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As I look out of my window and see snow falling, my thoughts are with the men and women of PWSs throughout the State of Ohio who are out working in cold and snowy conditions repairing water main breaks. These team members not only endure the weather conditions of Ohio winters but also often work at night and on holidays to ensure that customers have quality water service each day of the year. I thank you for your hard work, dedication and commitment to your communities. If you see these team members out on the road or in the garage, please tell them THANK YOU!

Just as winter comes and goes, spring is right around the corner. Spring brings anticipation and excitement for all utilities getting ready for water main replacement projects, filtration plant upgrades and projects throughout our systems. The Ohio Section AWWA has also sprang into action.

At our January Governing Board meeting, the board passed the budget for the fiscal year 2020. It was not an easy process. A lot of time and energy went into this effort, and we had to make some tough decisions in order to complete the budget process. I would like to thank our Treasurer Sam Jacobs, our professional services team at AOM and the entire Governing Board for their hard work and patience. This Governing Board, as past boards have, will continue in our efforts to provide education, research and philanthropy for the Ohio Section AWWA.
There are a number of events coming up on the Ohio Section AWWA calendar for 2020. The Southern Expo will be on Tuesday, April 7, in Wilmington, Ohio and the Northern Expo will be on Thursday, April 9, in Wooster, Ohio. You do not want to miss the opportunity to see the latest in industry innovations and services at both of these events. I look forward to attending both Expos as well as each district for one of their 2020 meetings. These events are an excellent opportunity to get contact hours, network with your peers and visit communities throughout the state.

I would like to thank all of the members and volunteers of the Ohio Section AWWA, past and present, for their hard work and dedication to our section and to providing our communities with the world's greatest resource, WATER!

AWWA focus during the recent 2020 Winter Board Meeting was on the Strategic Plan, evaluate an enterprise membership model, discussion on our business plan goals and the election of new officers. The Board discussed A Path to 2020 and the 5 strategic themes: communication, education, membership, brand and finance. AWWA Business plan is aligned around the strategic plan so we looked at the current plan and the integration to be forward looking while meeting our objectives. We discussed reinforcing AWWA’s mission commitment, protecting AWWA’s assets and brand, and strong framework to becoming One AWWA. We held a breakout session to review the current and potential changes to the strategic plan and allow for Board feedback. The new strategic plan will stay within the core principles with refocused goals and objectives.

The Board created an AWWA ad hoc committee to research, model and create a concept for a utility enterprise membership structure. This concept was discussed
about identifying risks, issues, constraints and opportunities for additional member benefits. The structure would allow more access to valuable information and utilize additional member benefits. An interim report will be delivered to the Board at ACE20 and a final report to be recommended for approval in 2021.

The 2020 Winter Board Meeting held the election of new officers. The Association’s next president-elect along with three incoming vice presidents and two incoming director-at-large officers were elected during the annual winter meeting. The new AWWA Officers will take office June 2020 at the conclusion of AWWA’s Annual Conference and Exposition in Orlando.

President-Elect: Dr. Chi Ho Sham is an active member of the New England Section

The new Vice Presidents elected by the board are:

- Jennifer Elms (Texas Section)
- Dr. Stephen Randtke (Kansas Section)
- Patrick Staskiewicz (Michigan Section)

Also elected as Director At-Large, Michelle Stockness (Minnesota Section) and Corianne Burnett of Portland Oregon as a Service Provider Director At-Large.

Our Ohio Past Chair, Tyler Converse took the opportunity to vie for the Director At-Large position. He was unsuccessful even though he delivered a well-received speech.

I look forward to working with the new officers and am confident they will represent AWWA with integrity and professionalism.

Thank you for the opportunity to support you as the Section Director. If you have questions on the Association activities, please contact me at Lorraine.brown@daytonohio.gov or 937.333.6135.

Let us work together for a better Ohio through better water.

SAVE THE DATE!
The 82nd Annual OAWWA Conference

September 22-25, 2020
Utility Highlight | CITY OF MIDDLETOWN
City of Middletown Water Treatment Plant
– Focus on the People

If you ask Jamie, plant operator, what she does, she has one word, "Water!" The daily challenges for the staff at the City of Middletown Water Treatment Plant are as diverse as the people meeting those challenges. The dedicated staff work together as a team to deliver safe and reliable drinking water to city residents every day.

Middletown is nestled between Dayton and Cincinnati, and was once designated an "All-America City." Middletown is home to nearly 50,000 residents and many businesses, including AK Steel, Hook Field Regional Airport, and most recently, NTE Energy. NTE Energy’s connection to the City water system significantly increased the daily demand. This addition is a great economic driver for the City, but the company's water needs have made the plant staff even busier.

The plant uses groundwater from wells as its water source and is rated for 20 MGD. The treatment process consists of lime softening, recarbonation, multi-media filtration, and disinfection before the water is delivered to the distribution system. The staff is currently implementing numerous small projects throughout the system in order to add reliability and replace aging infrastructure. The City’s maintenance technicians, Ben and Kevin, are often at the front of these projects. These two work together daily performing a variety of tasks from supporting construction projects to performing routine maintenance. They were instrumental in the successful upgrade of the Kensington Pump Station, which was needed to meet the increased demand from NTE Energy. They are pictured below with Scott Belcher, the plant manager, next to an existing water well as they gear up to add another well to the well field.

Scott says the key to smooth plant operation is teamwork and good communication focused on delivering safe drinking water—while having fun doing it. Scott can frequently be seen riding his bike, which is usually parked beside his desk.

The lab crew, A’Lisha, Amanda, and Emma, stay busy ensuring the water quality is excellent. Daily testing requirements paired with lead & copper and Unregulated Contaminant Monitoring Rule

Ben, Kevin, and Scott in the well field where an additional well will be installed to meet increased water demands.
(UMCR) requirements keep the staff on their toes. The lab recently conducted an evaluation of corrosion control that was spurred in part by an Ohio EPA letter suggesting marble testing as the preferred test for corrosion monitoring. Lab personnel lead equally diverse lives outside of the lab. Alyssa spends her free time doing crafts and gardening, while Amanda is a sergeant in the Army Reserve and serves as an Air and Missile Defense crew member. She just returned from a deployment protecting the airways of Washington DC.

The collaboration exhibited during a recent pump station issue highlights the great teamwork of the staff. Tim was conducting normal operations when an issue occurred at a remote pump station. Ben and Kevin, in typical fashion, reported immediately to the pump station to diagnose the problem. The rest of the staff gathered around the control panel to work the problem remotely. Audrey, who keeps things going through her administrative support, remarked that the operations staff worked “hard to ensure our residents reliably receive high quality water every time they open the faucet.” All in a day’s work for the group delivering safe drinking water to Middletown residents every day.

Please visit our website to learn more about the City of Middletown Water Treatment Plant: https://www.cityofmiddletown.org/355/Water-Treatment
SAVE THE DATE
The 82nd Annual OAWWA Conference
September 22-25, 2020

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call (800) 445-8667 with group code: OAWWA

Deadline to reserve hotel room is August 31st

Exhibit Hall
Duke Energy Convention Center
525 Elm Street, Cincinnati, OH 45202

PRELIMINARY SCHEDULE

Tuesday, September 22
- Research Workshop
- Golf Outing
- Water Plant Tour
- Welcome Mixer

Wednesday, September 23
- Exhibit Show
- Expo Tours
- Competitions

Thursday, September 24
- Technical Sessions
- Business Luncheon
- Gala

Friday, September 25
- Technical Sessions

WATCH YOUR EMAIL FOR REGISTRATION INFORMATION!

Ohio Section
American Water Works Association
Southern Expo
Utility Expo for Water & Wastewater Professionals

Where: Roberts Convention Centre
I-71 at US Hwy 68 in Wilmington, Ohio
Hotel Reservations Available. Call (800) 654-7036.

When: Tuesday, April 7th, 2020
Time: 8:00am - 3:00pm
Info: - Registration includes OEPA Hours and Lunch
- Free Coffee and Popcorn
- Door Prizes
- Competitions

For more details, visit www.oawwa.org.

Northern Ohio Utility Expo

Where: Wayne County Fairgrounds
199 Vanover Street
PO Box 3
Wooster, Ohio 44691

When: Thursday, April 9th, 2020
For more info: Kevin Givins, Expo Chair
City of Wooster
1123 Old Columbus Road
Wooster, Ohio 44691
Phone# 330-263-5285
Fax # 330-263-5209

FREE Contact Hours available for pre-registered attendees only.
For more details, visit www.oawwa.org.

As of this printing, OAWWA has decided to move forward with all events as scheduled. However, we realize that the situation changes daily. Please watch your email and www.oawwa.org for the most up-to-date information.
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Waterborne Coatings for Water Storage Tanks: An Overview

Tony Ippoliti, Director, Sales & Marketing
Tank Industry Consultants, Indianapolis, IN
INTRODUCTION

A recent web inquiry of the term waterborne coatings recently returned nearly 2,660,000 “hits.” It seems to be a popular topic because desirable products are available for a variety of water storage tank exterior surfaces. A definition of waterborne coatings from Corrosionpedia (www.corrosionpedia.com) includes characteristics such as “environmentally friendly” and states that they are a “surface treatment that uses water as a solvent to … make the coating or paint.” The purpose of waterborne coatings, they conclude, “is to make the coating or paint easy to apply and also be an eco-friendly product. Waterborne coatings are widely used due to their low VOC (volatile organic compounds) content…”

BACKGROUND

For the purposes of this article, only waterborne coatings used to protect the exterior surfaces of water storage tanks will be addressed. My own experience with waterborne coatings began along the Delaware River near Philadelphia, PA in 1976 at a facility that was priming various steel fabrications for subsequent transportation and erection. Seems a long time ago, and it was. Nevertheless, one thing about waterborne high-performance coatings remains the same: they use harmless water as a “solvent” for protective coatings that would, without them, be described as smelly, sticky, and potentially hazardous.

Manufacturers formulate and sell waterborne coatings because regulations demand protective coatings that do not exceed VOC maximums. And because they are, as Corrosionpedia correctly points out, “easy to apply” compared with their solventborne equivalents. This is a critical characteristic of waterborne coatings and one that is often overlooked by those writing protective coating specifications or making protective coatings selections. “Ease of application” can minimize the burden on painting contractors responsible for applying coatings on elevated, dangerous, or complex surfaces such as water storage tanks. A coating system that can reduce the effort required of painting contractors dangling, if you will, from these structures, allows them to apply the specified dry film thickness (DFT), and achieve the results the tank owner desires more easily. When ease-of-application allows a coating system to be applied to tank surfaces more uniformly, inspection of the same surfaces can take place more quickly and easily, as well.

OTHER BENEFITS

Waterborne coatings give painting contractors additional benefits. One of which is that hydrocarbon solvents - used to reduce the consistency of coatings prior to their application – do not need to be purchased when applying waterborne coatings. Most waterborne coatings can be applied as they are “in the can” without reduction. Disposal costs could also be eliminated. And respirators that protect against inhaling harmful hydrocarbon solvents, may not be necessary. These examples are reasons why “invisible costs” - always paid by the tank owner - can be reduced.

If painting contractors receive benefits from the ease-of-application characteristic of waterborne coatings, what do specifiers of these coatings and the tank owners get? In a word, performance. Simply put, many waterborne coatings can perform equal to or better than their solventborne equivalents. And some of coatings are only available in waterborne formulations.
TYPES

Waterborne coatings are found in several AWWA tank standards, further indicating that they are viable - and valuable - representations of coating systems capable of protecting water storage tank surfaces for extended periods of time. AWWA Standards “[do] not constitute endorsement of any product or product type, nor does AWWA test, certify, or approve any product.” Many brands of waterborne coatings are available as a result of this recognition.

For concrete tanks, two standards list waterborne coatings for exterior surfaces: ANSI/AWWA D110 “Wire- and Strand-Wound Circular, Prestressed Concrete Water Tanks” and ANSI/AWWA D115 “Tendon-Prestressed Concrete Water Tanks.” Both standards require that the coatings used “shall be permeable to water vapor.” By requiring permeability, water from wind-driven rain entering the coating and the concrete substrate can reliably “pass through” the coating and evaporate when it stops raining. By doing so, the tendency of the concrete surface to micro-crack when water freezes is minimized.

In Section 2.8.1, ANSI/AWWA D110 allows “…rubber base (PVC-latex and polymeric VA) acrylic elastomer and acrylic emulsion paints …”. In Sec 2.10, ANSI/AWWA D115 allows “…latex-acrylic and modified acrylate elastomers.”. These are examples of waterborne coating systems.

In the AWWA D102 Standard Coating Welded Steel Water Storage Tanks, several types of waterborne coatings can be found: waterborne acrylic, waterborne epoxy, and waterborne urethane coatings. They may be one-component or two (1k / 2k), used as a primer, an intermediate coating, or a topcoat depending upon their formulation and how they are used to meet the requirements of the ANSI/AWWA D102 Standard. Recognize once again that this AWWA Standard “does not constitute endorsement of any product or product type, nor does AWWA test, certify, or approve any product.”

In the current ANSI/AWWA D102 (2017) Standard, there are two Outside Coating Systems (OCS) that specifically mention the use waterborne of coatings: OCS No. 3 and OCS No. 7. OCS No. 3 is composed of a zinc-rich primer and “an
intermediate coat and finish coat of a single-component water-based industrial acrylic or modified acrylic emulsion.” Acrylics provide simplicity (they are one component), economics (they are less expensive than two-component coatings), they have a “no hidden cost” advantage (they are available in “dryfall” formulations), and they can be applied and maintained by municipal operators because of the beneficial characteristics listed.

OCS No. 7 is “a three-coat system consisting of a first coat and an intermediate coat of two-component water-based epoxy and a finish coat of a two-component water-based aliphatic polyurethane coating.” Two-component polyurethane coatings are one of the longest lasting types of coatings when measured for ultraviolet (UV) resistance. They do not chalk or fade as quickly as other types of coatings which is why they’re used as topcoats with three ANSI/AWWA D102 Outside Coating Systems. OCS No. 7 describes a waterborne version of this long-lasting coating.

Full disclosure: the color selected by the tank owner will affect the ability of the topcoat to resist UV degradation. Very dark colors will absorb greater amounts of UV energy and fade faster than the whites and off-whites often used on water tanks. This limitation is also true of waterborne coatings used on concrete tanks. It’s not the water in the coating, it’s the colorants and pigments used to derive deep colors that creates the limitation.

Finally, coating manufacturers may also formulate waterborne versions of all the other systems outlined in the AWWA D102 Standard, and those systems, though they may not yet be listed in the standard, may also be used for the protection of exterior water tank surfaces. The standard contains the following statement, “Proprietary formulations will be acceptable provided the coating is of the same generic type and that the performance of the formulation offered meets or exceeds the performance of the formulation defined in the referenced coating standard.” Using waterborne versions of other AWWA D102 coating systems allows a tank owner to receive the benefits of each Outside Coating System and not be limited in their desire to consider coatings with harmless water as their “solvent.”

**CONCLUSION**

Beginning with paints for household use in the 1940’s, waterborne coatings are now available in formulations that make them very good candidates for use on water storage tanks. Whether they are one component or two, they offer exceptional characteristics not discussed in this article: hiding (the ability to “hide” the previous coat), fast dry, recoatability (little to no affect on the existing coating when overcoating), abrasion resistance (resists windborne debris), and weatherability (resistance to fluctuating temperatures after curing). Unless they’re being applied when wet or freezing, waterborne coatings for water storage tanks can offer owners, specifiers, and applicators the performance, value, and safety they have been seeking.
On January 14th, 2020, Ohio EPA drinking water inspectors Megan Shortridge and Katie Moore participated in CIQS (Careers Involving Quantitative Skills) Day at Miami University. Hosted each year by their Statistics Department, CIQS Day brings female high school students from southwestern Ohio to campus to interact with female professionals in STEM fields. Megan and Katie put together a hands-on exercise called “Creek to Sink” where students learned about the conventional drinking water treatment process (coagulation, flocculation, sedimentation, and filtration) while treating raw water with alum and filtering it through a sand-gravel media filter in a 2L bottle. Megan and Katie introduced the exercise by discussing the city of Oxford’s water source (ground water), and differences between surface water and ground water sources. Raw water to run through the filters was originally taken from the creek behind Megan’s house, but it was far too clear, so they had to “add turbidity” so students would be able to see a dramatic difference. Both Megan and Katie also brought various types of water filters and treatment chemicals from their backpacking time outside work for students to try out. Students enjoyed seeing what others use to treat water in the backcountry.

One part of the experiment Megan thought worked particularly well for engaging students during the slower parts of the exercise; while students waited during the coagulation step, Megan went around with a Lifestraw filter and a handout about Guinea Worm Disease (Dracunculiasis). Megan explained how there has been an international campaign to eradicate this water-borne disease and what an impact it has had on the lives of those in impacted areas. She found that there was just enough of a “gross factor” that the students asked a lot of follow-up questions!

Megan and Katie weren’t the only AWWA young professionals encouraging students to pursue a career in water. Lauren Wasserstrom and Tracy Kump of Greater Cincinnati Water Works also hosted a session titled “Come on In, the Water’s Fine! Water Treatment 101.” The session provided students with an overview of the water treatment process at the Richard Miller Treatment Plant, emphasizing the importance of turbidity removal, and demonstrated a jar test. A jar test is a bench scale test that simulates the coagulation, flocculation, and sedimentation steps in the conventional water treatment process and helps determine if the correct amount of chemicals are being used, and thus, optimizing the treatment process. The students helped to conduct the jar test, made observations and hypotheses, and took final turbidity measurements to determine the optimal dose. The students were very engaged, asked great questions and helped make the day a great success!

Not only did the sessions reach students, but they also reached their teachers. Several middle and high school teachers that participated were interested in integrating water-related learning activities into their curriculum. Megan provided information on Ohio EPA grants and programs (e.g., Project WET and Ohio Environmental Education Grants) to educators who were interested. Students commented that they appreciated the hands-on exercise and the information provided by AWWA on careers in water.
Are you a YP looking to become more involved or grow your network?

We encourage you to reach out to one of our YP committee members or join our mailing list to learn about the many exciting things happening for 2020!

Randall Berkley, YP Committee Chair; Jacobs, Columbus, OH Randall.berkley@jacobs.com

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Pooja Chari, YP Committee Communications Chair; ftC&h, Cincinnati, OH pschari@FTCH.com

Sarah Hayes, Fresh Ideas; Stantec, Columbus, OH sarah.hayes@stantec.com

Megan Shortridge

Oh hi! My name is Megan Shortridge, and I work as a drinking water inspector with Ohio EPA out of the Dayton area. I’m also one of the Southwest District YP Representatives for OAWWA. I could (and do) talk about water all day long, and am excited to help grow that passion in others. OAWWA YPs does amazing work investing in our number one resource: the people of water.

Speaking to my friends who live in Lima, Peru and in Venezuela, I am so grateful for the high quality, high quantity ground water sources we have here in southwest Ohio. I’ve always said, water is a career for life. It’s truly a career “for life,” in that you are literally providing the lifeblood of towns, villages, and cities across Ohio on a day-to-day basis, and it’s also “a career for life” — you could spend your whole life working in water and never get bored.

Just as water is the lifeblood of our towns and cities, operators are the lifeblood of our water systems. One of my goals as OAWWA YP Representative is to increase operator participation, as they are truly the bread and butter of what we do. My favorite question to ask people is how they first got interested in water; I’ve heard some truly remarkable stories. Like many career paths, mine was definitely not a straight line to drinking water! I’ve had the pleasure of extracting and analyzing DNA from fish digestive tracts to determine diet composition (as part of my master’s work), building tiger cages at an animal sanctuary, conducting fish entrainment studies in cooling water at a power plant, throwing buckets off bridges (and into Lake Erie) to collect water quality samples, inspecting landfills and compost facilities, and raising zebrafish and conducting toxicology experiments for USEPA.

I am so thankful for the opportunity to encourage others to pursue this amazing line of work, and I look forward to seeing you around!
The purpose of the Ohio Section Diversity & Inclusion (D&I) Committee is to proactively promote volunteer and employment opportunities that encourage diversity and celebrate the mosaic of people who bring a variety of backgrounds, styles, perspectives and beliefs to the water industry.

The D&I Committee encourages our membership to participate and be a part of our mission.

The committee seeks to address topics such as:

- Identifying avenues to consistently communicate the importance and value of diversity to Section leaders
- Identifying educational and training programs for industry members focused on relevant topics such as change management, cultural awareness, system and process changes, communication workshops, or panel discussions
- Identifying opportunities to promote diverse events at the Section conferences such as games and challenges, meet-and-greets, and networking gatherings
- Recognizing outstanding leadership and contributions in the diversity field within the Ohio Section
- Utilizing the national AWWA platform and resources to elevate diversity topics for water professionals and leaders

2020 SQUAD GOALS

The OAWWA Governing Board has requested that the D&I Committee take a state road trip during 2020. Look for us in all four districts. Our goal is to move the needle on the topic of diversity and inclusion. We need the courage to have difficult conversations to move our section forward and we cannot accomplish this goal without your participation. There is no better time than the present, let’s get started with our first D&I Champion Challenge.

Calling all diversity and inclusion champions

Looking at the word cloud below let us know which word or phrase (or suggest one that is not included) resonates the best when you think of Diversity & Inclusion. Email your responses to our committee chair, Denita R. Bonhart at denita_bonhart@clevelandwater.com. Insert “choose to include” in the subject line.

All submissions will be entered into a drawing to win a D&I Swag Bag and because one is such a lonely number, the committee will award four prizes.
Gender Diverse companies in the top quartile for diversity are 15% more likely to financially outperform those in the bottom quartile for gender diversity.¹

Ethnically Diverse companies in the top quartile for diversity are 35% more likely to financially outperform those in the bottom quartile for ethnic diversity.¹

92% of US population growth in the last decade has been ‘minorities’.³

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Taking Control of Your Experience Modification Rate (EMR)

Can Have a Positive Impact on Your Bottom Line

By Shelley Brewer, DrPH, CSP, Safety Director
An EMR provides a numeric representation of a business’s workers compensation claim history as compared to other businesses in the same industry and state. The rate was initially established to set credits or debits for insurance premiums. Over the years, the rate has transformed from an insurance tool into being used as a lagging indicator for selecting contractors. An EMR of greater than one not only affects the amount of money a company pays for insurance, but it also can affect what new business a company is able to bid on.

An experience modification rate is calculated from an organization’s claim history for the three full years ending one year before the current policy expires. For example, a quote for coverage that expires on January 1, 2019, the retro plan will look at 2015, 2016 and 2017. The rates are primarily calculated by the National Council on Compensation Insurance (NCCI) and are recalculated annually. The states that do not use the NCCI’s numbers are California, New York, Delaware, Pennsylvania, New Jersey, Michigan, Minnesota, Wisconsin and Texas. Regardless of rating entity, the EMR can be explained as an examination of expected losses versus actual losses with consideration to payroll (EMR=Actual Claims/Expected Claims).

The method by which the EMR is calculated means a small- or medium-sized organization having one large loss that involves days away from work can have a high EMR (>1) for several years. The question is how can organizations take control of their EMR rather than just being impacted by it?

**Getting Started**

An organization must realize that managing an EMR is a marathon and not a sprint. The first step is learning how your EMR got to the current rate. The initial step in gaining this understanding is to conduct a detailed review of the following: the last five years workers compensation loss runs, closed claims, claim reserves, payroll by class code and classification code assignment. Even though this process might sound overwhelming, five basic steps can be utilized to get your organization back in the driver’s seat.
Learn how your EMR rate is calculated.
Calculating an EMR is complicated. Sample EMR calculations presented by insurance companies or other information sources often use over simplified examples and leave out critical weighting factors. Glazing over the details can hide calculation mistakes and make it harder for organizations to identify improvement areas. Get comfortable with all the data and what it means.

Perform a classification code review.
Class codes are the foundation for generating premiums. The class code determines the rating factors used in EMR calculations. The rating factors include the expected loss rate (ELR) and the discount rate, among others. Using a wrong class code will lead to an incorrect EMR and potential increase in cost (https://classcodes.com/workers-compensation-class-codes/).

Ensure the audited payroll is correct.
The final audited payroll is what is used in the EMR calculation. The insurance company is required to report employers’ audited payroll and claim data to the rating bureau within a very specific time period after a policy expires.

Monitor loss history.
Losses play a large part in the EMR calculation. Monitoring active and closed claims through regular reviews will help identify areas for safety program improvements. Regular claim review will also ensure the insurance company is not overpaying and mishandling claims. Answer the following questions during your review:

- Is there an identifiable claim pattern?
- Are claims trending up or down?
- Are claims categorized correctly (i.e. medical only, lost time, restricted work, fatality)?
- Is there a need to dispute any open claims or reserves?
- What modifications can be made to the safety program to reduce claim frequency and severity?
Develop a partnership with your insurance agent.

Do not let your loss history be the only thing that is telling your company's story to underwriters. Developing a partnership with your agent enables the agent to explain your company’s operations. Have a story to tell. If you have not had any losses, focus on explaining the safety programs and practices your organization has in place that have prevented incidents. If you have large losses or frequency issues, focus on what new programs or controls your organization has developed to prevent similar incidents in the future. Ensure claims are being handled in a manner that avoids extraneous expenditures.

The insurance company is required to report employers’ audited payroll and claim data to the rating bureau within a very specific time period after a policy expires.

In Review

The above are five simple steps that an organization to take to improve their EMR. An out-of-control EMR does not happen overnight and correcting it will not happen that quickly either. A low EMR allows contractors to stay on approved vendor lists as well as lowers a company’s overall costs. A company with an EMR of 1.20 is paying 20% more on their premiums than an organization that has an EMR of 1.

All organizations should stay on top of the factors that can contribute to a high EMR. The five steps above should still be completed even if you currently have a low rate. It is much easier to get a handle on what is going on with your EMR before a problem occurs. Simply monitoring safety performance of an organization will not correct the five factors above that could be influencing your EMR.
Columbus OH Men and Lansing Women Win 2019 Great Lakes Cup

Lansing (MI) Board of Water & Light hosted the 2019 regional Great Lakes Tapping Cup on Wednesday, November 6. City of Columbus (Ohio) Water won the men’s division with a time of 1 minute 20.31 seconds with no penalties while the Lansing Lethal Ladies posted a time of 2:38.44. Only 3 teams competed this year, Lansing Board of Water & Light men and women’s teams and Columbus men’s, with Arlington Heights, IL teams both unable to clear scheduling conflicts had to make a tough decision to not compete this year.

Even though the day started cold with snow flurries, we had an active crowd of around 50 in attendance cheering the teams on. The activity started in the afternoon and ended with a social event in the evening with the participants and friends at Boston’s Restaurant & Sports Bar. A very special thanks to our 2 Gold Sponsors, M. E. Simpson and A. Y. McDonald Mfg. Co and our 1 Silver Sponsor, Reed Mfg. Co, that made the event possible. We hope all will thank the representatives of these 3 companies when you see them.

The Great Lakes Cup regional Tapping Contest consists of all of the Men’s and Women’s AWWA Sections that touch any of the Great Lakes, Minnesota, Wisconsin, Illinois, Michigan, Ohio, Pennsylvania, New York and Canadian province of Ontario. The Ninth Annual Great Lakes Cup is tentatively planned for Ohio in October of 2020. Any current champions, men or women, of the above AWWA Sections along with the host utility, are able to compete. The Great Lakes Cup Committee raises money for the overnight accommodations for the traveling teams and the wrap-up celebration after the Tapping Contest. You can send any inquiries to mike.gradoville.oawwa@gmail.com.
USALCO is celebrating 25 years of DeLPAC and would like to say THANK YOU to the thousands of water and wastewater plants throughout North America who have utilized this industry changing technology to optimize coagulation or phosphorus removal. To learn more about how DeLPAC and other USALCO coagulants can deliver superior results and value please visit www.usalco.com or contact us at 410-918-2230.
Ensuring Compliance with New Lead Notice Requirements

In 2019, following changes made to the lead and copper rule and the introduction of the new disruption of service rule, Ohio EPA released PWS-06: Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines. The guidance document outlines how to comply with the requirements in each rule, as well as achieve simultaneous compliance with both rules. If you have lead service lines in your distribution system (or if service line materials are unknown), this guidance applies to you.

If a disruption of service requiring a shutdown (Type 2 or higher) occurs in an area that contains or is likely to contain lead service lines, Ohio EPA requires a notice be provided to those in the affected area as soon as practical after the disruption. Water systems may implement a lead public awareness campaign in lieu of some of these requirements. If a lead service line is replaced or a water main is replaced in an area that contains or is likely to contain lead service lines, Ohio EPA requires a notice be provided at least 45 days prior to the replacement (except in emergency situations). Water systems conducting partial lead service line replacements or main replacements in areas that contain or are likely to contain lead must also offer and provide a filter certified to remove lead.

Water systems must keep records related to the lead and copper rule (including these types of actions and notices) for a minimum of 12 years; records are subject to audit by Ohio EPA during a sanitary survey or site visit.

Ensure your water system is correctly implementing these notice requirements and other requirements by reviewing PWS-06: Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines, visiting the disruption of service webpage, or the lead and copper rule webpage.

- epa.ohio.gov/Portals/28/documents/pws/PWS-06-001.pdf
- epa.ohio.gov/ddagw/pws/disruptionreporting
- epa.ohio.gov/ddagw/pws/leadandcopper
In 2019, U.S. EPA released its PFAS action plan which prompted many states to take additional actions, including initiating sampling to determine levels of PFAS in drinking water. On Sept. 27, 2019, Governor Mike DeWine announced the establishment of an inter-agency workgroup to address the emerging issue of PFAS (per- and polyfluoroalkyl substances) in Ohio. In his announcement, he directed the Ohio Environmental Protection Agency (Ohio EPA) and Ohio Department of Health (ODH) to work together on developing a statewide PFAS action plan to address potential threats to both public and private drinking water systems. On Dec. 2, 2019, the State of Ohio released the statewide action plan. The plan calls for Ohio EPA to gather data from public water systems statewide to determine if PFASs are present in drinking water.

Under the plan, Ohio EPA will coordinate sampling of approximately 1,500 community and nontransient noncommunity public water systems statewide. Raw and finished water (entry point) samples will be collected at these public water systems, with a goal of completing all sampling efforts by the end of 2020.

Public water system sampling efforts, coordinated by Ohio EPA under contracts with qualified consultants and laboratories, will begin in February. Some sampling may also be conducted by trained technicians from Ohio EPA and analysis performed by Ohio EPA’s Division of Environmental Services (DES). Approved U.S. EPA methods will be used for analysis. Ohio EPA and consultants will contact public water systems to arrange sampling. PFAS sampling results for public water systems will be publicly accessible on Ohio’s PFAS webpage.

There are currently no national drinking water standards for PFAS compounds. In 2016, U.S. EPA set health advisory levels (HALs) of 70 parts per trillion (ppt) for two of the most studied PFAS chemicals, PFOA and PFOS. Ohio’s action plan includes the use of these HALs for PFOA and PFOS and establishes additional action levels for four additional chemicals in the PFAS family, including GenX, PFBS, PFHxS, and PFNA. The establishment of national drinking water maximum contaminant levels (MCLs) is under consideration by U.S. EPA.

A PFAS toolkit has been developed to assist public water system communication efforts. The toolkit as well as more information about PFAS, the action plan, and additional resources are available at pfas.ohio.gov.
New Federal Infrastructure Requirements

On Oct. 23, 2018, the U.S. Congress passed the America’s Water Infrastructure Act (AWIA), amending the Safe Drinking Water Act, to improve the nation’s water infrastructure. Section 2013 of AWIA requires community public water systems serving more than 3,300 people to develop or update their risk and resilience assessments and emergency response plans. Utilities are required to certify to U.S. EPA that the assessments and plans were completed in compliance with the requirements in AWIA.

Risk and resiliency assessments shall include:
1. the risk to the system from malevolent acts and natural hazards;
2. the resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized;
3. the monitoring practices of the system;
4. the financial infrastructure of the system;
5. the use, storage, or handling of various chemicals by the system; and
6. the operation and maintenance of the system

Emergency response plan shall include:
1. strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system;
2. plans and procedures that can be implemented, and the identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water;
3. actions, procedures and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes and construction of flood protection barriers; and
4. strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system.
The deadlines to submit certification of completion of the risk and resilience assessment to US EPA are listed in the following table:

<table>
<thead>
<tr>
<th>Population Served</th>
<th>Risk and Resilience Assessment Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥100,000</td>
<td>March 31, 2020*</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>December 31, 2020*</td>
</tr>
<tr>
<td>3,301-49,999</td>
<td>June 30, 2021*</td>
</tr>
</tbody>
</table>

*Emergency response plan certifications are due six months from the date of the risk assessment certification. The dates shown above are certification dates based on a utility submitting a risk assessment on the final due date.

The certification of completion may be sent to U.S. EPA via their secure online portal, email, or regular mail. For more information regarding AWIA requirements we recommend you visit the following website:


If you have questions for U.S. EPA, you can go to the following website

epa.gov/ground-water-and-drinking-water/forms/online-form-epas-office-ground-water-and-drinking-water

or email: dwresilience@epa.gov
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Ohio EPA uses the Ten State Standards (TSS) Recommended Standards for Water Works to grant Plan Approval for capital improvement projects for public water systems (PWSs). In addition to TSS, a series of guidelines were created over 20+ years to allow Plan Approval for emerging technologies, or those which are not addressed in the TSS Recommended Standards. These guidelines typically require a bench-, pilot-, or full-scale demonstration study for Plan Approval. This method of approval creates a barrier to installation of emerging technologies that is greater for small systems than for comparable large systems due to the increased relative costs of equipment rental, shipment, PWS labor, design professional labor and analytical labor for the demonstration study. For small systems, the cost and process to gain approval can be too restrictive to implement innovative but more appropriate technologies. Examples of emerging technologies with guidelines that require a demonstration study include low-pressure membrane (LPM) filtration, dissolved-air flotation, proprietary high-rate clarification, and ballasted flocculation.

With design criteria, Plan Approval for these technologies would no longer require a demonstration study but will instead allow Plan Approval according to the same process used for TSS conventional technologies. The differences in these requirements are shown in Figure 1. The additional costs required for Plan Approval using a demonstration study can be significant.

The Ohio Water Resources Center at The Ohio State University formed a partnership with Ohio EPA and the Ohio AWWA Technology Committee to create a framework for developing design criteria for emerging technologies that would allow them to be adopted for use by Ohio EPA as a
supplement to TSS. With this framework, we developed design criteria for LPM filtration, an established treatment technology with over 280 U.S. installations.

To develop design criteria for LPM filtration, we identified water quality and operational components critical to predicting and maintaining water production capacity. A core advisory committee was formed of water regulators, water utility professionals, design engineers, and membrane experts. Subcommittees composed of these professionals were established to conduct iterative, round table discussions during each step of the design criteria development process. Operating flux was identified as a critical design parameter for calculating design capacity and as a component of membrane fouling. Fouling is an expected part of membrane operation and is controlled with appropriate pretreatment and maintenance. A critical concern of providing LPM filtration design criteria was that premature irreversible fouling, defined as fouling that decreases flux capacity below its design value prior to the end of the membrane’s expected design life, should be minimized.

Factors identified to impact fouling potential were membrane feed water quality and membrane product characteristics. Membrane feed water quality parameters that indicate fouling potential were turbidity, total organic carbon, dissolved iron, and dissolved manganese. We sent a technical request for information to LPM manufacturers to obtain product-specific flux values for two water quality bins (good and medium) based on the four feed water quality parameters. Water quality outside these limits was defined as poor and will still require a pilot-scale demonstration study for Ohio EPA Plan Approval. The product-specific flux values for good and medium water quality were validated by the Ohio Water Resources Center. The validation data came from existing studies for each product that included membrane feed water quality, flux, transmembrane pressure, cleaning frequency, and duration of the study. These product-specific flux values for the two water quality bins were the heart of the design criteria provided to Ohio EPA.

Figure 1: Comparison of requirements for Ohio EPA Plan Approval of emerging technologies with a demonstration study and conventional technologies with Ten State Standards design criteria

(continued on next page)
These design criteria are currently being reviewed by Ohio EPA for adoption. Once adopted, they will allow a PWS to gain Ohio EPA Plan Approval for surface water LPM filtration without the currently required pilot-scale demonstration study. This is accomplished by providing product-specific flux values for two defined membrane feed water quality limits at which a PWS can receive Plan Approval for a proposed LPM filtration improvement. Manufacturers whose product-specific flux value and validation data is accepted into these design criteria by Ohio EPA will be able to respond to a PWS’s pre-selection bid document prior to detail design without having to conduct a pilot-scale demonstration study. This pre-selection bid document for an actual project will most likely contain additional performance requirements (e.g., capital and O&M costs, energy usage, etc.) from the individual PWS in addition to meeting the Ohio EPA requirements. Ohio EPA intends to adopt the design criteria for LPM filtration as a supplement to the TSS. The framework created here to develop design criteria for an emerging technology is to be implemented by the Ohio Water Resources Center for subsequent emerging technologies.

Acknowledgment

This work was supported by the Ohio Water Development Authority under Grant 7883. In-kind services were provided by Ohio EPA, Division of Drinking and Ground Waters; US EPA; Stantec Consulting Services, Inc.; Avon Lake Regional Water; Greater Cincinnati Water Works; Cleveland Division of Water; Columbus Division of Water; Newark Division of Water; and Westerville Water Division. Many others provided valuable feedback on these design criteria, including many water systems currently using LPM Filtration, LPM manufacturers, and representatives from Arcadis, CTI Engineering Co., Hazen and Sawyer, Jacobs Engineering Group, and Shoaf Consulting LLC.
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• Business Luncheon
• Gala

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Hydrant Flushing Initiative:
Fire and Water Combine to Promote Excellence in Cleveland Fire Suppression

By: Christine Seda, Cleveland Division of Water
There are times when the lessons learned from a minor tragedy can be used to prevent a major disaster in the future. This was the case in August of 2017 when firefighters responding to a house fire in Cleveland found that the nearest hydrant was not operational. Thankfully, the fire did not result in any fatalities; however, the material loss may have been reduced if the hydrant was functioning or if the fire department knew to use a different hydrant. This tragedy identified a need to streamline the process for flushing and repairing or replacing fire hydrants.

The Cleveland Water Department (CWD) is responsible for nearly 80,000 fire hydrants in its water distribution system, with over 18,000 fire hydrants in the city of Cleveland alone. Annual hydrant flushing is done by the fire department to verify that the hydrant is operational and that adequate water flow is available. In addition, the flushing is part of the preventative maintenance program for the water distribution system and helps to ensure exceptional water quality by removing iron and other mineral deposits from the water mains. In Cleveland, the fire department is responsible for annual hydrant flushing, while the water department is responsible for all hydrant repairs and replacements.

Prior to 2018, the administrative portion of the hydrant flushing process was a labor-intensive proposition for the Cleveland Fire Department (CFD) that was fraught with many opportunities for mistakes. Each fire station was responsible for maintaining a handwritten book detailing the location of each fire hydrant within the station’s service area. The front of the book had a list of codes detailing the most common hydrant problems. During flushing season, a check mark was placed by each hydrant flushed, along with any applicable problem codes. There was not any provision for listing the exact date of the inspection, the firefighter responsible for the inspection or any additional information about the problematic conditions. The location of any problematic hydrants would be passed on to the CFD Water Supply Officer from each fire station via a number of different channels, including telephone calls, emails, spreadsheets and post-it notes, without any specific time schedule. Once the Water Supply Officer received the location of some hydrants, it was up to the hydrant flushing team to verify the location and any problems that were identified. This process was time-consuming and error-prone.

The Cleveland Water Department (CWD) is responsible for nearly 80,000 fire hydrants in its water distribution system...
problematic hydrants, they would pass the information on to CWD via the same non-standard channels. CWD would then create a hydrant maintenance work order for each problematic hydrant, potentially without knowledge of any additional observations that were made about the hydrant by the firefighters who performed the hydrant flush. Under this system, the firefighters did not know the status of any repairs/replacements for hydrants that they had identified as problematic. The Water Supply Officer had the list of problematic hydrant locations, but they did not have any method of directly checking on the status of the repairs other than contacting CWD, and CWD did not have a procedure in place for notifying CFD when work was completed on the hydrants.

...firefighters did not know the status of any repairs/replacements for hydrants that they had identified as problematic.

In November of 2017, the Cleveland Water Department began using Cityworks as their new Asset Management System. Cityworks interacts directly with CWD’s Geographic Information System (GIS). Each hydrant in CWD’s distribution system is located on the GIS along with important attribution about the hydrant. Under Cityworks, the process for working on a hydrant begins by selecting the hydrant from the GIS, which geographically positions the work. Once the work order is created, all information about the work, including photographs, is entered into Cityworks. Given the geographic nature of Cityworks, it was an excellent choice as the repository for all hydrant work, including the hydrant flushing that was done by CFD. By using a central repository for all hydrant work, both CWD and CFD would have real-time access to hydrant information. The lessons learned from the August 2017 house fire would be used to create a streamlined hydrant inspection and maintenance system
that would benefit all the stakeholders, the Cleveland Fire Department, the Cleveland Water Department and most importantly the residents of the city of Cleveland.

The challenge was to utilize the Cityworks framework to redesign the entire administrative process of hydrant flushing and potential follow-up hydrant maintenance work. The first step was to translate the CFD hand written hydrant flushing books into a digital format that was meaningful both for CFD and for CWD, who would now have direct access to this information as well. A detailed checklist populated with mutually agreed upon terminology was developed. The need for CFD to maintain a list of the locations of each fire hydrant divided by fire station was eliminated by the use of the GIS as the source of all hydrant location information. Prior to the start of the 2018 flushing season, a hydrant flushing inspection was generated in Cityworks for each hydrant in the city of Cleveland, and the inspection was assigned to the appropriate fire station based on the location of the hydrant.

To increase the odds of a successful implementation of the project, extensive collaboration between CFD and CWD was critical along with the preparation of a detailed installation plan. Prior to rolling out the project to all of CFD, one crew on a single fire engine was used as a pilot. Because of the pilot, items were added and removed from the hydrant flushing inspection checklist, and the communication channels between CFD and CWD were formalized. Once the pilot was successfully completed, an extensive training program and support documentation was prepared and disseminated.

With both CFD and CWD having real time access to hydrant flushing information, it was critical to address the mapping presentation needs of each user group within both Fire and Water. Each fire suppression unit (fire truck, ladder or tower) was provided with a map view consisting of distinctive symbols for the hydrants in their area that still needed to be flushed (black circle) and those which had already been flushed (green diamond).

The summary information on each hydrant flush could be quickly accessed by clicking on a hydrant within the fire suppression unit’s area, while detailed information was available by selecting the hydrant from the symbol. Cleveland Fire’s Chiefs and Water Supply Officer were given a map view consisting of hydrants flushed without any problems noted (red circle), hydrants identified with problems during the flushing process (blue circle), and hydrants not yet flushed or outside the city of Cleveland boundaries (orange circle).

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Hydrant Flushing Initiative:
Fire and Water Combine to Promote Excellence in Cleveland Fire Suppression

Once again, information about the hydrant flush was available by clicking or selecting one of the symbols. In addition, work order information was available from each hydrant inspection that required additional hydrant maintenance. Cleveland Water personnel, including dispatchers, were given a map view that showed a firefighter symbol over each hydrant that was flushed within the last 48 hours to assist them in answering customer concerns with issues like water quality.

The actual process of fire hydrant flushing had to be changed to take full advantage of the new system. Prior to 2018, 2-3 firefighters would walk parallel streets and flush each hydrant on the street. If a hydrant had a problem, the firefighter would have to scribble some notes and the location of the hydrant on paper and proceed to the next hydrant. In the evening, the captain or lieutenant in charge of each crew would gather up all the scribbled notes and transcribe them into the hydrant flushing books. The location of problematic hydrants was then passed on to the Water Supply Officer at a convenient time. Now, each fire suppression unit had one iPad loaded with a hydrant flushing inspection for each of its hydrants. Two firefighters would visit each hydrant – one to record real-time information on the hydrant and one to perform the actual hydrant flush and nozzle greasing. If a problem were noted with a hydrant, the firefighter would create a CWD work order immediately from the field. CWD was able to access the hydrant inspection to view the information that CFD gathered in the field and information flowed in real time.

While the real time updating of hydrant flushing information was beneficial for both CFD and CWD, several problems were encountered. Spotty connectivity in certain areas of
Cleveland made actual work order creation difficult at times for firefighters. Tasking firefighters with correctly creating work orders in the field was cumbersome and did not allow the Water Supply Officer to quality check the data prior to the creation of work orders. On the CWD side, daily manual intervention was necessary to verify that all the necessary work orders were created and that no unnecessary work orders were created in error. Manual entry of all conditions noted by CFD in their hydrant inspections was done on the work order to save the hydrant repair personnel time looking back at the hydrant flushing inspection details.

Prior to the start of the 2019 flushing season, the hydrant flushing inspection was redesigned to make it easier for the firefighters to use. The inspection observations were divided into five major areas (cosmetic issues, location, operability, flanges and outlets) and ordered to follow the sequence used by the firefighters in each of their hydrant flushes. Firefighters were also trained to use an observations area to provide CWD with any additional information about the hydrant and its current condition. While real-time creation of hydrant maintenance work orders seemed desirable, the failure to give the Water Supply Officer time to quality check the data outweighed the gains of real-time creation. The process was redesigned to simplify the procedures for all parties. In 2019, firefighters only needed to visit each hydrant in their area, fill in the date/time and responsible fire crew leader, report if the hydrant was actually flushed and check off any problematic conditions noted. Additional observations could also be entered at the firefighter's discretion. At the end of every day, the CFD Water Supply Officer would review each hydrant flushing inspection completed that day to verify that the inspection specified when it was done, by whom and whether or not the hydrant was actually flushed. Once this verification was completed, the hydrant flushing inspection was closed. At midnight, all

Prior to 2018, 2-3 firefighters would walk parallel streets and flush each hydrant on the street. If a hydrant had a problem, the firefighter would have to scribble some notes and the location of the hydrant on paper and proceed to the next hydrant.

Overall, the 2018 hydrant flushing program was immensely successful. All 18,000+ hydrants in Cleveland were flushed, with 13% of them identified as having some type of problematic condition. Almost 700 hydrants were replaced, and over 1,600 hydrants were repaired. The overall condition of hydrants in Cleveland was greatly enhanced. Both CFD and CWD were able to access information on the status of each hydrant in the city. CFD felt that their hydrant flushing observations were being quickly addressed by CWD, and the channels of communication were functioning well. Several areas for improvement, however, were identified during the 2018 flushing season.

The process was redesigned to simplify the procedures for all parties. In 2019, firefighters only needed to visit each hydrant in their area, fill in the date/time and responsible fire crew leader, report if the hydrant was actually flushed and check off any problematic conditions noted. Additional observations could also be entered at the firefighter’s discretion. At the end of every day, the CFD Water Supply Officer would review each hydrant flushing inspection completed that day to verify that the inspection specified when it was done, by whom and whether or not the hydrant was actually flushed. Once this verification was completed, the hydrant flushing inspection was closed. At midnight, all

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hydrant flushing inspections closed that day were evaluated to determine if a follow-up hydrant maintenance work order was required. If a work order was needed, the problematic conditions noted were used to determine the priority of the work order, and all problematic conditions and observations were put in the instructions for the work order. The automatic creation of hydrant maintenance work orders in Cityworks eliminated the need for firefighters to create work orders, which removed a source of work order errors, and eliminated the need for intervention from CWD personnel to quality check the work orders and manually enter information for the work order instructions.

The 2019 changes led to a more successful year for all concerned parties. Firefighters found the new checklist easier to use, and they preferred that the system determine when a work order was needed based on the conditions that they observed. The streamlined process also allowed CFD management to view hydrant flushing information by battalion (5-6 fire suppression units) rather than by a single fire suppression unit, which models the organizational structure of CFD. With the automatic creation of hydrant maintenance work orders, CWD hydrant repair personnel saw consistency in work order priorities based on the severity of the conditions noted. As an added benefit, the work order instructions were now loaded with all the conditions and observations made by the firefighters when they flushed that hydrant.

In 2019, all 18,000+ Cleveland hydrants were flushed with only 8% of the hydrants requiring follow-up work, down from 13% in 2018, and over 400 hydrants were replaced based on the CFD hydrant flushing observations. The decrease in the percentage of problematic hydrants and hydrant replacements clearly points to the success of the program in creating an excellent fire suppression system for all the residents of the city of Cleveland.
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September 22-25, 2020
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June 14-17: Orlando, FL – AWWA Annual Conference & Expo (ACE)

June 14: Ohio Mixer with the Michigan Section at ACE

2020 Ohio Section Meetings

April 14: Asset Management Seminar, Columbus

June 5: Customer Service Workshop, Columbus

July 14: Water Distribution Seminar, Dublin

2020 Ohio Section Annual Conference

September 22-25: Cincinnati

District Meeting Dates

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<td>April 9: Northern Expo</td>
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<tr>
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<td>October 23: Location TBD</td>
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Publication Information

The Ohio Section AWWA Newsletter is published three times a year. Send articles, comments, news and photos to:

Ohio Section AWWA
oawwa@assnooffices.com
844.766.2845

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The ideas, opinions, concepts, procedures, etc. expressed in this publication are those of the individual authors and not necessarily those of the Ohio Section AWWA, its officers, general membership, or the editor.

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September 22-25, 2020

As of this printing, OAWWA has decided to move forward with all events as scheduled. However, we realize that the situation changes daily. Please watch your email and www.oawwa.org for the most up-to-date information.
Thank you for your support!

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