



The Righting Moment for Water May Be Here

By Kerry Stackpole, FASAE/CAE, PMI CEO/Executive Director



Kerry Stackpole

Everything has a righting moment. If you're familiar with sailing, you know the righting moment comes when the buoyancy of your boat overcomes gravity to return to an even keel. In life, it's often that moment when something you're doing isn't working, and there's a need to find your balance. Maybe you created some complexity where simplicity could prevail. Perhaps you've overlooked

an obvious choice. Maybe—just maybe—making time to clear your head gives you that moment of clarity and balance you've been seeking.

Coming off two weeks of travel, member conversations, and a dozen meetings with legislators and regulators in the California capital of Sacramento, I witnessed how quickly the “issues pendulum” swings. Whether the topics were Water-Sense product tax holidays, per capita water use restrictions, or identifying water-saving opportunities, all drew interest from elected leaders and their staffs. Landing in the great Inland Empire of Southern California at the Emerging Water Technology Symposium (EWTS), the bi-annual forum co-convened by the American Society of Plumbing Engineers (ASPE), the Alliance for Water Efficiency (AWE), the International Association of Plumbing and Mechanical Officers (IAPMO) and PMI, the complexity, fragility and resiliency of America's water systems were abundantly evident.

In a dozen presentations exploring water efficiency, droughts, opportunistic pathogens, hot water, flow research, and rain-water harvesting, the trials and prospects leading to solutions for efficiently managing precious water resources were abundantly evident. It was equally fascinating to hear our industry peers from down under push participants to think deeply about the value of global harmonization of water-efficiency standards. As our industry faces pressure from legislators and regulators on a state and federal basis, alongside code bodies seeking differing water-efficiency standards, the notion of global harmonization somehow seems both unworkable and extraordinarily appealing at the same time.

Is this water's righting moment? One could be forgiven for being both optimistic and cynical at the same time. The funding requirements for repairing America's 242-year-old infrastructure are ginormous. Estimates run the gamut. Is it a \$150 billion investment as the American Society of Civil Engineers suggests, a \$655 billion investment identified by the EPA Drinking Water Needs Survey, or perhaps the \$1 trillion a Deloitte Insights report identified in 2016? The answer, it seems, is it depends. In some places like California, consideration is being given to limiting how much water can be used per person, per day in residential households. The current proposals start at 55 gallons per person, per day, and decrease a few gallons every few years thereafter.

As was made abundantly clear at EWTS 2018, innovation is key to overcoming the challenges presented by aging water and wastewater infrastructure, shifts to low-flow fixtures and fittings, and continuing risks created by opportunistic pathogens. East Bay Metropolitan Water Utility District (EBMUD) in Oakland, Calif., has built infrastructure with the capability to provide over 9 million gallons of recycled water per day. With a 2040 goal to recycle 20 million gallons of water per day, EBMUD could save enough water to supply the indoor and outdoor water needs of more than 220,000 district residents per day.

There are other examples of innovation—for example, wastewater treatment plants using by-products of the treatment process such as biogas to fuel the energy requirements

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By Matt Sigler, PMI Technical Director



Matt Sigler

According to the Centers for Disease Control and Prevention (CDC), about 60% of the reported drinking water-related disease outbreaks are due to Legionnaires' disease. Plumbing Manufacturers International (PMI) member NSF International recently held a conference titled, "Managing Legionella and Other Pathogens in Building Water Systems" to raise awareness and to encourage action to address Legionella and other types of pathogens in water supply systems. I attended the conference and heard from several great speakers. Here are some highlights from the conference.

Dr. Amy Pruden of Virginia Tech University. Dr. Pruden is the W. Thomas Rice professor in the Department of Civil and Environmental Engineering at Virginia Tech. Her research program is focused on applied environmental microbiology. In her presentation titled, "Biofilms and Their Critical Role in Propagating Legionella in Water Systems," Dr. Pruden discussed some of the basics about biofilm, such as its ability to protect pathogens from disinfectants and the fact that it cannot be eradicated. She went on to make the following points:

- Amoebas that graze on biofilm facilitate the reproduction of Legionella by exposing the bacteria to their harsh digestion systems where they grow stronger by feeding on amino acids. This host-parasite relationship results in Legionella being able to infect humans and cause disease.
- Lack of corrosion control can lead to Legionella outbreaks, as iron is a known nutrient for the bacteria.

- Legionella outbreaks are more common in the summer and in warmer climates.
- Recycled water contains a lot more nutrients to feed on than potable water.

Christoph Lohr of Henderson Engineers. Christoph is the plumbing technical leader for the engineering design firm. In his presentation titled, "Legionella Plumbing Systems," he discussed several items that should be considered when designing a plumbing system to control the spread of Legionella, such as:

- The selection of pipe material and its compatibility with various disinfectants and propensity for biofilm growth. To this point, Christoph discussed a study conducted by Kiwa, an international quality authority, on behalf of the Ministry of Public Housing, Urban Planning and Environment for the Netherlands, that showed that copper piping had the highest concentration of biofilm growth.
- Pipe routing and sizing to minimize fixture branch lengths, reduce dead legs and maximize water velocity throughout the system.
- Proper water heater selection and placement of mixing valves.
- The use of water softeners and how they can cause a loss of residual chlorine.
- Low-flow fixtures can perpetuate the spread of Legionella.

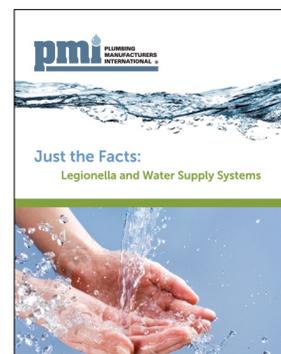
Dr. Michele Prevost of Polytechnique Montreal. Dr. Prevost is the industrial chair on drinking water of the Department of Civil Engineering at the National Science and Engineering Council of Canada. In her presentation titled, "Management of Legionella in Canadian Health Care Facilities: From

Commissioning to Outbreak Response," Dr. Prevost discussed some of the control measures used in Canadian healthcare facilities to reduce the risks of Legionella outbreaks, and made the following points:

- To control Legionella, the temperature of water should be not less than 140 F (60 C) at the water heater and not less than 131 F (55 C) at all points in the water distribution system with the use of mixing valves.
- Flushing of a water distribution system is not always an effective strategy to reduce Legionella as new nutrients are introduced to the system.
- Energy conservation efforts can increase the risk of Legionella outbreaks and are not worth the estimated energy savings (\$700 to \$1,700 per month) when compared to the cost of a hospitalization caused by Legionella bacteria (\$34,000).

I learned valuable information at the conference, and I would like to congratulate NSF International on a terrific conference that was worth the price of admission.

For more information on the topic of Legionella and water supply systems, please go to PMI's website and view our toolkit at: bit.ly/2s2moO4



Mary Ahlbrand Morphs Into Plumbing Industry ‘Ambassador’

By Judy Wohlt, PMI Communications Team, Valek and Co.

Mary Ahlbrand followed the advice of her dad, an educator, to study her passions in college. With a goal to become an international ambassador, she earned her bachelor’s degree in theatre, political science and German.



Mary Ahlbrand

After charting a career path that led to a few twists and turns, Mary said she finally became an ambassador – for the plumbing industry. In January, she celebrated 20 years with Delta Faucet Company, where she serves as channel manager for the Delta brand, leading the trade channel’s digital strategy efforts, creating and managing training events for customers, and helping to create and support company brand advocates.

Her “ambassador” duties for the industry extend to her work with PMI both as a member and as a current co-chair of PMI’s Outreach/Communications Committee. “By partnering with others in our industry, PMI has created an amazing leadership position by focusing on important issues, like WaterSense and lower flow rates,” she said. “We also walk such an interesting line of setting aside any company and competitive differences to not only work as a team focused on the interest of PMI as a whole, but actually becoming friends and collaborators.”

Currently, the Outreach/Communications Committee is beginning to explore ways to survey members about the aspirations they have for PMI. With the help of PMI members, the committee hopes to start answering several ques-

tions, including: What opportunities are available to PMI in the marketplace? What new services should PMI offer to members? How can PMI create stronger value for its members? What can PMI do to attract new members? That information will form the building blocks of the marketing plan – a blueprint to propel the association’s direction and success in the future.

To help accomplish this goal, the committee will be moving away from its traditional format of having a report-out of staff activities to facilitate more time for discussion and ideation. “We’re excited about the new format and want to encourage members to continue joining our discussion about how to bring more value to PMI members,” she said.

A self-professed “word nerd,” Mary said it makes sense that she eventually landed in a marketing role at Delta. One of her favorite projects was being deeply involved in the launch for Delta’s innovative touch on/off technology, which began a fun and creative marketing wave for the company, she added. “We had Count von Count from Sesame Street singing the ‘Hands’ song in one of our TV commercials, and it was so fun to be a part of that – and see how everyone embraced it,” Mary said.

She revealed that she especially enjoys the research aspect of her job, allowing her to dig deep into how her company can help customers, like builders and showroom managers,

improve their businesses by carrying Delta products. Mary also said she gets a kick out of sharing her enthusiasm for Delta products during the brand and marketing portion of presentations with the customers who visit the company’s design showroom at its Indianapolis global headquarters every year.

Mary said faucets are never far from her mind and admits to even providing advice to her neighbors during their bathroom and kitchen renovation projects. She and **Tony**, her husband, are raising six kids. In her limited spare time, Mary enjoys volunteering at her church and kids’ school, working with her sons on a small lawn and yard care business throughout the summer, and mastering her hobby of figuring out “how to survive our teenagers,” she joked.



Posing in their favorite super hero shirts are Mary and Tony with their kids Chance (left, back row), Chloe (left), Ian (front), Matthew (right, back row), Sam (right, middle row) and Brennin (right, front row)

ASPE Convention & Expo Registration Now Open

Registration is now open at www.expo.aspe.org for the 2018 American Society of Plumbing Engineers (ASPE) Convention & Expo, Sept. 28 to Oct. 3, 2018, at the Georgia World Congress Center in Atlanta, Ga.

The event combines professional development sessions created exclusively for plumbing industry professionals with the largest plumbing product tradeshow in the country. Thousands trained in plumbing design, specification and inspection attend the annual event to connect with their peers, learn new skills and maintain their competitive edge.

PMI is one of several supporting sponsors of the convention and expo, which will feature a keynote address by **Derreck Kayongo**, founder of the Global Soap Project and former CEO of the Center for Civil and Human Rights. Kayongo's address will be part of the ASPE breakfast award ceremony on Oct. 1 at the Omni Hotel-CNN Center to honor

ASPE award recipients and induct the 2018-2020 ASPE Board of Directors.

More than 300 of the industry's top manufacturers and service providers will showcase their latest technologies while a variety of technical education sessions will be offered on topics, including combating waterborne diseases, water- and energy-efficient technologies, basic plumbing design techniques, and sustainable systems.

Other highlights include the opportunity to earn up to 17.25 hours of continuing education for certifications and licenses; nonstop networking with more than 4,000 industry professionals from across North America; and the popular Sunday Night Party to be hosted at the award-winning music venue Tabernacle Atlanta.

In addition, several special events are planned at the conference, including the first-time ASPE attendee reception, presented by Watts Water Technolo-



gies, on Oct. 1. The event is limited to the first 100 who RSVP. ASPE members who have been part of the society for 25 years or more are invited to attend a special breakfast with the ASPE board on Oct. 2. Pre-registration and a ticket are required.

Young professionals are invited to an evening of networking, idea sharing, and connecting with their peers on Oct. 2 at Top Golf Midtown. Tickets are \$50 for the event, where food and beverages will be served along with a little friendly competition of golf, pool and video games.

Learn more about the ASPE Convention & Expo by visiting expo.aspe.org.

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of plant operations. Apartment building developers and owners are also getting into the business of rainwater harvesting and wastewater processing systems. In *Water and Wastewater International*, **Michael Zavoda** wrote about the award-winning Solaire building in Battery Park City in New York. The Solaire recycles and treats the building's sewage for reuse, for purposes such as toilet flushing, HVAC cooling and subsurface irrigation of an adjacent park. According to Zavoda, "the wastewater reuse system is designed to produce and supply only the water that is necessary for daily building usage; if the demand is low, it processes less,

and vice-versa – up to 25,000 gallons per day."

By coupling the applied innovation in water reuse with research being conducted on rightsizing America's water system, you can visualize a pathway for making efficient use of our water resources. While having and being able to deliver clean, safe drinking water is at the top of the list, finding better ways to use and reuse our water resources has to be nearby. Given that the current water and wastewater systems are largely premised on the plumbing models derived in the Bronze Age, it would not be a surprise that some are suggesting we revisit our

entire approach to water and wastewater treatment. Writing for the Brookings Institution's Metropolitan Infrastructure Initiative, author **Lynn E. Broaddus** notes, "We are at an inflection point with water infrastructure. We can choose to stay the course, rebuild and repair using tried-and-true designs that have been with us for decades, designs that will magnify today's challenges. Or we can rethink how we'll invest...to ensure safe, sufficient, affordable, and resilient water and sanitation services."

That sounds like a righting moment for our industry and for the ongoing dialogue and debate about water infrastructure. Where will you go next?

Maintain Landscaping While Conserving Water This Summer

By Judy Wohlt, PMI Communications Team, Valek and Co.

As the summer months bring warmer temperatures – and the potential for drought in many areas of the country, it's a good time to start practicing smart outdoor water conservation methods.

The EPA reports that of the estimated 29 billion gallons of water used daily by households across the country, almost 30% is used outdoors. That percentage can more than double in the hot summer months, or in dry climates. To protect water reserves, many cities in the U.S. impose summer watering restrictions.

However, there are plenty of ways to maintain the nation's lawns and gardens – while lowering water use outdoors. Indoors, consider using water-efficient WaterSense toilets, showerheads and faucets, which use at least 20% less water than federal requirements.

One of the simplest ways to conserve water outdoors is to use plants native to your climate zone. These plants typically require little water other than the average rainfall because they are already acclimated to local soil and climate conditions, according to the EPA WaterSense partnership program. To view a list of native plants in your state, go to the EPA's "What to Plant" web page: bit.ly/2s2Df3s.

The EPA also recommends creating a water-smart landscape and provides the WaterSense Interactive Water Budget Tool (bit.ly/2GjvHXU) to help determine if your landscape meets EPA criteria for water-efficient use in your area. To use the tool, you will need to plug in some basic information, including zip code, total landscape area and types of plants used.

Other tips to help save water include grouping plants according to their watering needs; reducing the amount of turfgrass planted; and minimizing steep landscape slopes to avoid water runoff and erosion. In addition, knowing your

soil type (i.e., clay vs. sand) and length of time plants will be exposed to the sun throughout the day will help you understand how much water is necessary to sustain a healthy yard and garden.

Many people choose to install in-ground irrigation systems with standard timers to set a specific watering schedule, but often program the system to water landscaping regularly – without considering weather conditions. This can lead to overwatering, especially when systems run during or right after it rains. WaterSense irrigation controllers can help achieve significant water savings by customizing a watering schedule to accommodate real-

time weather conditions. They also act as a thermostat for your sprinkler system by communicating when it should turn on and off. An average home can save almost 8,800 gallons of water annually by replacing a standard clock timer with a WaterSense irrigation controller, according to the EPA.

Also, instead of hosing them off, sweep sidewalks and driveways and wash the car with water from a bucket. Use a pool cover that reduces evaporation when no one is using the pool. Water conservation methods like these make your property – and you – look smart!



CDC Says Be Aware of Pathogens in Pools

With warm weather upon us, health officials at the Centers for Disease Control and Prevention (CDC) are warning Americans to take precaution against nasty pathogens lurking in swimming pools, hot tubs and other treated recreational water. A CDC report finds that a third of waterborne disease outbreaks over a 14-year period occurred at hotel swimming pools. The report, published in CDC's *Morbidity and Mortality Weekly Report*, looked at data from 2000 through 2014 and found that 493

outbreaks were reported, resulting in at least 27,219 illnesses and eight deaths.

The CDC's news release stated that *Cryptosporidium* (also known as "Crypto"), *Pseudomonas*, and *Legionella* caused most of the outbreaks. Crypto is a parasite tough enough to survive even in properly maintained pools. *Pseudomonas* and *Legionella* are bacteria that can survive disinfectants in slimy areas of hot tubs, pools, and water playgrounds. Learn more at bit.ly/2k7tpJ2

PMI Helps Navigate Labels and Markings Landscape

By Judy Wohlt, PMI Communications Team, Valek and Co.

Over the past several years, PMI has been providing support to its manufacturing members as they navigate the many new regulations and requirements for plumbing product labels and markings. PMI's latest efforts include new website content on the topic as well as providing input to various legislators and commissions on issues ranging from California's product labeling requirements for Proposition 65 chemical warnings, to lead-free markings, to the Federal Trade Commission's revised labeling requirements.

Understanding labels and markings can be a complicated issue. For those who have purchased plumbing products, they may wonder why some products have more labels than others – and what they all mean.

Plumbing product manufacturers must meet several standards, codes and specifications established by independent, third-party organizations and recognized by regulatory agencies to ensure that these products meet high measures

of safety, quality and performance. This is particularly relevant for products that come into contact with drinking water, like faucets, pipe fittings and pipes.

Third-party organizations each have distinct labels that plumbing manufacturers add to their products to indicate the product has been properly reviewed and tested to comply with national or international standards and regulations, including lead-free standards. PMI provides a list of all the main plumbing product markings on its website with general explanations of the standards and requirements each represent (bit.ly/2KOTLLr).

There are several independent certifiers for the plumbing industry, including the following PMI members: CSA Group, International Code Council – Evaluation Services (ICC-ES), International Association of Plumbing and Mechanical Officials (IAPMO), and NSF International. For a complete listing of industry certifiers, please visit PMI's "Helpful Links" website page

and look for the "Certifiers" section (bit.ly/2kklanze).

To help inform consumers of which plumbing products are considered lead-free, the major plumbing codes require manufacturers to obtain third-party certification and to label their products. Because there is no single compliance mark used, lead-free markings vary and depend on which of the eight American National Standards Institute (ANSI) accredited third-party certifiers a manufacturer employs. For a full listing of the certification bodies and their specific lead-free certification marks, see page 2 of the EPA's document "How to Identify Lead Free Certification Marks for Drinking Water System & Plumbing Products" on its website (bit.ly/2IJ12yb).

To view PMI's new information on Labels and Markings, please visit its website safep plumbing.org/health-safety/labels-markings.

PMI also offers more information about Lead in Plumbing on its website (bit.ly/2LqSVVZ).



PMI Value Shines Through During May Meeting Slate

PMI members and staff played key roles during a busy slate of industry meetings held during May. A PMI delegation met with 10 members of the California Senate and Assembly and with California Energy Commissioner **Andrew McAllister** to discuss a range of issues impacting plumbing fixture and fittings manufacturers on May 8-9 at PMI's Sacramento Fly In.

PMI Technical Director **Matt Sigler** was among the PMI representatives attending NSF International's "Managing Legionella and Other Pathogens in Building Water Systems" conference in Baltimore. See his report on page 2. On May 15-16, an impressive line-up of speakers provided Emerging Water Technology Symposium (EWTS) attendees insights into how technology is contributing to better water efficiency and safety during the May 15-16 meeting in Ontario, Calif. This meeting was co-convened by PMI, the Alliance for Water Efficiency (AWE), American Society of Plumbing Engineers (ASPE), and IAPMO, in cooperation with the World Plumbing Council.

From there, PMI members and staff participated in the World Plumbing Council's General Meeting and Four Pillars of Plumbing Forum and the Plumbing Industry Leadership Coalition (PILC) meeting, both held on May 17.



Participating in the Sacramento Fly In were PMI Board of Directors President Pete Jabrling (Sloan Valve Company), PMI Water Efficiency and Sustainability Committee Co-Chair Cambria McLeod (Kohler Co.), Lee Clifton (ICC), Chris Ochoa (ICC-Evaluation Service), Ralph Ochoa (representing ICC), Dwight Perkins (IAPMO), Todd Talbot (Fluidmaster, Inc.), PMI CEO/Executive Director Kerry Stackpole, PMI Association Manager Jodi Stubrberg, and PMI California Advocate Jerry Desmond



Dr. Carol Grossman discusses Australia plumbing product certifications at the World Plumbing Council's General Meeting and Four Pillars of Plumbing Forum



PMI CEO Executive Director Kerry Stackpole welcomes EWTS attendees



Roto-Rebels of Suzanne Middle School in Walnut, Calif., shared at EWTS how students use LEGOS to accelerate STEM learning and robotics

U.N. Invites All to 'Beat Plastic Pollution' on World Environment Day

By Judy Wohlt, PMI Communications Team, Valek and Co.

Across the United States, a growing number of water bottle filling stations, produced by plumbing manufacturers, are being installed in schools, businesses and government locations as a popular way of providing clean water while reducing plastic waste. As the United Nations (U.N.) kicks off World Environment Day (WED) on June 5, those water filling stations are also a strong reminder of the many ways consumers, companies and governments can take part in better protecting the environment.

"Beat Plastic Pollution," the theme for this year's WED, is meant to raise awareness and rally everyone to do their part to combat plastic pollution, which is threatening human health and wildlife. According to the U.N., 90% of bottled water and 83% of tap water has been found to contain plastic particles, indicating the world has become over reliant on single-use and disposable plastic.

The U.N. is encouraging businesses and other organizations to join the movement by hosting an event, participating in a pre-planned event or helping employees get involved. A "Beat Plastic Pollution" toolkit at the WED website (worldenvironmentday.global) offers plenty of tips on how to create an event and get employees to use a downloadable app (litterati.org/) to track plastic waste they collect. In addition, the U.N. has launched a global game of tag on the WED website (bit.ly/2xz1N9l), using the hashtag #BeatPlasticPollution to encourage and highlight positive changes in behavior about plastic consumption.

Started in 1974, WED has grown to become a global platform for public outreach with participation from more than 143 countries. It has helped raise awareness on emerging environmental issues, from marine pollution, to human overpopulation, to sustainable consumption. Every year, WED offers a new theme that major corporations, non-governmental organizations, communities, governments and celebrities worldwide adopt to advocate environmental causes.

To learn more about how the school districts in Oakland County, Calif., are investing more than \$500,000 in a water bottle filling station program, visit the *Oakland Press* website (bit.ly/2JiRjzH).

**BEAT
PLASTIC
POLLUTION**



**WORLD
ENVIRONMENT
DAY**

UN 
environment

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