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Message from the President

Dean Bergstrom, WRWA President, Cumberland

As I sit here writing this message to you, the weather is quite different than last year, as last year it seemed to snow just about every other day. This year we have had minimal flurries or dustings of snow up to this point. What a difference a year makes!

As I think about what WRWA has accomplished in 2023, some of the highlights include putting on one of the largest (if not the largest) conferences for the state of Wisconsin every spring and a very well-attended Outdoor Expo in August. We also purchased more property next to our main office in Plover, so we can expand our Outdoor Expo to make it even bigger and better. If you have been by the property, you will see that the land has been cleared and will have more spots for vendors at the Outdoor Expo, and more area for parking. The support that we receive from all the vendors always amazes me, either with the Sportsman's Raffle or the donations that have already been discussed for our new property, to help us make it a state-of-the-art outdoor facility to make our Outdoor Expo even better. It has been an awesome experience to be part of Wisconsin Rural Water Association and all the great things we do.

The 2024 Water Conference will be held March 26th-29th, 2024. It will be in La Crosse again this year. We are excited to announce that we will be having our water conference moved back to Green Bay for the years 2025 and 2026. We are going to try doing a two-year rotation—going to Green Bay for two years and coming back to La Crosse for two years. We are very excited to get back over to Green Bay, where we had been for many years. We will be at the Resch Center, next to Lambeau Field. It is going to be a much larger venue than in La Crosse, which will give us more opportunity to expand our conference. There will be many details coming in the future, so stay tuned. We look forward to seeing all of you this spring down in La Crosse.

I want to wish everyone a happy and healthy 2024. Until next time, stay warm and stay safe!

Dean



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WRWA Mission:

Assisting, educating and representing our members in the Water & Wastewater Industries.



Message from the Executive Director

Chris Groh, *WRWA Executive Director*

2023 Year in Review

Every year that I have done a "Year in Review" I see one thing that is constant...change. I don't like change. Unless it's change for the better. I like pocket change too, but that seems to be a thing of the past. Most of my dealings with money is strictly by card. Something I still am not used to. I had a couple quarters in my pocket the other day and kept feeling them and thinking what the hell do I have in my pocket? Oh yeah, fifty cents!

This year's changes were both good and bad. The year started with my friend and coworker Jeff LaBelle retiring. I miss him every day. We were about the same age and both had over 20 years in Rural Water. It was nice to have someone to commiserate with. I guess this is both a good and bad change, good for Jeff, bad for me. Which leads to the people I have hired for replacements and new programs. Dam they're young! It's keeping me on my toes, which is good for them and OK/bad for me. This influx of youth sure has changed WRWA, and mostly for the better. I think our staff is better reflecting what's happening out in the state. There are a lot of retirees and fewer "old guys" around. The energy of having young people around is not wasted on me. There is enough of the "youngster" left in me to appreciate what these guys and gals will be doing for the next 20-40 years. Hopefully they will have a career as great as mine has been.

unlucky enough to have tested higher for the PFAS compounds, most of the state's small systems have very little or none. Thank goodness for that. As I suspected, there are mostly no hits or very low hits and we mostly have dodged a huge bullet. There were some places found to have higher concentrations of these compounds, and we will help deal with those results as you need. The lead and copper rule revision improvement (LCRRI) was recently released, and we will help our systems with that too. We'll always be there for you.

Now that the year is winding down, we are already planning for next year. It's never-ending, but that's the way we like it. I foresee in the near future you'll hear a knock on your door and you'll see a WRWA staff member there asking what they can do for you. And like always, we'll do our best to make your system a better one, and show you how to be an even better operator for your customers. So long 2023, and we look forward to seeing you in 2024.

Chris



Politically, not a lot of movement in the state legislature. Although some bills are working their way through the process, I don't see much hope in the product WRWA has advocated for. Even when money is available, someone will make it impossible to access. If you are trying to fund a project, you really need to work with your WRWA circuit rider or wastewater specialist to get the ball rolling and get some support. Sometimes we know another source, or another person to work with and find some help with your project. We always advocate for our membership and we are pretty well known in Madison, so we'll keep at it until something happens.

The PFAS and LCR programs and updates have been winding up and winding down this year. Everyone seems to have gotten their testing done and luckily there aren't a lot of major issues with our systems. Although some have been





We get letters and emails!

We'd love to hear from you...

Took a month to get the results, but YAY!

Thanks again Kelly for helping! Now hopefully we don't have to do this one again.

Cassie Krause, PHR & SHRM-CP Director of Human Resources & Safety Carew Concrete & Supply Co., Inc.

To Whom it May Concern:

I am writing today to express our sincere gratitude for working with George Taylor. George exemplifies professionalism, timeliness, courtesy, and training. He is responsive to our calls and is always willing to meet and explain new procedures reflecting our water testing needs.

We are fortunate to have his expertise as we work through new testing requirements, and wanted to let someone know how much we appreciate him.

Sincere regards, Michell Primmer Frontier Property Management, LLC

To Whom it May Concern:

We would like to thank the Wisconsin Rural Water Association and George Taylor. We have had excellent customer service from both the association and George himself. With George's assistance our testings have been done properly and without issue, he has been a true value with all our ongoing water sampling.

George Taylor puts himself in a positive, personal connection to each of the test sites that require interaction with individual private residences. Our tenants truly enjoy visiting with him. We feel the services that George provides make it easy to request a reentry for future testing.

Sincerely, James DelMedico Frontier Property Management, LLC

I would like to acknowledge the great work of rural water first of all from administration as well as staff. I have made phone calls to Renee in the office with questions, and Renee has been very pleasant to talk with, and answer my questions very professionally. I have talked with Chris about the PFAS regulations and Chris has always been professional and very knowledgeable about new codes.

I would like to thank Todd for assisting us with fire flows. My staff had nothing but great things to say when working with Todd. Todd and Seth also went out of their way with our new water employee to sit down one on one and review study guides to help him pass the Groundwater, Distribution, and hopefully with Iron removal exam that the employee just wrote. Thanks, Todd, for all your hard work.

I was once an employee of rural water myself; I know personally how the organization operates, and have nothing but great respect for the employees, past and present. The staff puts long days driving and working across the state to help operations in municipalities keep running smoothly and informed of issues that they have, or upcoming codes that will affect their systems.

Thanks to all WRWA staff, David Tichinel, Utility Manager City of Clintonville Utilities

Hey Tony,

Just wanted to say thanks for the job you did with the classes I took with you. The information stuck with me good enough to pass all 3 tests I took. So just wanted to say I appreciate your help.

Have a good holiday.

Thanks, Zach Werner

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SOPS Makes Your

Annetta Von Rueden, WRWA Water Circuit Rider

Hello to All! If you went hunting, I hope you had a safe and successful hunt with another nice mount on the wall. After a good Thanksgiving and Christmas meals, and much needed rest, now it's back to work.

As winter presents itself for another year, we can use the warmth of the office to clean, organize, and catch up on and update paperwork. A good starting point for day-to-day operations is to have a Standard Operating Procedures or S.O.P. I require an S.O.P. for my kids who are dropping off grandchildren. It is much easier on new Mother's knowing a schedule is being followed. The funny thing is my son does write out an S.O.P. and updates it as the baby grows and schedule changes!

An S.O.P. is a step-by-step operating plan of all the daily, weekly, and monthly duties including rounds and tasks that are on schedule to be completed. It is a plan that details and explains your water system operation. The plan should be easy to follow with specific written directions to perform and complete the required duties. The S.O.P should include a list of daily, weekly, and monthly rounds and Get in the habit of taking daily notes of what took place each day, who was working, what broke, what was repaired, and by whom.

operational duties that operators can follow. This S.O.P. will help keep the water or wastewater system operational and running smoothly. It should include a list of meters that need to be checked, read, and recorded. Measure and monitor the amount of chemicals used to ensure the equipment is working properly. Check and record any electric pumps with hour meters and flow monitoring.

The S.O.P. should have a list of laboratory procedures that need to be done and on which days, including step-by-step procedures and specific directions. The plan should also indicate what samples need to be done each day, plus when and where the samples need to be taken from. Specifically, DNR approved monitoring points. These

monitoring points are located on your annual DNR annual monitoring schedule that comes out each January. The S.O.P. should explain what to do with each of the samples. The plan should also include dates and times when the



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samples need to be analyzed or if they need to be sent out to a certified laboratory. If the samples need to be sent out to a laboratory, the directions should list when and where to send the samples.

Also included in the S.O.P. should be security information and updates, including offices, wellhouses and treatment buildings, turning on security lighting and activating alarm systems, and how to properly lock gates or all points of entry. Have a checklist readily available at different stations for recording information, with signatures and dates.

Document everything. Get a daily journal or logbook to write everything down, this can become a very handy tool. Do not rely on memory. Yes, I am speaking from experience. Time flies, interruptions happen ALL the time, before you know it it's the end of the day, and you forget what you were going to write down. Get in the habit of taking daily notes of what took place each day, who was working, what broke, what was repaired, and by whom. Record the costs, names of contractors, deliveries that took place and any issues or problems.

These simple steps and documentation will help the water utility run smoothly and efficiently. Implementing them will make life easier.

Take a look at the WRWA training calendar for great training. Don't forget to mark down on the calendar for the upcoming WRWA Annual Conference and WRWA fisheries. See you there!

Annie



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Cyber Security Protection for Your System

Dan Wundrow, WRWA Water Circuit Rider

As I was sitting in the great outdoors this November, I started pondering about cybersecurity. Now I know you're asking, why would you be thinking about cybersecurity during deer season? This is not one of the most popular topics in the world and can be quite complex sounding. Trust me. You don't have to be a computer genius or a cybersecurity wizard to understand the basics to protect yourself and your community from threats.

There are eight total cybersecurity control groups, or topics. These include account security, device security, governance and training, vulnerability management, supply chain/third party, response, and recovery, and others. Each of these topics breaks down into additional questions that need to be assessed within your system. This article will highlight each control group briefly. Future articles will include further breakdown of the questions and what you can do to keep hackers out of your systems. These definitions come directly from the EPA Cybersecurity slideshow available on YouTube.

Account Security protects all user accounts from being compromised and/ or exposed to cyber criminals. The main accounts that will be looked at are remote access logins (SCADA, work at home computers, or anything that is remoted in via another device), emails, laptops/desktop logins, standard user (day to day activities take place within these accounts), and administrator. Let's make this applicable to our own lives. You wouldn't give access to your personal accounts to just anyone would you? Things like bank accounts, personal emails, your medical records, or tax statements. Protecting your city's accounts is just as important. Hackers seek out easy targets. They don't want to work hard to make a quick buck.

Device Security is ensuring all devices are secure and free of potential vulnerabilities which could allow an attacker to gain unauthorized access

You don't have to be a computer genius or a cybersecurity wizard to understand the basics to protect yourself and your community from threats.

to your utility's network. What are common devices? OT devices such as Industrial Control Systems (ICS), SCADA, Human Machine Interface (HMIs) and Programmable Logic Controllers (PLCs), and IT devices such as laptops, desktops, tablets, and cell phones. Each of these devices needs to be kept secure within this control group for the utility. Essentially this is like your personal devices. You may have a passcode, or face ID to get into your phone, or passwords to get into your email. Two-factor authentication has become popular amongst many websites to provide an additional level of security. You have the control and would need to allow access for devices to have hardware or programs installed.

Data Security covers the importance of maintaining the confidentiality, integrity, and availability of the utility's data. Types of data are employee and customer personal identifiable information (PII), billing information, and passwords. Lots of this data the utility would not want to share with anyone. This is like having a Ring doorbell.

You can see who is coming and going from your home, when packages or the pizza guy arrives, but you can also have a documented time a robber first arrived, what vehicle they may have driven, what clothes they were wearing, and when they departed. It creates a log and tracking history in case of a cyberattack.

Governance and Training ensures the utility has the proper leadership and training to develop, build, and foster a culture of cybersecurity and build a strong and resilient cybersecurity program. Some great examples of this include basic cybersecurity 101 training, tabletop exercises, drills,

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simulated phishing tests, and good cybersecurity hygiene. Practicing these regularly can aid in prevention of a cyberattack that could potentially disable a system for days, weeks, or even months.

Vulnerability Management is ensuring vulnerabilities are mitigated in a timely manner and stay up to date on the latest vulnerabilities that could potentially impact a utilities operation. One way to look at it is at your own home, you check to see if your doors are locked, maybe install an alarm system, fix broken windows, and install security cameras. Here are some of the potential vulnerabilities: zero-day vulnerability, software and hardware risks, exposed ports and services, and interconnected OT and IT assets.

Supply Chain/Third Party is ensuring cybersecurity practices of vendors, and third parties, are evaluated and assessed. The easiest way to look at this is when you invite a person into your home. Do you know they are trustworthy? Are they a potential risk to you or your family? Securing the supply chain is asking vendors about their cybersecurity practices and inserting cybersecurity requirements in contract language.

Response and Recovery is being prepared and ready to respond to, and recover from, cyber-attacks quickly and effectively to restore and maintain operations at a utility. This is the ability to know what is wrong, can you get this fixed, or know who to call to get things fixed. There are three main key elements of response and recovery incident response plan, reporting procedures, and cybersecurity insurance. Kids practice fire drills at school and at home to know what response is required if a fire were to be present. Firefighters drill house fires, or mass casualty incidences, so they are equipped to respond and recover individuals when the time comes.

Other is the topic that covers three controls that are very important but didn't quite fit within the previous seven control families. Other security measures are network segments, email security controls, and staying up to date on current threats. Think of this like the doors in your house. If you have a fire and some doors are closed, it can potentially keep that threat from spreading into another room. Email security controls this. For example: you get an email that looks completely legit, but after reviewing the email you see some funny things in the email. (e.g., an email from Microsoft asking you to authenticate your account but in small print you see they are also talking about the Bank of South Africa). Staying up to date on current threats is very similar to watching the weather and knowing what scams are on the 7-day forecast or have the potential to wreak havoc on your system.

That was a lot to take in and think about. If I was a betting man, I would wager most of you have dropped off at this point. The common thought is why would someone want to cyber-attack my small town in the middle of nowhere. They are after more than just your information. They are after your vendors and customers' information as well. The best place to start with protecting your utilities and the OT and IT is to have good cybersecurity hygiene. If you have made it easy for yourself to get into everything, you have made it ten times easier for hackers.

I hope that this article has helped to understand a little bit of cybersecurity for your water system and wastewater system. It can be a very boring topic,

but it is one topic that needs to be addressed in the modern-day digital world. I want to wish you all a Happy Holidays.

If you have further questions, or would like more information, please reach out to me by scanning the QR code below. It's a digital business card. $\mathcal{D}an$

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Were you prepared?

Kelly Thomas, WRWA Technical Assistance Director

As the days get colder, we will naturally and unknowingly start changing our daily routines. Our daily wardrobe will now consist of sweatshirts, jackets, and long johns rather than just t-shirts and shorts. The thermostat for the furnace is turned up to take the bight of the winter chill out of the air. Wood burners and fireplaces are starting to heat up (I love that fireplace smell). In some cases, we may need to start scraping the windshield each morning. This season also changes our recreations. It's time to dust off the skis, snowshoes, or ice fishing equipment. Our snowmobiles are getting tuned up to be ready to be the first one on the freshly groomed trails.

In many cases, as it gets colder, outdoor projects slow down or come to a halt altogether. This should give us more time to concentrate on 'winterizing' our shops, tools, and community. Maybe we need to perform the annual installation of those homemade insulated window or door covers to stay energy efficient. Hopefully we have already had our furnaces and heaters cleaned and serviced so there are no 'surprises' Our tools came from some place originally, let's put our tools back where they belong and "find the floor" of the shop.

when we need them. Snow fences are going up to make the chore of snow removal a tick easier for us. Snow blowers and snowplow trucks are ready so we can hook up and go.

While we wait for the big snow to come, we can work on some preventive maintenance and other tasks. We can perform oil changes on our vehicles and other tools (air compressors, pumps, lawn mowers, snow blowers, generators). Sharpen chain saw blades, mower blades and drill bits. We can take the wire brush to the hand tools and get the rust off then, coat them with a spritz of WD-40. Let's be sure that our water main break tools are ready for that untimely emergency. Now is when we have time to put things away. Our tools came from some place originally, let's put our tools back where they belong and "find the floor" of the shop. Once we find the floor, we can give it a good sweeping. Sweep up those leaves that the wind always seems to sneak in as we open the overhead doors.

Maybe now is the time to update our Emergency Response Plan (ERP). This should be an annual task. If we do this annually, it does not take too

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long to review. Maybe now we have time to catch up on our continuing education. WRWA has many classes to offer. We can register for classes and get them on our calendars. Not only do these classes keep us abreast of current technologies, but they are a good refresher as well. WRWA classes are also a great time to socialize and catch up with other operators that we may not have seen over the summer.

Winter, for some, may be considered a down time. But we can keep busy preparing for our next project or emergency. Always be ready. If our tools are ready and tuned up, we can perform our next task, safer and faster and be more efficient.

I wish for you and your families to have a happy holiday season! May your travels be safe. And cherish your time together with family and friends.

Stay safe, stay healthy. Kelly

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PSC WATER RATE INCREASE ORDERS ISSUED

SEPTEMEBER 1, 2023 – NOVEMBER 13, 2023

UTILITY NAME	ORDER ISSUED	OVERALL% INCREASE
Park Falls Municipal Water Utility	9/11/23	95.34%
Sturgeon Bay Utilities	9/13/23	34.95%
Lannon Municipal Water Utility	9/20/23	0.07%
Oregon Municipal Water and Sewer Utility	9/25/23	31.1%
Village of Blue Mounds Municipal Water Utility	9/28/23	73.63%
Kaukauna Utilities	10/5/23	34.64%
Manitowoc Public Utilities	11/6/23	14.43%
Town of Holland Sanitary District #1	11/10/23	20.44%

PSC CONSTRUCTION AUTHORIZATIONS ISSUED

SEPTEMEBER 1, 2023 - NOVEMBER 13, 2023

UTILITY NAME	ORDER ISSUED	CONSTRUCTION COST
Wausau Water Utility	9/14/23	\$23,241,000
Germantown Water Utility	9/25/23	\$4,615,000
Madison Water Utility	9/27/23	\$7,614,000
Montreal Municipal Water Utility	9/28/23	\$3,332,168
Ashland Water Utility	10/12/23	\$10,707,922
Cumberland Municipal Utility	10/16/23	\$1,211,260
Clintonville Water and Electric Utility	10/18/23	\$6,550,000
Village of Menomonee Falls Water Utility	10/24/23	\$1,729,310
Verona Water Utility	11/3/23	\$522,400
Hawkins Municipal Water and Sewer Utility	11/13/23	\$898,800

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Half page	\$315	\$1,130	\$395	\$1,265
Quarter page	\$215	\$800	\$270	\$860
Business card	\$160	\$575	\$200	\$600
	MEMBER		NON-MEMBER	
Color Advertising	1-Time	Yearly	1-Time	Yearly
Inside front cover	\$670	\$2,430	NA	NA
Outside back cover	\$800	\$2,540	NA	NA
Full page	\$575	\$1,970	\$770	\$2,670
Halfpage	\$370	\$1,265	\$575	\$1,965
Quarter page	\$270	\$860	\$400	\$1,400
Business card	\$200	\$600	\$335	\$1,000

For information on advertising & the benefits of membership at the different levels, please contact Renee at the WRWA office: 715-344-7778 or rkoback@wrwa.org. *Must be employed by a WRWA system, associate, or corporate member, retired and state or federal employees

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Networking

Tony Roche, WRWA Training Specialist

Working in the water treatment industry is pretty great. Water and wastewater treatment operators truly are essential. If you think about it, our society could not function without clean drinking water or wastewater treatment. The general public has little to no idea about how water comes out of a tap or what happens when you flush the toilet. On the other hand, people who work in the industry know all about the hard work it takes to distribute clean drinking water to the public or to treat polluted wastewater. From my experience, most people that work in the industry are pretty cool. Now there are a few exceptions, but most water industry professionals are hard-working, down to earth people that are always willing to lend a hand.

A great way to meet new people and make new friends is to attend conferences. The WRWA Annual Technical Conference is going to be held this year in LaCrosse from March 26 – March 29. If you are a seasoned veteran or you are new to the industry, attending a conference gives you a great opportunity to learn something new and to make new contacts. Our conference always has great technical sessions and regulatory updates, but another key component of our conference is Knowing who to call when you need a new pipe, pump, tool, chemical, or any service work will make your life as an operator much less stressful.

networking. There are a variety of social events at our conference where you can hang out and talk shop over a few beverages. I think it's pretty cool to hear operators talk about some issues they encounter in the field and to see the "light bulb go off" when someone learns a new tip or a trick to help them overcome an obstacle.

As a general rule of thumb, the more people you know the more resources you have to help you solve a problem. There is an old saying that goes "it ain't what you know, it's who you know". And from my experience it has been pretty darn true. Knowing who to call when you need a new pipe, pump, tool, chemical, or any service work will make your life as an operator much less stressful. We are pretty lucky to have such a wide range of skilled operators, vendors, and engineers that belong to WRWA. Going to events and meeting new people is not only a great way to enhance your skills, but it is also pretty fun too!

Hopefully we will see you in LaCrosse in March! LaCrosse is a fun town, and if you are into fishing the Mississippi River is right there too! Yeehaw! Tony

Winter Operations OTM/NN

Good morning, everyone!

As winter approaches with freezing temperatures and tons of snow in Wisconsin, water operators must now start thinking about "Winter Operations" for their water systems. I'm here to give you a few helpful tips to get through these next few months of extreme cold.

First off, make sure all heaters and heat tapes are turned on within your facilities. I've seen it time and time again, where just forgetting to plug in or turn them on, turns into a frozen line situation or burst pipe. Keep your pump house well heated during the cold months. Depending on your system needs, decrease levels for more turn over in your water towers or outdoor tanks. Make sure all controls are heated. Also, skirting around your mobile home should also be in place, to help keep the cold air from freezing water lines. Remember, try and make daily inspections routine during extreme months.

Next, Keep a map of your distribution system handy with you. You never know when or where a frozen line or burst pipe will happen. But, when it does, you will be prepared to locate the service lines or curb stops fast and effectively. Some operators will even go out into the field and flag or GPS their service lines and curb stops. Remember heavy snow will be covering curb stops making them very difficult to locate. This will save time locating them during them stressful emergency situations. Your distribution system map should include: wells, storage tanks, treatment, distribution system piping, flushing devices and valve/shutoff locations.

Always have clean access to your facilities during winter. Remove, plow snow away from the most important parts of your water system. Well houses, hydrants, and valves. Be sure not to expose under- ground water service lines as the snow provides more extra insulation. Keeping your fire hydrants cleared and visible prevents damage from snowmobiles or plow trucks. It also helps your local fire department when they are responding to emergency.

Also check your local weather forecast throughout the winter. When the temperatures drop it may be a good idea to send out a trickle water notice to prevent any future freeze-ups to customers.

Keep a current Emergency Response Plan at the ready. Depending on the situation, it's always a good thing to have all your contact information at the ready.

These are just only a few tips to help get you through the winter. Remember be proactive in identifying and preventing any potential problems within your water system.

We at Wisconsin Rural Water Association are always here to help with you with any Technical Assistance you may need. Please feel free to Contact your nearest WI-Water Circuit Rider for any questions or concerns you may have. Also make sure you check our web site at www.wrwa.org for any Online or In-person trainings that you may need. We are the Leaders in your training needs.

Thanks for reading,

George Taylor, Small Water System Circuit Rider • 715-321-4145 Gtaylor@wrwa.org

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Using GIS for Cataloging Assets

Jesse Hass, WRWA Wastewater Trainer There are a few very cost-effective options available, and mapping has never been easier.

Every water and wastewater system is a unique entity, so the process by which a system records assets differs from city to city and person to person. There are many options available to operators and technology is always evolving. Deciding how to catalog assets will depend on many factors. A system has to weigh many factors including technology, manpower, tools, and cost needed to track important data points. There is no right way to map and organize data. There are pros and cons to every option, so each utility should consider all aspects before deciding how to proceed.

For some systems the preferred method is using as-built drawings and blueprints, along with their own mind. Some advantages to this method are, it's very cheap and easy to do, especially for smaller systems. Also, many of these utilities will mark shutoffs and cleanouts with blue and green paint on the curb. This method is tried and true and has worked ok for many years. Some drawbacks to this method are it relies on maps that may or may not be correct. The paint markings are not as useful when there is a foot of snow piled on the curb. And if someone in your utility is storing data in his head, then that information is gone if that person leaves the utility at any time.

Another way I have seen systems collect data is using an excel

spreadsheet. This is another cost effective way to organize data. This is done by recording data point descriptions and any relative details in an excel spreadsheet. You can have different tabs for different points, for example, you could design one tab for manholes and another for water shutoffs. One drawback with this is, the bigger the utility the more labor intensive the spreadsheet would be to maintain. Another

issue it is based off descriptions and is not very visual.

The last option I will talk about is GIS mapping, where one would use GPS or other tools to enter data onto a visual map. When GIS was first introduced it was cumbersome and expensive. In the past few years, this technology has become more user-friendly and affordable. Many systems who never believed they could use this technology are now able to map their systems using GIS. There are numerous possibilities

FEATURE

using GIS to manage points of interest within a utility. Once an asset is recorded you can add maintenance reports, attach videos and link to online SCADA systems in some applications. I have helped numerous systems in the past few years set up maps and show them ways to build layers on their map. There are a few very cost-effective options available, and mapping has never been easier. What used to be an expensive endeavor can now be done for less than \$500.00 a year, and in the case of smaller towns it can be done for around \$250.00 a year. Maps can be as detailed as the operator would like. An operator can easily upload pictures to accompany any point on their map. This has been helpful to operators in many ways. Some utilities upload pics of most of their assets to their maps. Some others have started taking pictures during "Diggers Hotline" locates so they can have a reference of where the utilities assets are as well as electrical, gas, and internet is as well. The possibilities are endless when building a map. WRWA also has two GPS units, a Trimble R1 and an EOS Arrow that will provide sub-meter accuracy, which are available through our loaner equipment program. If you are looking to get into mapping or are wondering if there is more that you could be doing with your map, give a circuit rider a call. Mapping does require time and can be a hard thing to develop but it is a very beneficial tool once the work is put in. If you would like information from us or another town who is already mapping let me know and I will gladly chat, stop out, or get you in contact with someone.

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Matt Rettler, WRWA Energy Efficiency Circuit Rider

Efficiency in water and wastewater treatment plants is vital for sustainable and cost-effective operations. Implementing several strategies can significantly enhance energy efficiency while maintaining optimal treatment processes.

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Firstly, optimizing the treatment process itself is crucial. Upgrading treatment technologies, such as using advanced aeration systems like fine bubble diffusers or switching to biological nutrient removal processes, can notably reduce energy consumption. Implementing real-time monitoring and control systems allows for precise adjustment of aeration, pumps, and other equipment, ensuring they operate at their most energy-efficient levels based on current demand.

Furthermore, harnessing renewable energy sources within the plant premises can offset energy consumption. Installing solar panels, utilizing wind turbines, or implementing anaerobic digestion systems that produce biogas from sludge can provide onsite renewable energy, reducing dependency on the grid and lowering overall operational costs.

Adopting energy-efficient equipment and practices is paramount. Upgrading to high-efficiency motors, pumps, and blowers reduces energy consumption significantly. Variable Frequency Drives (VFDs) Implementing energy management and efficiency programs, coupled with staff training, fosters a culture of energy consciousness among plant operators.

can regulate motor speeds, matching energy consumption to actual demand, thereby reducing wasted energy during low-load conditions.

Another key aspect is optimizing the plant's overall design and layout. Minimizing pumping distances, utilizing gravity flow wherever possible, and optimizing piping networks can reduce energy requirements for moving wastewater through the treatment process. Implementing energy management and efficiency programs, coupled with staff training, fosters a culture of energy consciousness among plant operators. Engaging employees in identifying and implementing energy-saving measures encourages continuous improvement and innovation.

In conclusion, wastewater treatment plants can significantly improve energy efficiency through a multifaceted approach that encompasses technological advancements, renewable energy integration, heat recovery, efficient equipment, thoughtful design, employee engagement, and collaborative initiatives. By adopting these strategies, water and wastewater treatment plants can not only reduce their environmental footprint but also achieve substantial cost savings, contributing positively to both sustainability and operational excellence.

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Moving Bed Biofilm Reactors

Kay Curtin, WRWA Wastewater Trainer

Do you have a wastewater treatment plant that isn't able to keep up anymore, whether it's due to population growth, new wet industries, an industrial expansion, or lower permit limits? Does your community or industry have millions and millions of dollars sitting

around? If so, you're one of the only small systems that I've known to be that lucky. If you haven't struck oil in the town center, or been bequeathed the local billionaire's fortune, you'll be talking to engineers and sweating about the future water/sewer bill increases. Fear not, you don't have to hide in your basement until the Community Tar and Feather Committee gives up on you. There are some improvements that your system can make without a complete plant upgrade. (My apologies to my engineer friends.) At least it may buy you some time until you can afford an entirely new system.

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When designing a new system MBBRs can save space, money, and time while also providing good treatment of wastes.

Moving Bed Biofilm Reactors (MBBRs) are an attached growth or fixed film biological growth method that may be added to an existing suspended growth system. These are not to be confused with Membrane Filter systems, an entirely different animal. Most

> MBBR systems are a floating biocarriers; plastic or other man-made material that can be added to a tank or reactor. Size, density and shape of the media vary widely, so your system will need to be evaluated for optimum media and selector size. Norwegian researchers developed the technology in the late 1980's or early 1990's, so it's been around a while and has seen many improvements and new applications. If you need more treatment, you need more bugs, and if you need more bugs, you need a place for them to grow. With an MBBR, the biomass in your system not only is hanging around in the mixed

liquor but also grows on the biocarriers. The mechanical aeration in your system keeps them mobile and aerated. Studies have shown that BOD, ammonia, and phosphorus removal is greatly improved with the addition of MBBR systems. Like RBCs and trickling filters, the solids slough off and are removed in the clarifiers, or in ponds, settles to the sludge layer on the bottom. When designing a new system MBBRs can save space, money, and time while also providing good treatment of wastes. The process can also be operated anoxic, which would provide denitrification. Mixed liquor suspended solids in activated sludge plants can be operated at a concentration 1.5 to 2 times higher than conventional systems. There is no backwashing as with other filters or tertiary treatments - it pretty much takes care of itself. A 2014 study of MBBR demonstrated the ability to remain stable through high organic, hydraulic and salt shock loads. Another advantage is a shorter time for treatment. The hydraulic retention time for BOD and nitrogen removal in some MBBR systems is around three to four hours.

So, of course there are some disadvantages. These little biocarriers are lightweight, and, even with screens, can sometimes escape. They are definitely incompatible with coarse air diffusers (yes, I still see some of these around), but if the system is properly designed, this shouldn't be a problem. Some companies, such as Bishopwater, have created a fixed corded system, BioCord Reactors [™] that are containerized media modules that can be added to activated sludge

basins or ponds. The other complaint that I've heard is that bugs are attracted to the media since it provides a constant food source and a nice ocean view. Sewage flies, red worms, and mosquitoes are known to take up residence, mainly in the southern states. Good design and proper mixing/aeration should control insects.

Talk to your design engineers about MBBR systems and ask if an upgrade using this technology will work for you. If our bugs are happy, we're happy, so give them a new exclusive suburb to live in.

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Wisconsin Initiative on Climate Change Impacts

Andrew Aslesen, WRWA Source Water Specialist

When it comes to climate change, opinions are as diverse as the spread at a holiday dinner: full of spices and bursting with different flavors for everyone. Changes in climate are a natural part of the earth's cycle, however there is a lot of the debate around what is causing our current climate to change. Despite what may be causing it, and whether what human actions are exacerbating it, we have certainly seen more frequent and more extreme weather events in recent years. For those of us in the water and wastewater industry it's important to understand what these weather events mean for our utilities. Fortunately, there are groups doing research on impacts and developing adaptations to help us be better prepared for what's to come. One of those groups that is based here in Wisconsin is the Along with presenting issues associated with climate change, WICCI also proposes solutions.

Wisconsin Initiative on Climate Change Impacts. I want to give a brief overview of who they are, what they do and what resources they provide.

The Wisconsin Initiative on Climate Change Impacts, known as WICCI, was formed in 2007 as a partnership between the University of Wisconsin-Madison's Nelson Institute for Environmental Studies and Wisconsin Department of Natural Resources. The Nelson institute had been approached by several state legislators who wanted to understand the impact of climate change on their constituents and the DNR staff wanted to understand potential impacts on the state's natural resources so they could make good management decisions. The initial launch consisted of a meeting with more than 40-UW-

Madison and state agency scientists, but quickly grew to include people from other state and federal agencies, additional UW System Schools, tribal organizations, businesses and non-profit organizations. WICCI's mission is to generate and share information that can foster solutions to climate change in Wisconsin. They do this by engaqging citizens, private and public decision-makers, and scientists from Wisconsin and the region in a collaborative network to develop scientific understanding of climate impacts, identify vulnerability to climate change and climatic variability and enable better adaptation activities.

So what does WICCI actually do? First, they organize working groups that assess climate change impacts and develop and share adaptation strategies for dealing with those impacts. Work groups cover topics from agriculture, forestry, fisheries, and water resources to tourism, recreation and more. These impacts and adaptations are shared through WICCI's website and reports, particularly the two 10-year assessment reports developed in 2011 and 2021. Along with the reports WICCI's website has maps showing historical trends and future projections developed by WICCI climate scientists using "down-scaled" global climate models. Additionally, there is an interactive mapping tool that can help people understand what Wisconsin's climate might look like in the future at specific locations around the state. All of these tools can be found on the WICCI website: https://wicci.wisc.edu/

Water and wastewater utilities will likely find the Water Resources section to be the most useful. As our climate changes, we are seeing

more precipitation from fall to spring with more frequent and larger extreme precipitation events as well as longer periods of drought. This can lead to groundwater flooding problems in areas with permeable soils or karst geology. Additionally, extreme precipitation events can lead to water quality concerns. Along with an increased pollution load, rapid infiltration during extreme events does not allow the aquifer to filter as many contaminants. Conversely, longer periods of drought can cause lower groundwater levels which can be a concern for systems with shallower wells. While these are just a few issues that our water resources face, the WICCI reports and publications go into more detail.

Along with presenting issues associated with climate change, WICCI also proposes solutions. For water utilities most solutions revolve around increasing resilience. For the environment this means making strategic changes to the way the land is managed that can help increase resilience in lakes, streams, wetlands, and groundwater. For water utilities I would also include focusing on the resilience of the water system itself, which can include things like having excess water capacity and redundancies that decrease the possibility of losing water capacity. These efforts are not only good for reducing climate change impacts, but also create a more robust and resilient water system in general.

Andrew

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EPA Wastewater Program

Brooke Klingbeil, WRWA EPA Wastewater Technician

ello WRWA members. I hope everyone had a successful rifle season, enjoyed time with their loved ones over Thanksgiving and Christmas and had a smooth transition from fall to winter. Speaking of transitions, I have recently made a career transition myself. For those who have not heard, I am proud to announce that I have recently joined the team with this wonderful organization as the EPA Wastewater Technician.

The WRWA EPA Wastewater Technician position was developed around three separate programs. The first is Training and Technical Assistance for Small and Rural Wastewater Systems. Activities include providing training and technical assistance to wastewater systems that serve lowincome, disadvantaged, rural, and tribal community public wastewater utilities serving less than 10,000 population for them to achieve and maintain compliance with CWA and NPDES regulations. I am proud to announce that I have recently joined the team with this wonderful organization as the EPA Wastewater Technician.

The second is for Decentralized Systems focused specifically on decentralized wastewater treatment systems to support planning, development, and acquisition of finance.

The third is Tribal Wastewater Program focused specifically on Tribes for planning, developing, and acquisition of financing/funding, improving water quality, achieving, and maintaining compliance, and supporting emerging contaminants project development.

So, now that you know more about what my role and responsibilities are with WRWA, let me tell you more about myself.

I am Brooke Klingbeil. I am an Advanced Wastewater Operator and have over 10 years of experience in the wastewater industry. Prior to entering through the gates of the treatment facility, I pursued work in the agriculture industry after graduating from Chippewa Valley Technical College with an associate degree in animal science and worked for Cooperative Resources International as an AI Specialist. Later, I transferred within the coop to AgSource Laboratories, where I grew a strong interest in environmental laboratory work. I happened to stumble upon a job announcement in the local newspaper for the position of Wastewater Operator/Lab Tech for the City of Medford Wastewater Treatment Facility and threw my hat in for the opportunity to work for my hometown and eliminate my commute, after all, I had the lab background. When I took the position, I didn't even know where the wastewater treatment plant was located in Medford. After my first day, I knew immediately that I found my forever fit and true passion in the wastewater industry.

I have expansive experience in NR149 and wastewater testing for compliance and process control as well as SDWA Nitrates and DATCP coliform bacteria analysis of drinking water. My work in the laboratory provided me with the ability to comprehend various aspects of activated sludge, process control, and optimization. I have spent a considerable amount of time dedicated to educating operators through technical presentations and hands-on training workshops at conferences and regional training meetings throughout the state of Wisconsin and am honored to be able to continue to do so in my new role with WRWA. Over the course of my career, I was humbled to be awarded the 2021 WWOA Northwest Region Operator of the Year, 2022 Water Environment Federation Laboratory Excellence Award, and was named the 2022 YSI Water Hero in celebration of the 50-year anniversary of the Clean Water Act.

Outside of work, I am the wife to Pete, a fourth-generation owner of Klingbeil Lumber Co and Power Center. The mother to two (somewhat) angelic boys, Waylon-7, and Ellis-5, and a student at UW-Green Bay nearing completion of a bachelor's degree in organizational leadership. I would have to choose vacationing as my favorite hobby, with cribbage a close second, so to tie those together when there's free time, we are an avid ice fishing family and spend a lot of the winter fishing local lakes and traveling to big water in northern Minnesota. In the summer we get out on the golf course as time allows and enjoy spending time with our families on the chain of lakes in Phillips and long weekends in Bayfield.

My professional and personal goals directly align with Wisconsin Rural Water's Mission: assisting, educating, and representing our members in the water and wastewater industries. I'm beyond excited to be working for this amazing organization and some of the most skilled and respected water and wastewater technicians in the state doing what I love, sharing what I know, and continuing to learn from all you wonderful operators. Please reach out to me if I can assist you in any way, I can be reached at 715.905.1006 or by email, bklingbeil@wrwa.org.

Cheers to new beginnings in 2024!

Tight lines, Brooke

Do you know your BRASS from your ELBOW?

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It really can be difficult to know your brass from your elbow these days. The last three years, with the supply chain challenges we have all faced has forced us to re-assess what we will and will not allow into our distribution systems. With the continuing changes with AWWA certifications and acceptable products, this target continues to move on us and can be hard to know who to rely on for keeping If you are a water system that has an engineering staff, or work with a firm on a regular basis, they may know what your specifications and preferences are in the brass fittings you would accept into your distribution system. But you may be a smaller community who only works with an engineering firm when a large reconstruction project needs to take place and rely on the engineer's, and what they call

us up to date. Between the contractors, consulting engineers, AWWA and Rural Water Associations, distribution sales staff; who has the most up to date accurate information to guide us towards a sound distribution system for decades to come?

From my experience as a water operator in NW lowa at a rural water system; my consulting engineers were a great resource of information I could rely on. What I have come to learn over the last year conversing with many engineering firms across Wisconsin and Minnesota is that they need continual training just like us operators to make sure they stay abreast of what is taking place in the marketplace as well and may not always have the most up to date information to guide your choice.

"standard specifications". This helps them design the project without having to recreate everything from scratch. Unfortunately, whether it is a firm you are intimately familiar with, or one you are working with on a special project, they may not be aware of the new information in the market yet.

What is new in the market? Coming in 2024, if you are a distribution system who has allowed the use of poly pipe; the AWWA stamp of approval will only be found on two sizes of pipe moving forward. This means that if your distribution insists on using only products with the AWWA stamp on it and your current specified size of poly pipe is not one of those approved in 2024, everything is going to be changing for you and the engineers

will only change specifications upon your request. This may affect the fittings, valves, and sizes of pipe you stock and supply from your distributors that can have a large impact on your operation.

For decades, the brass industry has been predominantly a domestically sourced product. With the supply chain severely hampered over the last three years, we have seen some contractors begin to source some overseas products that were more readily available. This may be acceptable to your system for the day-to-day operations, but it is important for you and your engineering firms

to understand that any new Federally Funded projects may come with a Built America, Buy America (BABA) requirement that requires your product be supplied domestically. The important part to know is that you may be buying your product from a domestic manufacturer, but their products may not qualify as being BABA compliant as their components may be coming from different areas of the world and not manufactured domestically. To ensure compliance, you, your distributors, and engineers will need to request BABA compliant certifications from your product manufacturers.

You may only have one manufacturer in your specification when your project goes to bid. When the project is awarded and you come to learn your sole manufacturer will not meet compliance requirements, this can be a difficult challenge to manage. It is worth the conversation ahead of time to make sure your specified product will meet BABA compliance requirement. This goes back to working with an engineering firm who you are familiar with, or one who is simply using their standard specification to save you time and money. The engineering firm may not be aware their standard spec does not have BABA compliant parts listed until it becomes a problem.

The AWWA has also allowed the introduction of a new brass alloy for direct bury applications. For more details about the alloy, check out the link at the end of this article. In short, this alloy has been used for internal plumbing fittings, some internal components of gate valves and fire hydrants, along with other applications. It has only just recently been buried in direct contact with the soil, to be used for your fittings, corporation stops, and curb stops. There have been some

simulated tests done per the ISO 6509 standard based off AWWA recommendations to simulate the dezincification of the product. It should be known that a new Sec. 4.1.2.2 was also added to address dezincification performance of alloys utilized in areas with aggressive water. When this product finds its way onto a shelf near you, you can spot it with labelling of NL-A as seen in the picture. Some products will be a combination of new and old alloy as well.

Between the contractors wanting to get the project done in a timely manner, engineering firms doing their best to stay up to date with all the changes, and you doing your regular day to day putting out of fires in your own distribution systems, it can be hard to stay up to date with what is going on. A.Y. McDonald wants to be the go-to resource for all things brass and waterworks. Please feel free to check out our free online e-learning platform called A.Y. University (AYU) on our homepage or contact your Wisconsin Representatives, Aaron Gilson or Royce Van Roekel, for help navigating the changing tides. Good luck and stay safe out there!

https://www.aymcdonald.com/en/news/2023/March/burying-the-myths-surrounding-high-copper-no-lead--192

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IS IT TIME TO REVIEW YOUR UTILITIES' RATES?

Seth Petersen, WRWA Training Specialist

The world is a very different place than it was just a handful of years ago. Costs for labor, equipment and parts have dramatically increased and revenues probably haven't kept up. The focus of this article is to get you thinking about your utility rates. It will briefly describe some rate raising options the Public Service Commission (PSC) offers, provide insights into what to expect and where to look for more information about this topic. So, without further ado, welcome to the mundane world of Water Utility rate cases, where excitement goes to take a nap.

The PSC offers two processes to increase rates for a water utility, a Conventional Rate Case (CRC) and a Simplified Rate Case (SRC).

CONVENTIONAL RATE CASE

If a utility is interested or required to make a substantial change to its rates (usually larger than a 10% increase) a Conventional Rate Case is the procedure to do this. Maybe you have experienced the CRC process when your Utility took out a long-term loan for major infrastructure improvements or maybe the rates at your utility hadn't been addressed in many years and needed to be raised a substantial amount. The Conventional Rate Case involves two main studies.

1. REVENUE REQUIREMENT STUDY:

This first study takes a very thorough look at your Utility's financials to decide how much revenue the utility needs. Per the PSC webpage: "The

It's experiences like this that make Wisconsin Rural Water employees so helpful to you in your daily work.

PSC bases the utility revenue requirement on a forward-looking test year, typically the first calendar year for which the rates are expected to be in effect. The major components of the forecasted revenue requirement are operation and maintenance expenses, depreciation, taxes, and return on average net investment rate base¹."

2. COST OF SERVICE STUDY (COSS) AND RATE DESIGN:

The second part of a CRC is a cost-of-service study. The study finds a rate solution that provides an equitable sharing of the utility revenue requirements to ratepayers. Customers are divided into the following classes: Residential, Multifamily Residential, Commercial, Industrial, and Public Authority. They are divided up because each class has unique water use patterns and demands which require different rates to fairly share the burden of the cost to run the utility. The final step of the rate case process is to design a rate that allows a utility to meet its revenue requirement and provide a fair distribution of the costs among customers based on the cost of providing service².

A Conventional Rate Case process requires lots of paperwork. It's a big lift for the Treasurer and/or Clerk. These studies can take 6 months and will require a public hearing. You will need to apply for a CRC online. The PSC will email you a pre-filled out application with Utility historical data already filled in. The Utility then fills out the rest of the application and submits it to the PSC via the Electronic Records Filing System. PSC staff will then reach out to finish the rest of the CRC. Before initiating a rate case, it's crucial to account for ALL water utility expenses, even expenses like mowing the grass at well houses and any other water utility related time spent by employees. This proactive approach ensures the accuracy of operating costs for the water utility. By doing so, you optimize the effort invested in the rate case process, guaranteeing a more precise rate increase that adequately covers future costs.

SIMPLIFIED RATE CASE

The second rate raising option PSC offers is a Simplified Rate Case (SRC). As the name suggests, this study is much more simplified than the Conventional Rate Case. The following is taken directly from the PSC website on Simplified Rate Cases "The Simplified Rate Case is a simple and convenient way for municipal utilities that meet specific criteria to increase water rates. This process provides an inflationary type of increase that helps utilities maintain revenue continuity³." In other words, this "simplified" process allows a utility to make a potentially smaller, easier to obtain rate increase that aligns with inflation.

A Utility can go through an eligibility review and immediately find out if they qualify for a SRC rate increase using the SRC Application web portal at https://apps.psc.wi.gov/RATES/SRC/default.aspx. For 2023, a SRC approval would result in an 8% rate increase. A new rate for 2024 will be updated before March of 2024. Indications are the new 2024 rate will remain close to 8%, which is much higher than the average for the last 10 years. Regardless, per PSC rules the SRC rate increase will always remain between 3% and 10%. It should be noted that Class C and D Utilities (4,000 or less customers) can apply for a SRC even if it's been longer than 5 years since a Conventional Rate Case. This is not the case for Class AB utilities. These larger utilities must use a conventional rate case if it's been longer than 5 years since the last increase.

Following the eligibility review, the SRC process requires an application, approval from the PSC and notice to utility customers. This process doesn't require a public hearing. The simplified application can be made by a Utility auditing firm for a relatively small fee (\$500+), but it also can be handled by Utility staff. PSC's website claims that SRC applications can be processed within 30 days after they are submitted, and the rates can be made effective 45 or more days after the application is submitted. A PSC staff member mentioned that 2023 has the second highest number of SRC applications in the last 10 years. There are many communities that are taking advantage of the 8% increase through this simplified process.

So, there you have it, the thrilling topic of PSC Rate Cases. If you managed to stay awake through this riveting short article, CONGRATULATIONS! Your dedication to the mundane is truly something commendable. Now go reward yourself with something more exciting, like watching paint dry. If there are further questions, please see psc.wi.gov/Pages/ServiceType/Water/ConventionalRateCase.aspx or contact the PSC at at (608)266-3766 or PSCWaterAppMail@wisconsin.gov. As always, please reach out to your WRWA Circuit Riders and EPA Technical Assistance providers for help with any water utility questions or help with your rate applications. We are here to help. Have a great winter!

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For 70 years, Becher Hoppe has focused on improving communities.

Becher-Hoppe Associates, Inc. is located at 330 North 4th Street in downtown Wausau, WI

Becher-Hoppe Associates, Inc., one of Wisconsin's leading engineering design firms, began in Wausau in the mid-1940's as a private practice in the basement of Archie Becher Sr.'s home. In 1954, Becher and Melvin "Bud" Hoppe, longtime engineering acates for the City of Wausau, became partners and incorporated the business. Today, our employees at Becher-Hoppe Associates play a major role in community, county and private sector development by engineering and designing airports, streets and highways, water, sanitary and storm sewer distribution,

storage and treatment facilities, parks, dams, environmental studies and many other projects. We also provide surveying and real estate services. In recent years, the projects we have designed for our municipal, county and private sector clients have exceeded \$20 million annually in total construction costs. Needless to say, those projects have contributed significantly to the quality of life in Central and Northern Wisconsin and created the need for many hundreds of constructionrelated jobs outside our company.

1968 Becher Hoppe Survey Crew

The results of our work from the past 70 years at Becher-Hoppe Associates can be seen in communities all over central and northern Wisconsin from Ashland and Park Falls to Stevens Point and Wisconsin Rapids. Over the years, Becher Hoppe also has assisted virtually every community in the Wausau metro area with engineering, surveying, and real estate services, including Wausau, Schofield, Rothschild, Weston, Rib Mountain, and Mosinee. A few of our most visible projects would include the improvement of City Square (the 400 Block) in Wausau, the Central Wisconsin Airport, the City of Wausau Drinking Water Facility and the City of Wausau Wastewater Treatment Facility.

For the past seven decades, the achievements of Becher Hoppe can be attributed to the unwavering dedication of our team to the field of engineering, our steadfast commitment to the communities and clients we cater to, and our perseverance in the face of both favorable and unfavorable circumstances.

Without a doubt, the 1992 plane crash that tragically killed Becher Hoppe's longtime president and second owner A.E. Becher, Jr. was a setback for our company. Archie Becher, Jr. joined his father's firm in 1958 and championed steady growth during his 34 years with Becher Hoppe. Under his leadership, the firm expanded initially to an office in Schofield, WI and in 1985 to the former 24,000 square foot Wisconsin Public Service Building located downtown Wausau at 330 Fourth Street. We were one of the first private businesses to renovate a downtown property and call it our home. That building remains our headquarters today.

Many businesses might consider closing their doors after the loss of their longtime leader, but by 1992, the Becher Hoppe reputation was well established, and a new group of leaders eagerly stepped forward. Longtime associates, Gerlad Bizjak, Alvin Fawley, James Schulz and Archie C. Becher purchased the firm, and continued to grow the business. Fawley was tragically killed in a car accident in 1996.

In 2004, Randy Van Natta, Archie C. Becher, Terry Kittson and Tom Brunner purchased controlling interest of the firm upon the retirement of Bizjak and Schulz, the previous owners. In 2014 Randy Van Natta and Archie C. Becher became the sole owners of the firm. Many projects and years later there was a glimmer of retirement in both of their eyes. In 2021, Randy and Archie sold their stock shares and building property to employees Karl Kemper, Matthew Graun and Jed Mattmiller.

Becher Hoppe continues its long tradition of supporting the quality of life in communities throughout Central and Northern Wisconsin. With

another energetic and experienced leadership team in place, we look forward to the bright future we have ahead.

Becher Hoppe would like to thank the following communities for partnering with us on their latest water treatment facility projects: City of Wausau Drinking Water Treatment Facility Project (Completed); Village of Kronenwetter Well No. 2 Water Treatment Facility Project (Under Construction); and Village of Rothschild Water Treatment Facility PFAS Building Project (In Design).

City of Wausau Drinking Water Treatment Facility (Completed)

Village of Kronenwetter Well No. 2 Water Treatment Facility Project (Under Construction)

Village of Rothschild Water Treatment Facility PFAS Building Project (In Design)

WRWA Business Member List

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Controlling Cross-Connections and Preventing Backflow THROUGH EDUCATION

Gary McLaren, HydroCorp & Instructor with WRWA Backflow Classes

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Wisconsin Rural Water Tech Center, Plover, WI

Congratulations to the 24 successful students who pass the October 2023 Backflow Testers Course!

While cross-connections and backflow hazards continue to reoccur in newer and older facilities due to non-compliant plumbing modifications, the diligent efforts of Wisconsin Public Water Systems continue to prove that education is a key part of that crossconnection control program success. I am convinced that the drinking water quality in facilities and public water systems across Wisconsin are safer than ever due to the many individuals who have attended a WRWA Backflow/Cross-Connection Class over the years.

With an average of 100-150 people per year attending WRWA Cross-Connection related classes, the data indicates water system professionals across the state are well versed in backflow awareness and in turn help communicate the topic in day-to-day operations. The Education impact is also reflected in local participation from water customers taking responsibility for eliminating hazards as a result of periodic cross-connection inspections performed by water system staff and contractors.

In 2024, HydroCorp and the Wisconsin Rural Water Association will be celebrating the 20th year of partnership for educational classes specifically focused on backflow prevention and cross-connection control requirements. The WRWA provided classes and resources on the topics prior to 2004, but it was during that year, the late Barry Walters of HydroCorp (Hydro Designs at the time) was invited to present a class specifically on cross-connection control programs as required by the DNR.

The class was a hit and I believe it was hosted with the Hudson Water Utility. Numerous subsequent classes were offered routinely throughout the following years. Barry could always get the class laughing while learning and his passion for cross-connection control was contagious. I caught the "bug" of teaching while learning from Barry and others in the waterworks industry and so there I was in 2008 at the Stevens Point Water Department along with Dave Cardinal of our Team, taking a crack at my first attempt instructing a class on cross-connection control and backflow. I admit, I was nervous as all get out, but I leaned on my Backflow Nerd knowledge of the plumbing code and field inspection experience to get through the jitters that day.

In 2011, WRWA invited our company to assemble the curriculum and instructor team that met the requirements of the 40-hour qualifier class for Backflow Preventer Testers in Wisconsin. I had big shoes to fill and was honored to carry the knowledge torch for Barry, our small company, and the WRWA. Co-Instructor Rich Davison of Soderholm has also been instrumental in the bi-annual course with his expert knowledge and teaching skills for backflow testing procedures.

Then in 2014 in response to WRWA member requests and the increase of DNR compliance enforcement of NR 810.15 Cross-Connection Control Program requirements, we formed the 3-day Cross-Connection Control Surveyor Class. The recent addition of the WRWA Tech Center really helped showcase a premier training facility for water and wastewater professionals.

Co-Instructor Rich Davison helps students understand the internal functions of backflow assemblies

With the continued popularity of these classes, additional 3 and 8-hour backflow basics classes and continuing education classes for certified backflow testers have become routine calendar dates on the WRWA website. When the pandemic quickly affected in-person education in the spring of 2020, WRWA and the HydroCorp Team quickly pivoted to offer live online class learning for several backflow tester refresher classes. We barely knew what Zoom was, let alone how to best deliver our routine class to a tiny camera on our laptop. We made it through, and our first online class had 92 people in attendance for 3 hours! Rich and I really learned the differences in online instruction and coordination compared to in-room teaching! Since then, the live online 3-hour classes are offered 4-6 times per year with an average attendance of 27 people. The addition of Tony Roche's role at WRWA overseeing training events has really helped us improve the little but important details of the cross-connection classes this past year. The registration promotions, continuing education credit processing, and venue upkeep also have been modernized with Tony's help.

This past fall WRWA hosted yet another backflow preventer tester course as we approach 20 years of partnership between HydroCorp and the association. I couldn't be prouder of all the students who have both passed though the WRWA class doors and "logged in" to one of the online classes over the years. Our goal has been to teach waterworks professionals how to identify and help eliminate common cross-connections, not just recite codes and regulations.

Co-Instructor Rich Davison helps students understand the internal functions of backflow assemblies

If you are one of the many WRWA newsletter readers out there who has attended one our classes, we thank for attending and continuing to hear our beat of the drum for Backflow Basics, Cross-Connection Identifiers, and the practice of using the ASSE 4-digit reference number method to document backflow preventer types.

Backflow Pop Quiz: Which ASSE number is associated with the antisiphon fill valve on the common residential toilet tank? Answer on page 57.

Visit the WRWA online calendar for the upcoming cross-connection and backflow tester classes in January and February 2024!

2024 ICE FISHEREE

Wednesday, January 24, 2024 and Thursday, January 25, 2024 ~ Fox Lake, WI Thursday, February 8, 2024 and Friday, February 9, 2024 ~ Chetek, WI

The Ice Fisheree is held each year to bring industry professionals together to enjoy outdoor activities, share information, network and to raise money for WRWA's ongoing training and technical assistance efforts. A special thanks to all our sponsors and raffle prize donors.

For more details on the following, please visit: https://www.wrwa.org/ice-fisheree/

2024 Fox Lake Fisheree
2024 Chetek Fisheree
Ice Fisheree Rules and Regs
WRWA Chetek Ice Fishing Rules and Regulations

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Mattoon Menominee Tribal *Merrill **Merrill Area Public Schools **Natural Beauty Growers New London Niagara Nichols Oconto Oconto Sanitary District #1 Oconto Falls **Oneida Nation Utility** Peshtigo Phelps Sanitary District #1 Pound Pulaski Rhinelander Russell Sanitary District #1 Scandinavia Scott Seymour Shawano Shawano Lake Sanitary District #1 Shiocton Sister Bay Sturgeon Bay Suamico Suring *Three Lakes Northernaire Sanitary District Three Lakes Sanitary District **Thunder Properties, LLC Tiaerton Tomahawk Wabeno Sanitary District No. 1 Waupaca Wausaukee Wevauwega White Lake **Wisconsin Veterans Home Wittenbera Wriahtstown Wrightstown Sanitary District #1

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7 Mile Fair Inc. Adell Albany Algoma Sanitary District #1 Allenton Sanitary District **Antioch Storage LLC Arlington Ashippun Sanitary District **Asset Development Group Inc. **Autumn Ridge Water System, LLC *Beaver Dam Belgium Belleville *Beloit Beloit Sewer Department, Town of Black Earth Bloomfield **Blue Mounds

Brandon Brillion Bristol Brodhead *Brookfield, Town of Brookfield, City of Brooklyn Brownsville Browntown Burlington Caledonia Water Utility District Cambria Cambridge Cambridge – Oakland Wastewater Commission Campbellsport Cedarburg **Cedar Crest Specialties Inc Cedar Grove **Cedar Lake Home Chilton Cleveland Clinton Clyman Columbus **Concordia University Wisconsin Consolidated Koshkonong Sanitary District Cottage Grove **Country Aire Mobile Home Park **Country Estates Sanitary District** **Country View Estates **Cross Plains** **Crystal Lake RV Park *Cudahy **Dakota Capital Park Dane **Dairyfood USA, Inc. Darien De Forest Deerfield Delafield Delavan **Delavan Lake Sanitary District** **Don's Mobile Manor Inc Dousman Eagle East Troy, Town of East Troy, Village of Eden Edgerton Elkhart Lake Elkhorn **Erin School District **Evansville** Fairwater Fall River *Fitchburg *Fond du Lac Fontana Footville **Foremost Farms USA *Fort Atkinson

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DISTRICT 3 (Central)

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Wonewoc

Bell Sanitary District#1 Birchwood Bloomer Boyceville Boyd Bruce Butternut Cable Sanitary District #1 Cadott Cameron Catawba-Kennan Joint Sewage Commission Centuria Chetek *Chippewa Falls Clayton Clear Lake Clover Sanitary District #1 Colfax Cornell Cumberland Dallas Deer Park WWTP **Downsville Sanitary District** Dresser Drummond Sanitary District #1 Elk Mound Emerald – Greenwood Sanitary District #1 Exeland Fifield Sanitary District #1 Frederic Glen Flora Glenwood City Glidden Sanitary District Grandview Sanitary District #1 Grantsburg Hammond Hawkins Hayward Hudson Hurley Iron River Sanitary District #1 Joint Water Quality Commission of Danbury & St. Croix Chippewa Indians of WI Knapp Knight Lac Courte Oreilles Public Works Department Ladvsmith Lake Hallie Lake Holcombe Sanitary District #1 Luck Madeline Sanitary District Manitou Falls Sanitary District #1 Mason Mellen *Menomonie Mercer Sanitary District #1 Milltown Minong Montreal New Auburn New Richmond North Hudson **Northwood School District Osceola Park Falls Phillips **Pleasant Valley Properties of WI, LLC **Poplar Wastewater**

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Port Wing Sanitary District

Fountain City

Hydrants: Water or no water that is the question?

Todd Weich, *WRWA Water Circuit Rider*

This is not uncommon and it's one of the reasons hydrant flushing is done; to discover defects in your system.

Wow! Where did the summer and fall go? I know for everyone it was a busy year catching up on all the new and old regulations and requirements the DNR had set forth. One thing I had several calls for technical assistance on was hydrants. Many of you have discovered several hydrant problems during your fall hydrant flushing. Some of the problems were leaking, not able to turn, and others just turned with nothing happening. This is not uncommon and it's one of the reasons hydrant flushing is done; to discover defects in your system.

Let's discuss some of the problems and how a Wisconsin Rural Water Association Municipality Water Circuit Rider can help. WRWA Circuit Riders have access to many of the tools needed to disassemble several popular brands of hydrants. If we don't, we may have some contacts to get them. Your 1st step is to get ahold of your Circuit Rider and have them stop in to diagnose the problem and what new parts might be needed before you dig it to it and tear it apart. Getting the parts needed before you tear it apart reduces disruption to the water customers.

Some problems may be able to be solved during that visit such as assisting in flushing the hydrant several more times to see if the debris could be worked out in case of a leaking hydrant. If the hydrant has an isolation valve, check to make sure you can operate it because it will be needed when it comes time to repair the hydrant. One thing I want to bring to your attention is if the hydrant is leaking, do not crank on it to make it tighter. The hydrant has a nylon seat and cranking on it tighter will damage the nylon seat.

If your hydrant just turns, and nothing happens, there are possibly 3 problems. Two of the problems are relatively easy to fix, however the 3rd is a little more in-depth. If this is the case, your hydrant could have a broken traffic break off failure or if the hydrant has an extension, that could be broken. The more in-depth failure is the shaft is broken at the seat at the bottom of the hydrant. If the hydrant won't turn, it means the hydrant is seized up for some reason. This is difficult to plan for repair parts, so it is best to order a complete repair kit. There are other reasons your fire hydrants don't operate smoothly but that can be identified with an on-site visit.

Some systems are older, and you may have to check with a vender to see if your hydrants even have replacement parts. I know certain manufacturers may not have replacement parts but can offer a conversion kit. Conversion kits are great in areas where it would be a difficult dig to replace the hydrant.

Always, reach out to your WRWA Circuit Rider for any concerns or questions regarding hydrants and hydrant repairs. Jodd

Wisconsin Rural Water Association supports Rural Water Financing Agency

The Rural Water Financing Agency provides interim construction funding to borrowers with a USDA takeout (or other approved permanent lender).

The Agency* has made over \$1 billion in interim loans to borrowers with a USDA takeout!

* Includes the Agency's predecessor organization (Kentucky Rural Water Finance Corporation)

STREAMLINED PROCESS

- 1. Submit an application online via ruralwaterfinance.com
- 2. Legal document preparation
- 3. Construction bidding, USDA takeout letter
- 4. Interim loan closing, funds available for disbursement
- 5. Construction completion, USDA loan closing/interim loan payoff

Please reach out to one of the contacts below to learn more.

Chris Groh, Executive Director Wisconsin Rural Water Association cgroh@wrwa.org 715.340.2055

Gary Larimore, President & CEO Rural Water Financing Agency g.larimore@krwa.org 270.535.5921

Nick Roederer, Managing Director Raymond James (Program Underwriter) nick.roederer@raymondjames.com 502.741.3686

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Daniel Olson, Corporate Trust Relationship Consultant Regions Bank (Program Trustee) daniel.olson@regions.com 615.770.4357

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- Road and water projects are easier to schedule due to decreased volume in traffic.
- Low construction costs and available contractors are not guaranteed to last.

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"Chick-a-dee-dee-dee"

Ken Blomberg, WRWA past Executive Director

Of all the birds that frequent our feeders, it's the Black-capped Chickadees that steal the show for me. Collectively, the colorful portrait outside our kitchen window includes more dramatic red male cardinals, rowdy blue jays and black, white and sometimes red woodpeckers. But hands down, my favorite bird is the Chickadee – a feathered friend that years ago led me to two most interesting fellows.

Bold by nature, these small, energetic birds are about 5 inches long, black capped, black bibbed and sport a pair of white cheeks. For those with time and patience, they can be persuaded to take a sunflower seed from an extended hand. It was that trait that

led me to appreciate fellow number one - the grandfather of a college buddy that lived up north in the woods near Monico.

"Grandpa" had a flock of tame Chickadees working his living room window feeder and he was proud to show them off. He spoke of them with delight, as he did the flying squirrels that visited each evening - the spotlight we bought had brought them closer to his world. During the day, with nothing but time on his hands, he had patiently conditioned his birds to feed from hand. The secret to his success involved cracking the sunflower shells and exposing the edible kernel. He insisted, "Take a handful and try for yourself."

To experience a living creature weighing 1/3 of an ounce balanced weightlessly on your hand, is to appreciate the saying, "lighter than air". The birds that dared to eat from my hand that day did so with gusto, as the prediction for cold temperatures were in the forecast. When temperatures drop to zero degrees Fahrenheit the Chickadee must consume up to 60% of its body weight in food. For a person weighing 200 pounds, that would translate into nearly 120 pounds of groceries!

Away from the bird feeders and deep in the woods, a Chickadee's diet consists of insects, insect eggs, spiders, spider eggs, berries and small seeds from pine cones. During the cold months of winter, they locate hidden food they've stored under the bark and cracks of trees and branches deep in the woods. That's where I met fellow number two

Photo by Dr. Erik J. Blomberg

- the late, great ornithologist, Don "Fuzz" Follen of Arpin. And who, by the way, worked for a construction crew that upgraded the wastewater plant where I was employed at the time.

Back in the early 1980's, Don literally took me by the hand and led me deeper into the wonderful world of birds and bird banding. I followed him across flowages to band osprey, up trees to band several species of owls and even across the state to find the elusive Great Gray Owl. Don taught me to question the unknown and his home in the swamp was

a perfect setting for exploring nature's mysteries. From his window he pondered one day after watching a steady flow of Chickadees coming to his feeders. Finally, he remarked, "There's no way the same birds are eating all the sunflower seeds we put out."

So he started an aggressive banding program that would count and mark the birds, one at a time. He gave up after tagging well over a hundred birds, noting that they must come and go from long distances to his feeding station. They didn't all belong to his backyard flock. As it turned out, Don had experienced a major fall chickadee flight – a minor invasion which established the winter territories of the birds near his home on the edge of a rather large swamp.

Our feeders along the creek aren't an attraction for a flight of these tiny bundles of energy, but we get our share. Time and patience aren't in the cards these days, but some day, not too far around the corner, I plan on cracking some seeds and handing out a few kernels to the willing. And all I'll ask in return is a few cheerful "chick-a-dee-dees".

Autographed copies of Blomberg's Up the Creek, Letters from Art and Wisconsin Bird Hunting Tales are available from the author at eaupleinekennels@gmail.com.

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WRWA Calendar

Office Closed for Thanksgiving	November 23 & 24, 2023
Call for Presentation Annual Conference Due	December 8, 2023
Office Closed for Christmas Eve (1/2 Day)	December 22, 2023
Office Closed for Christmas Day	December 25, 2023
WRWA Annual Conference (La Crosse)	March 26 – 29, 2024

WRWA Office Hours:

Monday – Thursday 7:00am – 4:00 pm Friday 7:00am – 11:00am

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Page 36 Backflow Story Pop Quiz: Which ASSE number is associated with the anti-siphon fill valve on the common residential toilet tank? Answer: ASSE-1002, LOL You will likely remember that one!

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