

ezH2O Liv Pro includes:

- Water dispenser with glass panel
- Filter box kit and remote filter cable; install based on application
- WaterSentry® 3,000-gallon NSF certified filter
- Two color options: Aspen White or Midnight

Note: Chiller sold separately; various options available, based on application



Our ezH2O Liv won Business Intelligence's [2020 Sustainability Award!](#)



Aspen White



Midnight

Indoor use only



2518 Waco Street, Henrico VA 23294
 Main Office Phone #: 804-672-8885
 Toll Free Phone #: 800-572-2875
 Roanoke Office Phone #: 540-529-2089
 Company Website: www.seburks.com
 General E-Mail: seb@seburks.com
 60+ Years Of Industry Expertise



WWW.LOCHINVAR.COM

- Gas Fired Heating Systems
- High Efficiency Condensing Boilers up to 6.0MBH
- High Efficiency Condensing Water Heaters up to 4.0MBH
- ASME Tanks
- Storage Type Heaters
- Copper Finned Water Heaters & Boilers
- Pool & Spa Heaters



A WILCO COMPANY
WWW.WEILPUMP.COM

- Sewage Pumps
- Grinder Pumps



WWW.CLIMATEMASTER.COM

- Water-Source Heat Pumps
- Dedicated Outdoor Air Systems
- Tranquility® Vertical Stack Systems



WWW.TIGERFLOW.COM

- Engineered Plumbing Booster
- HVAC Pump Packages



WWW.WEISSINSTRUMENTS.COM

- Digital / Industrial Thermometers
- Pressure Gauges



WWW.HYDROLEVEL.COM

- Controls For Residential & Commercial Boilers



WWW.ARMSTRONGFLUIDTECHNOLOGY.COM

- Hydronic Specialties
- Centrifugal Pumps/Circulators
- Pressure Booster Systems
- Air Control Balancing Valves
- Heat Exchangers
- Design Envelope/Intelligent Variable Speed Pumping



WWW.BURNHAMCOMMERCIAL.COM

- Wetback Scotch Boiler
- Packaged Fire Tube Boilers
- Forced Draft Firebox
- Low NOx Boilers
- Shock Proof Boilers



WWW.WEBSTER-ENGINEERING.COM

- Gas, Oil, & Dual Fuel Powered Burners
- High Efficiency Along With Low NOx Burners



WWW.CARLINCOMBUSTION.COM

- Residential / Commercial Gas & Oil Burners
- EZGas Pro Universal Conversion Burner
- Gas & Oil Burner Controls



WWW.MUELLERSTEAM.COM

- Domestic / International Strainers
- Y-Strainers, Check Valves, & Butterfly Valves



MARSHALL ENGINEERED PRODUCTS CO.

WWW.MEPCOLLC.COM

- Steam Traps
- Condensate/Boiler Feed/Vacuum/Pressure



WWW.WEIL-MCLAIN.COM

- Cast Iron Sectional Boilers—All Fuels
- Residential & Commercial Boilers
- Multiple Boiler & Energy Management
- High Efficiency Condensing Boilers
5.0 Ranging Up To 2.0 MBH



WWW.SHIPCOPUMPS.COM

- Condensate & Boiler Feed Pumps
- Turbine Pumps / Vacuum Pumps
- Deaerators



WWW.WESTANK.COM

- Expansion Tanks
- Flash & Blowdown Tanks
- Separator Tanks
- Glycol Make-Up Packages



WWW.COLUMBIABOILER.COM

- Dual Fuel Boilers
- Steam Boilers
- Condensate Return Systems



WWW.RECOUSAHEATERS.COM

- ASME Pressure Vessels
- Atmospheric Commercial Water Heaters
- Storage Type Water Heaters
- Hydropneumatic Tanks

America's Grease Interceptor™



SCHIER MAKES IT EASY TO SIZE YOUR INTERCEPTORS WITH GREASE MONKEY



Grease Monkey guides you through the important aspects of sizing and produces a plans-ready sizing report using Grease Production Sizing. Once you receive your recommended interceptor, you can opt-in to Schier's complimentary **Pre-approval Service** in which sizing experts double-check your work and confirm local code approval for your grease interceptor installation.

Key Features and Functionality:

- Easy-to-use interface that recommends the right sized grease interceptor
- Gives users the ability to save and modify previous sizings
- Produces PDF plan-ready sizing calculations, perfectly sized for construction documents
- Accommodates local jurisdictional requirements
- Pre-approval Service backed by Schier's sizing experts...all for free!

The
JOYCE AGENCY
MANUFACTURERS REPRESENTATIVE

For more information on Schier and Grease Monkey, please contact The Joyce Agency!

Cydne Johnstone: 804-240-8014 | cydney@thejoyceagency.com

Visit our website: www.thejoyceagency.com

Viega, LLC

Lunch & Learn sessions, project support, specification review



Learn more about the advantage of Viega's innovative piping systems. MegaPress®, MegaPress Stainless, MegaPress CuNi, SeaPress and ProPress® systems are suitable for virtually any type of project. Consider any of Viega's products for new or retrofit construction.

In addition to comprehensive product assistance, our sales force offers more to make your project successful. Benefits offered at no charge include general or specialized training, product demonstrations and Lunch & Learn sessions.

- More than 1,300 press fitting choices in multiple materials including copper, stainless, carbon steel and PEX
- Most press connections are secure and finished in seven seconds or less
- Save 60-90% on installation time as compared to other traditional pipe joining methods
- More approved applications than any other press fitting system
- System-matched tools and jaws provide a consistent connection every time



For Lunch & Learns or more information, contact:

Mike McCarthy | Technical Manager
Mike.McCarthy@Viega.us, (571) 328-1143

Based in the Northern Virginia D.C. Metro area, Mike formerly worked for a fire protection manufacturer and was a volunteer firefighter. Mike holds a Business Degree with a specialization in entrepreneurship and brings strategic business planning to the Viega team.



Water Temperature Control Revolutionized



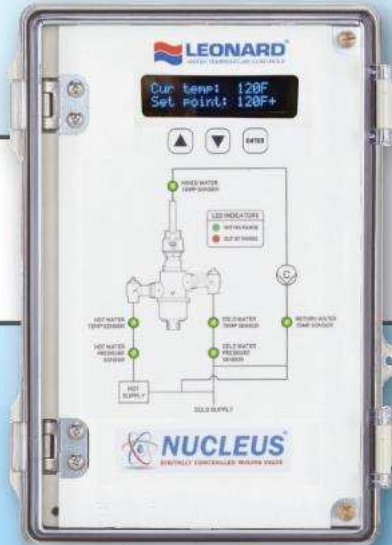
VIRTUAL STATUS CHECKS!

In these trying times when your staff is low, there is peace of mind with **Leonard's Self Diagnostic Digital Mixing Valves** – check from anywhere!

- ASSE 1017 Listed
- Easy Setup
- +/- 2 F Temperature Accuracy
- Daily Self Cleaning
- Self Balancing
- Disinfection Mode
- Six Standard Protocol Languages



NSF 372 COMPLIANT
Made in the USA with domestic and imported parts



Mixing safety and performance...
For over 100 years.

Proudly represented by:
Otto Sales
804-798-2600



YOUR AD COULD BE HERE!

ADVERTISE WITH YOUR LOCAL CHAPTER

*A Special Thank You to Everyone Who has Placed Ads This Season!
Let us know if you want your ad included*

Newsletter and Webpage Advertisement Costs

Full Page Newsletter (per season)

ASPE Member \$375

Non-Member \$450

Half Page Newsletter (per season)

ASPE Member \$275

Non-Member \$350

Business Card Newsletter (per season)

ASPE Member \$75

Non-Member \$150

Meeting Tabletop Costs

Per Meeting

ASPE Member \$80

Non-Member \$100

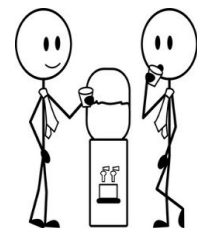
Per Year (8-9 Meetings)

ASPE Member \$450

Non-Member \$550

TALK AROUND THE WATER COOLER...

Check-out these sites for interesting and educational topics & tools to stay up to date!



ASPEPipeline

News for the Plumbing System Design Industry

1. Want Some Help Getting a Degree in Engineering?

ASPE is now accepting applications for the 2022 Alfred Steele Scholarship. To be eligible, you must be an ASPE member or the spouse or child of an ASPE member, have a GPA of 3.0 or higher, and be in or plan to attend an engineering program full-time at a college, university, or technical school. The deadline to apply is January 31. <https://www.aspe.org/pipeline/aspe-updates/>

2. 2022 CPD Exam Registration Opens Next Week

ASPE's Certified in Plumbing Design (CPD) credential sets the standard for leadership within the industry and provides formal recognition of outstanding professionals with advanced skills in the design and specification of plumbing systems. The 2022 exam will be held via remote proctor on April 11-22, and registration will open next week. If you are interested in sitting for the exam, visit [aspe.org/education-credentialing/cpd/exam](https://www.aspe.org/education-credentialing/cpd/exam) to fill out the eligibility form.

If you aren't a member of ASPE, consider joining now to save on CPD exam and recertification fees, as well as to take advantage of our other member benefits. Visit [aspe.org/membership-global-community/join](https://www.aspe.org/membership-global-community/join) to learn more about our professional development opportunities.

3. Volume 1-2021 Is Now Available for Download

Did you know ASPE members have immediate access to all four volumes of the Plumbing Engineering Design Handbook? Visit [ASPE.org](https://www.aspe.org) to download the newest edition, Volume 1.

4. Continued Increases in Construction Materials Prices Are Starting to Drive Up the Price of Construction Projects

Rising construction materials prices appear to be starting to drive up the price of construction projects, according to an analysis by the Associated General Contractors of America of government data. Association officials noted that despite a big jump in what contractors charge for projects, the rise in materials prices is still much higher. Read more at [aspe.org/pipeline/category/industry-news/page/4](https://www.aspe.org/pipeline/category/industry-news/page/4)

BE SURE TO CHECKOUT THESE COLUMNS FOUND IN PIPELINE EXCLUSIVES SECTION:

[HTTPS://WWW.ASPE.ORG/PIPELINE/CATEGORY/PIPELINE-EXCLUSIVES/](https://www.aspe.org/pipeline/category/pipeline-exclusives/)

ASPE'S PRESIDENT LOVES THE HOLIDAYS!

Ultimately, ASPE members voted for the traditional optimist. I am the "find the bright spot" person. Not surprising to those who know me, I love the holidays. As the holidays kick into high gear, ASPE also is continuing to provide more for our members and our industry. We have new articles on ASPE Pipeline from many of our Board members; the Legionella Design Guide is being reviewed by our members; the Finance Committee and the Certification Committee are in full swing. What all of this means for our members is more. It means more opportunities to volunteer and provide more for us all.

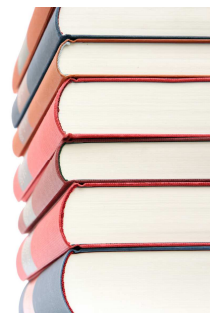


WHAT FREEZE PROTECTION IS NEEDED IN AN UNHEATED, OPEN PARKING GARAGE?

As it starts to get chilly in many areas of the U.S., we thought an ASPE Open Forum post by John Rocchio, a Senior Engineer with EP Engineering, is very timely. He is working on a project in New York City with an unheated parking garage on the second floor, with the lowest level of apartments on the third floor. Our experts were eager to chime in on this topic. Go to [Current Connection](#) to continue reading.



EDUCATION STATION



REMINDER! ASPE revamped their learning platform!! The new site is education.aspe.org. All educational programs and articles have transitioned over to the new site now. If you are looking to earn CEU's and/or enhance your skills and knowledge then this is the site for you! Once in the site Sign in (top right) using your ASPE Connect credentials. If you have not activated your ASPE Connect credentials, go to this link to reset your ASPE Connect password: <https://connect.aspe.org>.

GPD ON-DEMAND CERTIFICATE PROGRAM IS NOW AVAILABLE



We are pleased to announce that our popular Green Plumbing Design (GPD) Certificate program is now available entirely on demand on ASPE Education. This new self-paced online program will enable you to earn your GPD certificate at your own speed, in your own timeframe, while refining your sustainable design skills in solar water heating, temperature maintenance, and rainwater and graywater systems. Go to the [Education Opportunities](#) link at ASPE Pipeline.

AHR EXPO ANNOUNCES 2022 EDUCATION PROGRAM



The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) has announced the full schedule for the 2022 AHR Expo Education Program. The lineup features nearly 200 free seminars, new product and technology presentations, professional certifications, and continuing education courses. After a forced hiatus in 2021, the Education Program will serve as an important opportunity for attendees to catch up on what's happening around the industry. <https://www.aspe.org/pipeline/category/education-opportunities/>

The 2022 AHR Expo will be held January 31 – February 2 at the Las Vegas Convention Center in Las Vegas. To register, visit the [AHR Expo registration](#) website.



THE DECEMBER 2021 ASPE BOOK OF THE MONTH IS **CPD STUDY GUIDE**.

THROUGH DECEMBER 31, 2021, YOU CAN PURCHASE THE PDF VERSION OF THIS BOOK FOR **25% OFF** THE REGULAR MEMBER PRICE. JUST ENTER COUPON CODE **HAPPYHOLIDAYS** WHEN YOU CHECK OUT.