Aerial view of La Crosse Wastewater Treatment Plant, La Crosse, WI

55th Annual W.W.O.A. Conference
October 5-8, 2021
La Crosse Convention Center, La Crosse
The Clarifier is the publication of the Wisconsin Wastewater Operators' Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. The Clarifier is produced five (5) times each year: February, April, June, September, and December. All members are encouraged to contribute to the mission of the Clarifier.

The Wisconsin Wastewater Operators' Association is a non-profit organization dedicated to educating, informing, and advancing the wastewater profession. WWOA has approximately 2,000 members divided throughout six regions: Southeast, Southern, Lake Michigan, North Central, Northwest, and West Central.
Presidents Message: Time sure flies!

Past Presidents have often said the same thing in their final message. They are correct in saying, 'Time sure flies!'

As I write this less than two months remain in my term as President of this extended family. Connected only by the desire to do our best for our communities, clients, and the environment in which we spend so much of our free time. Knowledge has a lot to do with our ability to achieve our goals. This year's conference has many opportunities to gain that knowledge, starting Tuesday evening with the Meet and Greet. The conference kicks off with our Keynote speaker Dr. Glen Daigger who is President and founder of One Water Solutions LLC. The conference ends Friday morning with the complimentary breakfast, where the speaker will be Amy Garbe from the Wisconsin Department of Natural Resources speaking about PFAS activities around the state.

Don't forget to visit the exhibit hall to talk to the vendors and sponsors. Much of WWOA's ability to offer training comes from the involvement of these individuals. Take time to talk to as many of them as you can. Visit the WWOA website to get all of the details and to register for the conference.

A couple of final thoughts before I sign off.

I am always amazed at the opportunities and experiences that being involved in WWOA has provided me. I encourage everyone to get involved in the organization. Serving as Regional officer, running for a position on the Board of Directors, or even hosting a regional meeting. Don't worry about having to do it alone. Help is always there for the asking.

I want to thank everyone that helped me when I needed it. From the encouragement offered early in my career to Board members who answered emails while I was still trying to figure out the best way to answer the question. (My wife read this and said 'Don't forget about me!') Special thanks to Terese, who at the time of the conference, will have been married to me for 40 years. You may see her working in registration at the conference. She accepts condolences.

Thank you for letting me serve as President of this great organization.

Take care, I look forward to seeing you.

Don Lintner
City of La Crosse Sanitary Sewer Utility

Welcome to the City of La Crosse, the City and all of us serving the La Crosse Sanitary Sewer Utility are pleased to have the privilege of hosting the WWOA Annual Conference this year!

La Crosse was founded as a City in 1842. The first sewers in La Crosse were installed in the 1880s and like most other collection systems of that era emptied directly into the Black and Mississippi Rivers. The first phase of the La Crosse treatment plant was built in 1936 and provided primary treatment and disinfection. The primary plant was later expanded in 1958 to increase primary treatment and solids handling capabilities. In 1972 the City commissioned and completed a major project to double primary treatment capacity and add secondary treatment capability for the total cost of $3.8 million ($24.7 million in today’s dollars). However, in those days 80% Federal and State grants covered a large portion of that construction total.

Although the La Crosse Wastewater Treatment Plant in 2021 is a modern facility, if you look closely around the plant you will find many relics of the past ‘generations’ of waste water treatment in La Crosse. This includes the two rectangular primary clarifiers and two of the plant’s four anaerobic digesters which are fully-functional remnants of the original wastewater plant. Also, the ornate main entrance and office area that is part of the original

continued on page 6
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building, the conference/meeting room with its beautiful cabinetry was originally the onsite lab in 1936. With all of the features of the original facility, small upgrades and renovations over time and the major upgrades of 1972 and the upgrade currently underway the La Crosse Wastewater Treatment Plant has remained well-maintained and efficiently operated which results in excellent performance and effluent quality.

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Wastewater for City of La Crosse properties flows to the plant through around 200 miles of separated sanitary sewer and 26 lift stations, all of which are operated and maintained by the Utility. We serve as a regional facility so in addition to flow from properties within the City the existing plant provides sanitary sewer treatment to the residents and businesses of our municipal partners; City of Onalaska, City of La Crescent in MN, Town of Campbell and Town of Shelby. All told, our regional wastewater treatment plant provides treatment service to an estimated population of 90,000. The wastewater facility currently has excess treatment capacity. In regard to our hydraulic design capacity of 20 MGD our current (2020) flow averages about 10.5 MGD. The annual average BOD loading to the plant is approximately 65% of current design capacity. The Isle La Plume Wastewater Plant is a conventional activated sludge treatment process. Hopefully without going into the painful levels of detail that many of us here enjoy forcing upon anyone foolish enough to ask us ‘what we do’… what follows is general information to describe the plant operations as they are today as well as the highlights from our major upgrade currently underway.

Preliminary treatment was originally accomplished with twin comminutor bays and a grit classifier. In 2001 that
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system was replaced with a Huber fine screen and dual PISTA grit system to remove solids ahead of primary and secondary treatment processes. Screened materials and washed grit from preliminary treatment are hauled to the La Crosse County Landfill.

Five primary clarifiers are currently available for service with usually only two units in operation at any given time due to excess capacity. The “newest” primary clarifiers were installed in 1972 but all units including the original 1936 rectangle chain drive clarifiers have been fully replaced to ensure efficient and effective treatment.
rehabilitated and are valuable parts of this fully operational wastewater treatment station.

The design of the original secondary treatment process included two separate aerated flow trains and a coarse bubble air diffusion system; the system was upgraded to implement fine-bubble diffusion in the 1980s. In the early 1990s, working directly with Dr. Cliff Randall, plant staff installed an initial biological nutrient removal system to pilot the BNR process. The BNR system as it exists today was installed in the late-1990s, based on data provided by the initial system. In 2012, a project was completed to install high-speed, high-efficiency turbine blowers and enhance D.O. transfer.

Four secondary clarifiers are currently available for service with one unit typically not in operation due again to excess capacity. Similar to the primary tanks all secondary clarifiers have been fully rehabilitated.

Seasonal disinfection is required and was originally achieved using chlorine disinfection. In 1991 the decision was made to move away from the old chlorine-gas disinfection system to ultraviolet disinfection. The wastewater plant’s first ultraviolet disinfection system, complete with its 1536 lamps, went into operation in 1992. With advancements in technology the original UV system was replaced in 2004 and then expanded in 2008. The ultraviolet disinfection system operating at the wastewater plant today has a total of 180 UV lamps.

The wastewater plant utilizes an extensive SCADA for automated operation of much of the facility and collection system. Some of the more interesting

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INSTRUMENTATION features that are part of the current SCADA system include:

- Real-time, in-line monitors that analyze effluent Ortho-P, TSS and Ammonia and include alarm settings to alert higher than normal results that could indicate process problems.

- Real-time monitors to analyze Ortho-P in BNR anaerobic zones and Primary Effluent to determine health of the BNR system and determine Phosphorus loading.

- Real-time probes in mixed liquor and RAS to determine concentration of TSS; this information is used to monitor and maintain constant SRT values.

The wastewater plant utilizes its on-site, certified lab to complete much of the analytical work required for monthly DMR reporting, as well as analyses to diagnose operational challenges.

As for the solids treatment train….. Currently, all solids removed through primary and secondary settling, as well as all waste activated sludge pass through two gravity thickeners. Similar to all of our other gravity settling tanks, the 1972-vintage gravity thickeners have been fully rehabilitated.

Four anaerobic digesters, including one gas holder, process all gravity-thickened solids prior to thickening and storage.
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-- Greg Lemahieu, Plant Operator at Village of Oostburg
All four digesters have also been fully rehabilitated in the past several years.

Prior to liquid storage, solids are thickened using one gravity belt thickener. The wastewater plant also has one belt filter press for processing cake biosolids if necessary.

The current biosolids storage system at the wastewater plant includes two 3.1-million-gallon liquid storage tanks and a cake storage building capable of holding approximately 1600 cubic yards of material. The Utility uses a contracted service to manage our BIOSOLIDS PROGRAM and disposal. The vast majority of stored biosolids is in liquid form which are transported to and injected into farm fields.

The people who make it happen….. Staffing for the Sanitary Sewer Utility totals 26 people, including the supervisory and support functions staff. Our staff undertake and tackle all tasks, and respond to all challenges, related to our successful operation, maintenance and oversight of the facility and the sanitary collection system. Staffing includes people with long experience, exceptional mechanical & maintenance skills, and outstanding technical knowledge.

Trending to the future….. Our facility has performed quite well over time and like any other plant has had to adapt to the changing needs of waste water treatment as they arose. The time has come again for another period of change in order for the plant to be kept reliable and providing the continuous and increasing quality of treatment that is expected of us to protect the environment. In addition to reliability improvements, additional improvements for
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regulatory changes, energy efficiency, future capacity, and flood resiliency were included in this significant infrastructure reinvestment.

Reliability: Many pieces of our aging vital equipment will be replaced during this upgrade in order to carry our reliability forward. In the course of doing so we will also be satisfying the existing need for redundancies in key treatment areas. An example of this deficiency is the preliminary treatment building, which did not exhibit redundancy for the fine screen system to remove large debris and rags. A new additional screening system will protect downstream equipment from crippling damage.

Regulatory Changes: A primary driver for the timing of this project is to comply with new regulations which will reduce our phosphorus discharge limit from 1.0mg/l to 0.1mg/l. The future limits are not effective until 2025; however, the facility improvements will take several years to complete and optimize. The improvements include a tertiary polishing filter system that captures the last bits of phosphorus using chemicals. To minimize chemical use, revisions to the existing biological treatment tanks and systems are included to enhance the natural removal of phosphorus.

Energy Efficiency: The current facility has made great strides to minimize power consumption, but upon major revisions to the facility, additional opportunities for efficiency present themselves. With the new addition of a biogas (methane) fueled engine-generator, the wastewater plant plans to become electricity neutral, and share the waste exhaust and radiator heat throughout the facility as hot water to further reduce natural gas consumption.

A biogas storage sphere enhances the plants ability to pace the engine output with diurnal consumption and minimize flare emissions. Additional biogas volume is anticipated from the addition of a high strength waste receiving system that will feed directly to the anaerobic digestion process to boost methane production.

Future Capacity: To accommodate future growth of the community (both residential and industrial) additional capacity in the anaerobic digestion and solids handling system was warranted. We will be increasing the thickness of the sludge entering each digester so that the tanks can process more solids and consume less energy heating clear water. The thicker slurry will be kept flowable with a new mixing and heating system for stabilization.

Subsequent new solids handling includes a new belt press from which the cake will then feed to a sludge dryer for evaporation. The current plan is to continue land applying the biosolids in dried form as a quality fertilizer, but we are exploring options to haul the product to a biomass incinerator to alleviate weather related delays in product disposal and negate any land application restrictions that may come along down the line.

Flood Resiliency: Lastly, the project also includes a low-cost fix to address an identified vulnerability. To protect against overlapping extreme events of high river stage and peak forward flow, the wastewater plant needs a way to keep the river out while still maintaining flow through the plant.

We will utilize temporary trailer mounted pumps to lift the treated water into the flood-stage Mississippi River; thus, a simple vault structure with pre-positioned pipes will increase our ability to react to a flooding condition. The result will be a low-cost protection from the seemingly rare, yet increasingly plausible weather occurrence.
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continued from page 16

The sewer utility staff are looking forward to the updates and new technology that will help maintain the reliability of the treatment plant. We are also proud to be a part of supporting a more sustainable solution for energy management and future planning for biosolids. Inevitably the $62M project will result in a rate increase for customers; however, even with the increase due to the project, rates for our users will remain among the lowest in the state. The ability to stay in the lowest tiers of user rates even after a $62M project is truly a testament to 85 years of stewardship.

December 2021 Clarifier deadline is November 12

Renew Your Membership

If you haven’t paid your membership dues yet, please do so ASAP!!

You wouldn’t want to miss out on all the exciting news that is in each issue of the Clarifier, now would you?

Go to https://www.wwoa.org/member-tools/new-renew-membership/ to renew online.

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Dear WWOA Conference Attendees:

The WWOA Board of Directors cordially invites you to the 55th Annual WWOA Conference, October 5 through October 8, 2021.

We will be returning to the LaCrosse Center and the Radisson Hotel in LaCrosse, WI. We have an innovative and exciting Conference Program planned for you!

Tuesday, October 5th, kicks off your conference experience with a variety of fun and informative activities to select from: The annual Golf Outing, Sporting Clays Event, and classic Bicycle Ride (register online here: https://wwoa-conference.harrismgweb.com/index.php/registration)

Two Pre-Conference Workshops offering “Providing Long-term Certainty with Water Quality Trading” and “NR 149 has been updated, is your lab ready?”

Our first networking event, the annual Meet and Greet with brats, burgers and more!

The conference will officially open on Wednesday, October 6th, with the Welcome Address from President Don Lintner, followed by this year's Keynote presentation from Glen Daigger, an internationally recognized expert in wastewater treatment and water quality management for municipal and industrial systems. Glen’s particular expertise is in biological treatment. Get ready to hear about how far we've come and what the future holds.

The program we have planned for you on Wednesday will continue with:
- The Conference Exhibition from 10:00 am to 5:00 pm — Your opportunity to meet the many vendors and sponsors who support our industry!
- Technical Sessions with four different tracks from 8:00 am to 4:00 pm
- The Septage Compliance and Master Operator Training from 12:30 pm to 4:30 pm
- Continuation of the Conference Exhibition from 8:00 am to 11:30 am
- The Annual Operators’ Lunch and Business Meeting—Lunch: 11:45 - 12:30 pm, Meeting: 12:30 to 1:30 pm
- This year’s plant tour at NEW Water, Green Bay, from 1:15 pm to 4:00 pm
- Social Hour from 6:00 pm - 7:00 pm followed by the annual Awards Banquet and celebration beginning at 7:00 pm, with card playing and other games to be enjoyed throughout the evening

The conference will close on Friday morning, October 8th, with a greeting from the WWOA President at 8:30 am, and immediately followed by a presentation from our Farewell Breakfast Speaker, the DNR’s Amy Garbe who will provide us with an update on PFAS and Statewide Testing.

PRE-REGISTRATION FOR THE ANNUAL WWOA CONFERENCE IS STRONGLY ENCOURAGED! Online registration with the option to pay via credit card is available at www.wwoa.org.

On behalf of the WWOA Board of Directors, the Technical Program Committee, the Exhibits, Manufacturers & Consultants Committee, Local Arrangements Committee, and everyone that has worked to bring this 55th Annual Conference together, we look forward to welcoming you to LaCrosse in October!

Jeremy Cramer
WWOA Vice President
Chair, 2021 WWOA Technical Program Committee
Conference schedule at a glance

Tuesday, October 5, 2021
10:00 a.m. Shotgun Start Golf: Fox Hollow Golf Course, La Crosse, WI
10:00 a.m. Shotgun Start Sporting Clays: Woods and Meadows Hunting Preserve, Warrens, WI
10:00 a.m. Bike Ride: La Crosse River Trail
2:00 p.m. – 4:00 p.m. Registration Opens: North Hall Registration Booth (pick up pre-reg. only)
1:00 p.m. – 4:00 p.m. Pre-Conference Workshops: Upper South Hall Rooms
4:30 p.m. – 6:00 p.m. Regional Officers Meeting: Level 2 Skywalk Zielke Room
6:00 p.m. – 9:00 p.m. Meet & Greet (beer, wine, soda, cash bar): Upper South Hall
6:00 p.m. – 8:00 p.m. Dinner buffet: WI Brats and Burgers: Upper South Hall

Wednesday, October 6, 2021
7:00 a.m. – 5:00 a.m. Registration Opens: North Hall Registration Booth (Scanning In and Out)
8:30 a.m. – 8:45 a.m. Welcome Address: Upper South Ballrooms A/B/C
WWOA President, Don Lintner
8:45 a.m. – 10:00 a.m. Keynote Address: Upper South Ballrooms A/B/C
Glen Daigger, One Water Solutions
10:00 a.m. – 5:00 p.m. Exhibitor Expo: Arena and North Hall
10:45 a.m. – 12:00 p.m. Technical Sessions: North Hall Rooms A/B/C/D
12:00 p.m. – 1:30 p.m. Walk Around Lunch: North Hall
12:00 p.m. – 4:30 p.m. Operators Competition: Arena
12:30 p.m. – 4:00 p.m. Technical Sessions: Ballroom North Hall Rooms A/B/C/D
4:00 p.m. – 5:00 p.m. Exhibitors Social Hour: Arena Exhibit Area

Thursday, October 7, 2021
7:00 a.m. – 4:45 p.m. Registration Opens: North Hall Registraton Booth (Scanning In and Out)
8:00 a.m. – 11:30 a.m. Exhibitor Expo: Arena Exhibit Area
8:00 a.m. – 11:45 a.m. Technical Sessions: North Hall Rooms A/B/C/D
11:45 a.m. – 12:15 p.m. Operators’ Luncheon: Upper South Ballrooms A/B
12:15 p.m. – 1:30 p.m. Business Meeting: Upper South Ballrooms A/B
12:30 p.m. – 4:30 p.m. Septage Compliance/Master Operator Training Technical Session: TBD
1:15 p.m. – 4:00 p.m. Plant Tour Departure: Convention Center Entrance by the South Hall
(Must pre-register at Registration Booth (North Hall) for bus transportation)
1:30 p.m. – 4:00 p.m. Technical Sessions: North Hall Rooms A/B/C/D
6:00 p.m. – 7:00 p.m. Social Hour: Upper South Hallway
7:00 p.m. – 11:00 p.m. Awards Banquet / Entertainment: Upper South Ballrooms A/B/C

Friday, October 8, 2021
7:30 a.m. – 11:00 a.m. Registration: North Hall Radisson Hotel Lobby
8:30 a.m. – 10:30 a.m. Farewell Breakfast: Radisson Ballroom A
Greeting: Rick Mealy, WWOA President
Speaker: Amy Garbe-WDNR PFAS Update on Statewide Testing

CURRENT YEAR (2021) NAME BADGE REQUIRED FOR ADMISSION TO ALL CONFERENCE FUNCTIONS ☞
2021 WWOA sporting clays
Sparta Rod and Gun Club
12740 Janus Ave., Sparta WI 54656
Contacts: Bucky Walters 608-296-2121
Jeff Smudde 920-851-1087

Date: Tuesday, October 5, 2021
Time: 10:00 A.M. shotgun start
Prizes: 1st, 2nd, & 3rd place team and individuals
Cost: $60 per shooter, WWOA Members, Manufacturers, Engineers, Suppliers, and Conference Attendees
Includes: 50 target shoot, Lewis Class, and meal (please bring your own shells, since shells may not be available at Club). “Cook your own steak, Texas toast, potato salad and beans.” All food included in cost.
Other services: Cash bar onsite after the shoot!
Special door prizes to include rifles, shotguns and more!
Door prizes and other donations appreciated!
Station sponsors needed: $50 each (includes signage).
Additional sponsor opportunities available!
Contact Jeff Smudde if interested (j.smudde@newwater.us)

Payment must be received no later than Sept. 20, 2021 with names of foursome or individuals. (Committee will assign if not in foursome).
Please RSVP early as we are limited to 80 participants.
No refunds after September 28, 2021 unless course is closed by decision of Club Management.

Register online with a credit card or make check payable to WWOA.

Mail registration card and fee to:
Courtney Harris, WWOA Executive Secretary
7044 S 13th Street, Oak Creek WI 53154

Waiver: In consideration of the registering for this event, I do hereby waive and release the Wisconsin Wastewater Operators’ Association and all persons and agencies connected with the WWOA from all claims for damages arising from my participation in and travel to and from this event.
**2021 WWOA golf outing**

Fox Hollow Golf Course
3287 County Rd O La Crosse, WI 54601

Date: Tuesday, October 5, 2021
Time: 10 a.m. “Shotgun Start” 18 holes
Prizes: Hole prizes and door prizes
Cost: $65 per person, WWOA Members, Manufacturers, Engineers, Suppliers and Conference Attendees. Includes: Golf with cart, 18 holes golf, hole prizes and door prizes, box lunch with two drink tickets.

Golf outing registrations, with names of foursome or individuals must be received no later than Sept. 24, 2019. (Committee will assign if not in foursome). **Don’t submit with TBD for others in group. Use individual names only.**

Hole prize sponsorship available for $75/hole. Please contact Ryan Mulcahy at rmulcahy@mulcahyshaw.com.

No refunds after Oct. 1, 2019 unless course is closed by decision of club management. Day of event, rain checks would be issued for play, accepted through 2022 season.

Appropriate golf attire required.

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**Register online with a credit card or make check payable to WWOA.**

Mail registration card and fee to:
Ryan Mulcahy, WWOA Golf Outing
W57 N6316 Center Street, Cedarburg WI 53012
414-881-4124 rmulcahy@mulcahyshaw.com

Waiver: In consideration of the registering for this event, I do hereby waive and release the Wisconsin Wastewater Operators’ Association and all persons and agencies connected with the WWOA from all claims for damages arising from my participation in and travel to and from this event.
The Clarifier  SEPTEMBER 2021, VOL. 242

2021 WWOA bicycle ride and luncheon

Ride on La Crosse River Trail
(Trail is surfaced with limestone screenings)
Start/finish 3801 Co. Rd. B, La Crosse WI 54601
Lunch at location to be determined when we get hungry and thirsty

Date: Tuesday, October 5, 2021
Time: 10a.m. Rider Meeting & Start leisurely ride 15 miles out and leisurely 15 miles back. (30 miles total)

Cost: WWOA Members, Manufacturers, Engineers, Suppliers and Conference Attendees – $25.00
Cost Includes: “Continental breakfast” out of Tom’s trunk. Trail pass. Meal and drinks after ride TBD.

Registrations must be received no later than Sept. 24, 2021. Please RSVP early.

No refunds after Oct. 1, 2019 UNLESS THERE IS INCLEMENT WEATHER.

Secure bicycle storage available in Radisson Hotel, La Crosse, WI. Contact Courtney Harris, Executive Secretary, for access to secure storage.

Waiver: In consideration of the registering for this event, I do hereby waive and release the Wisconsin Wastewater Operators’ Association and all persons and agencies connected with the WWOA from all claims for damages arising from my participation in and travel to and from this event.

Name: ________________________________________
Address:  ______________________________________
City:  _________________________________________
State/Zip:  _____________________________________
Email address: __________________________________
Phone number: _________________________________
No. Paid $25:_________   Bike storage:  Yes_____   No____

Register online with a credit card or make check payable to WWOA. Mail registration card and fee to:
Courtney Harris, WWOA Executive Secretary
7044 S 13th Street, Oak Creek, WI  53154
414-908-4950

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**Schedule**

**Pre-Conference Workshops**

Tues., Oct. 5, 1 to 4 p.m.

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</table>

1 to 2:25 p.m.

1 to NR 149 Providing long-term certainty with water quality trading

2:25 to Break

Break

2:40 to 4 p.m.

2:40 to NR 149 Providing long-term certainty with water quality trading

Cost: $45 Pre-Registration

$55 On-Site or after Sept. 21

No refunds issued after Oct. 1, 2021

Includes refreshments between workshops

CECs 2.8 hours Municipal Waterworks

2.8 hours Wastewater

Full workshop attendance 1-4 PM

*To register, go to: [https://wwoa-conference.harrismgweb.com/index.php](https://wwoa-conference.harrismgweb.com/index.php)*
### WWOA Technical Program Schedule

**Wednesday, October 6, 2021**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 am - 9:30 am</td>
<td>Welcome Address: Don Lintner, WWOA President -- Upper South Ballrooms A/B/C</td>
</tr>
<tr>
<td>9:00 am - 10:00 am</td>
<td>Keynote: Glen Daigger, President and Founder of One Water Solutions -- Upper South Ballrooms A/B/C</td>
</tr>
<tr>
<td>10:00 am - 5:00 pm</td>
<td>Visit the Exhibit Hall -- 10:00 am - 5:00 pm -- Arena Exhibit Area</td>
</tr>
</tbody>
</table>

### North Hall Rooms A/B/C/D

#### Wednesday

**Session A: Phosphorus - Watershed Work**
- **Moderator:** Jeff Smudde
- **A1:** Tom Shindel
  - Mass Loading Determination in Watersheds

**Session B: Planning for Tomorrow**
- **Moderator:** Nate Tills
- **B1:** Succession Planning - A Round Table Discussion

**Session C: Biosolids**
- **Moderator:** Rusty Schroedel
- **C1:** Aric Bergstrom, PE
  - Everything you want to know about Biosolids Drying and the Wisconsin Experience
- **C2:** Ed Fritz, P.E., BCEE
  - Cost Reduction and Operational Improvement Resulting from Implementation of New Dewatering System - Dewatering

**Session D: WWTP Upgrades**
- **Moderator:** Don Lintner
- **D1:** Randy Langen
  - Facility Upgrade Optimizes New and Repurposes Existing Space to Solve Treatment Needs
- **D2:** Kevin Berg
  - Constructing Your Upgrade - What to Expect

**Session E: SCADA/PLC**
- **Moderator:** Neal Kolb
- **E1:** Steve Mutch
  - SCADA Outside the Fence
- **E2:** Kyle Engarking
  - Utilizing your GIS for Tracking Plant Operations and Maintenance

**Session F: Collection System**
- **Moderator:** Jenny Pagel
- **F1:** Amy Post
  - Capacity Reducing Hydraulic Mishaps & What To Do
- **F2:** Ryan Yenta
  - Flattening the Curve: A Comprehensive Look at I/I Investigation

**Session G: Operators in the Lab**
- **Moderator:** Mark Stephan
- **G1:** Neal Kolb
  - Beyond SCADA: Considerations with your current SCADA System – and beyond
- **G2:** Amy Post
  - Pammel Creek Forcemain Inspection

**Session H: Wastewater Operator Info**
- **Moderator:** Troy Larson
- **H1:** Matt Seib, K2, Joe Berktold, PE (NFPA 820 Committee)
- **H2:** Greg Paul
  - The Wisconsin Experience

**Session I: Nutrient Removal**
- **Moderator:** Jody Eberly
- **I1:** Autumn Fisher
  - Facility Upgrade Optimizes New and Repurposes Existing Space to Solve Treatment Needs
- **I2:** Randy Langen
  - Constructing Your Upgrade - What to Expect

**Session J: Activated Sludge/Aeration**
- **Moderator:** Jeff Smudde
- **J1:** Nathan Cassity, K1
  - Defeating the Foam Beast – How one WWTP Tamed an Angry Anaerobic Digester
- **J2:** Andrew Skog, PE
  - Tamed an Angry Anaerobic Digester

#### Thursday

**Session A: Phosphorus - Watershed Work**
- **Moderator:** Jeff Smudde

**Session B: Planning for Tomorrow**
- **Moderator:** Nate Tills
  - Succession Planning - A Round Table Discussion

**Session C: Biosolids**
- **Moderator:** Rusty Schroedel
  - Everything you want to know about Biosolids Drying and the Wisconsin Experience

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  - Facility Upgrade Optimizes New and Repurposes Existing Space to Solve Treatment Needs

**Session J: Activated Sludge/Aeration**
- **Moderator:** Jeff Smudde
  - Defeating the Foam Beast – How one WWTP Tamed an Angry Anaerobic Digester

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### 2019 Conference Memories

[Images of conference attendees and exhibits]
WWOA TECHNICAL PROGRAM SCHEDULE

Thursday, October 7, 2021

7 hours of Continuing Education Credit hours available for water, wastewater, or general septage

4 hours of Master Septage Continuing Education Credit hours available for attendance at Master Operator Septage Training Session

Visit the Exhibit Hall -- 8:00 am - 11:30 am -- Arena Exhibit Area

8:00 am - 4:00 pm
Technical Sessions: North Hall Rooms A/B/C/D

THURSDAY
SESSION G: Operators in the Lab
Moderator: Rick Mealy
G1 Nathan Cassity
A Tale of Two Aeration Upgrades

SESSION H: Wastewater Operator Info
Moderator: Kevin Freber
H1 Autumn Fisher
Construction, Commissioning and Start Up of the World’s First Advanced Biological Nutrient Recovery (ABNR™) Facility at the...  

SESSION I: Nutrient Removal
Moderator: Troy Larson
I1 Autumn Fisher
Tricks of the Trade

9:35 – 10:00 am
Break in Arena Exhibit Area

SESSION J: Activated Sludge / Aeration
Moderator: Tom Fitzwilliams
J1 Nathan Cassity
Arc Flash Safety Solution for Water - Wastewater

SESSION K: Safety
Moderator: Troy Larson
K1 Dave Block
WHAT IS NFPA 820 AND HOW MIGHT IT AFFECT YOUR NEXT FACILITY UPGRADE?

SESSION L: Problem Solving
Moderator: Marc Stephanie
L1 Troy Larson
From RBCs to BNR Act Sludge: 6 Years of Learning

10:00 – 10:40 am

10:45 – 11:25 am

11:45 pm
Operator's Luncheon -- Upper South Ballrooms A/B

12:30 – 4:30 pm
SEPTAGE COMPLIANCE
Moderator: Steve Geis

SESSION M: Laboratory
Moderator: Ben Brooks
M1 Pat Morrow, PE
What's the deal with E. coli?

SESSION N: Phos - Tertiary Filtration
Moderator: Jake Becken
N1 Ryan Holzem
Brookfield: The Largest of The Low

SESSION O: PFAS
Moderator: Cody Schoepke
O1 Tyler Linton
Ecological Risk of PFAS in Receiving Waters

1:30 – 2:15 pm

2:20 – 3:05 pm

3:15 – 4:00 pm

6:00 pm
Social Hour -- Upper South Hallway

7:00 pm
Awards Banquet -- Upper South Ballrooms A/B/C

9:00 pm (approx.)
Post Awards Banquet Entertainment -- Upper South Ballrooms A/B/C

8:30 am – 10:30 am
Operator’s Farewell Breakfast -- Radison Ballroom A

Moderator: WWOA President Rick Mealy

Presenter: Amy Garbe - WDNR PFAS Update on Statewide Testing

CONCLUSION OF CONFERENCE
WWOA 55th Annual Conference
La Crosse Center La Crosse, WI
October 5-8, 2021

CONFERENCE SPECIAL EVENTS SPONSORSHIP

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(As you would like it to appear on printed materials)

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Phone: ___________________________ Fax: ____________________________

E-mail: __________________________________________________________

All sponsors will have their company names included on the following: Banners/Posters at the conference, on our website (wwoa.org), and in our Clarifier magazine.

We wish to sponsor the Golf Outing ($75/Hole) Amount $ __________
We wish to sponsor the Sporting Clays ($50/Station) Amount $ __________
We wish to be a major sponsor of the Sporting Clays ($100+) Amount $ __________
We wish to sponsor the Bicycle Ride Amount $ __________
We wish to sponsor the Morning Coffee or Afternoon Soda Breaks ($250) Amount $ __________

You can sponsor one or as many events as you’d like.

Authorization and Payment

Make checks payable to: WWOA, 7044 S. 13th St., Oak Creek, WI 53154 OR pay by American Express, Discover, Master Card or Visa (please either email to c.harris@wwoa.org or mail to address listed above).

Name on Card: ___________________________ Signature: ___________________________

Credit Card #: ___________________________ Expiration Date: __________ V code #: __________

Type of Credit Card: ___________________________ Total Amount Charged $: __________

Thank you for your contribution. Your contribution greatly helps our organization and gives you the opportunity to be recognized as a supporter in the wastewater community. Should you have questions, please contact Courtney at 414-908-4950 or via email at c.harris@wwoa.org.
Meet keynote speaker

Meet Glen Daigger...
Glen Daigger is a Professor of Engineering Practice at the University of Michigan and also President and Founder of One Water Solutions, an engineering and innovation firm. Widely recognized for his contributions, he has received a number of national and international awards and is a member of the US National Academy of Engineering.

Over his career Glen has become an internationally recognized expert in wastewater treatment and water quality management for municipal and industrial systems, with particular expertise in biological processes. He is widely published and is author or co-author of more than 200 technical papers, four books, and several technical manuals. He is a former Professor and Chair of Environmental Systems Engineering at Clemson University.

Glen has served in senior roles for the Water Environment Federation, the American Academy of Environmental Engineers, and the Water Environment Research Foundation. He was also a Senior Vice President and Chief Technology officer for the international consulting engineering firm, CH2M HILL. Glen was employed at CH2M Hill for over 35 years and produced 11 patents on wastewater treatment processes that helped establish US wastewater treatment standards.

Mark Your Calendars for 2022!

WISCONSIN WASTEWATER OPERATORS’ ASSOCIATION
56th Annual Conference

KI Conference Center, Green Bay, WI

October 2 — October 7, 2022

Hotel reservation information will be on the WWOA website under Annual Conference.
2021 WWOA Officers and Board of Directors

President
Don Linter
President Elect
Rick Mealy
Vice President
Jeremy Cramer
Past President
Jeff Smudde
Director (2021)
Joshua Voigt
Director (2021)
Ben Brooks
Director (2021)
Jenny Pagel
Director (2022)
Marc Stephanie
Director (2022)
Nate Tillis

2021 Technical Program Committee

Chair: Jeremy Cramer

Committee Members:
Jake Becken, Jeremy Cramer, Tom Fitzwilliams, Troy Larson, Chris Lefebvre, Lyle Lutz, Rick Mealy, Marc Zimmerman, Bernie Robertson, Ryan Giefer, Chris Lefebvre, Rusty Schroedel, Jeff Smudde, Neal Kolb, Nate Tillis, Josh Voigt, John Bond, Jeff Bratz, Ben Brooks, Jenny Pagel, Marc Stephanie, Kevin Freber, Cody Schoepke, Ryan Hennessy

Exhibits, Manufacturers & Consultants Committee

Chair: Tom Mulcahy  Co-Chair: Carol Strackbein

Committee Members:
Jeff Bratz, Kevin Freber

2021 Local Arrangement Committee

Co-Chairs: Jared Greeno, Bernard Lenz
WDNR Continuing Educational Credits (CEC) Procedures – WWOA Conference

WWOA has implemented the following procedure to comply with the WDNR electronic CEC tracking system requirements. In order for those WWOA Conference attendees to receive their required CECs, the following program will be in place for this year’s conference. It is imperative that everyone that has a DNR Operators Certification Number includes it on their registration (no matter how they register - either on-line or by mail-in registration form). If you do NOT know your number, you can find it by going to the DNR website and look it up: [http://dnr.wi.gov/el/pertlook.asp?regpert]. You can find your number and training history here. All of the Certified Operators in attendance will have a special barcode, based on their DNR Operator number, added to their badge for scanning purposes. They will be the only attendees with barcodes.

In order to receive CECs for the Conference, everyone with a barcode on their badge will have to scan in and out on Wednesday, Thursday, and Friday. All barcode scanning will be done at the WWOA Conference Registration Office. There will be special lines set up for scanning purposes. Everyone going on the plant tour will have to check in and out with the WWOA person taking attendance on the bus. You **must register** for the plant tour bus at the WWOA Conference Registration Office in advance. Bus sign up is on a first come basis.

**NOTE:** We will only scan one badge per person. You must bring your own badge to the Registration office for scanning. We will NOT scan multiple badges presented by one person.

The WWOA Registration Office will be open the following hours during the convention:

<table>
<thead>
<tr>
<th>Date</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, October 5, 2021</td>
<td>2:00 pm to 4:00 pm (pick up registration packets only) WWOA Conference Registration Office is located at North Hall.</td>
</tr>
<tr>
<td>Exhibitor packets will be available in their booths starting on Tuesday morning. However, any Exhibitor that has a barcode on their badge must scan in and out at the Registration Office to receive their CECs.</td>
<td></td>
</tr>
<tr>
<td>Wednesday, October 6, 2021</td>
<td>7:00 am to 5:00 pm Registration and Pick Up Registration Packets Scan In and Out for CEC Hours</td>
</tr>
<tr>
<td>Thursday, October 7, 2021</td>
<td>7:00 am to 5:00 pm Registration and Pick Up Registration Packets Scan In and Out for CEC Hours</td>
</tr>
<tr>
<td><strong>DO NOT FORGET TO CHECK OUT WITH THE WWOA PERSON TAKING ATTENDANCE ON THE BUS TOUR</strong></td>
<td></td>
</tr>
<tr>
<td>Friday, October 8, 2021</td>
<td>7:00 am to 11:00 am/Registration office Scan In and Out for CEC Hours</td>
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</table>

**On-site Registration for the Pre-Conference Seminars will be at the Registration office located at North Hall.**

Everyone that signed up for the **Pre-Conference Seminars**, check in and check out will be handled outside of Upper South Hall Rooms seminar rooms. These rooms are immediately adjacent to one another.

Every participant will receive CECs based upon their scan in and out times. If you scan out early, you will only receive CECs for the time that you are in attendance at the WWOA Conference. There will be signs placed throughout the facilities reminding everyone to scan in and out. Ultimately, this will be the responsibility of each attendee to do so. Everyone that requires **Professional Development Hours (PDHs)**, please check in at the **Registration Office**.
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS
LaCrosse Center - Upper South Ballrooms A / B / C
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS
LaCrosse Center - Operator Competition
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS

LaCrosse Center - Ballroom
Accounting for Additives

By Sarah Luck, DNR Water Resources Engineer
sarah.luck@wisconsin.gov

Introduction

Chances are you have added a product to your water system at one point or another – or will at some point in the future – to adjust water chemistry, improve pollutant removal or for other reasons. But did you know that the state administrative code requires the Wisconsin Department of Natural Resources (DNR) to review these products?

Additives are products that are applied to water or land that perform some water treatment purpose. They come in many different forms, including chemical salts, polymers, acids and bases and organic chemicals. Additives are used for many things, including boiler or cooling tower treatments, biocides, industrial process polymers, flocculants, corrosion control, pH control, scale control and wastewater clarification.

Additives are used in wastewater, stormwater and agricultural applications; however, this article focuses on the use of water-applied additives in wastewater processes regulated under the Wisconsin Pollutant Discharge Elimination System (WPDES) permit program.

The DNR reviews wastewater additives to determine the need for permit limitations or use restrictions when the product may be discharged to surface water without receiving treatment or where the chemical is not expected to be removed by treatment and has the potential to contribute to effluent toxicity. WPDES permits and permit applications require the use of additive(s) to be reported to the DNR and approved before use to prevent unintended impacts to the environment.

The Review Process

So – you have a problem in your facility, you have researched your options to address the issue and found that using an additive at your facility is the preferred approach. You select a chemical supplier and reach out to them to describe the situation. They (or you) will then determine the effective dose. Next, the DNR will determine whether the effective dose has the potential to cause harm to aquatic life. The supplier or manufacturer should be able to supply a Safety Data Sheet (SDS) for the additive, which will include ecological toxicity information in Section 12. If the SDS does not include toxicity data, you will need to reach out to the supplier or manufacturer for this information. Toxicity data must be from tests performed on the whole product and must, at a minimum, contain acute toxicity data on a daphnid species.

You will then use this data, along with the dosage information, to fill out the DNR additive review worksheet (https://dnr.wisconsin.gov/topic/Wastewater/Additives.html). The additive review worksheet, along with the SDS, should then be submitted to the DNR compliance staff member that you interface with regularly or submitted with your WPDES permit application. The request will then go to a DNR limits calculator or toxicologist for review.

When reviewing the additive documentation, the DNR is evaluating the potential for both acute toxicity (i.e., death of aquatic organisms that occurs within 24-48 hours) and chronic toxicity (i.e., non-lethal negative effects that occur within a week and/or within the lifecycle of aquatic organisms).

The DNR uses toxicity data to calculate acute and chronic secondary values for an additive, according to ss. NR 105.05 and 105.06, Wis. Adm. Code. Secondary values are the concentrations in surface water that protect aquatic life from negative short-term and long-term effects. The procedures for determining secondary values are the same regardless of the purpose of the additive.

Intermittent Versus Continuous Use

When evaluating whether limits should be applied to control the additive, the DNR considers whether the product will be added continuously or intermittently. Intermittent usage would include either a batch application or a feed pump being turned on and off.

Additives used continually (whether stream or drip) for one hour or more in any 24-hour period or for less than 96 hours in a seven-day period are evaluated to determine if an acute secondary value is necessary. Additives used continually for 96 hours or more in a seven-day period are evaluated to determine if acute and chronic secondary values are necessary.

Acute effects are not usually assessed for additive use of less than one hour, and chronic effects are not assessed for continuous application.
additive use of less than 96 hours; in these situations, the potential risks for negative environmental impacts due to toxicity are expected to be very low. Regardless, any additive use must still be reported to the DNR.

Use Restrictions
In some cases, the supplied toxicity data may result in a restrictive dosing limit for the amount of additive that can be used, which means the additive cannot be approved. At this point, several options are still available:

- Request that the manufacturer perform additional acute or chronic testing. In some cases, secondary values can become less restrictive if more groups of animals are represented in the dataset.
- If chronic secondary values are limiting, consider providing chronic toxicity data on the whole product. Chronic secondary values can be calculated from acute toxicity data, but this is done using a mathematical formula based on certain assumptions. Providing chronic toxicity data may allow for the calculation of a more representative chronic value.
- Find an alternative product and submit it for a separate additive review.
- Assess whether the additive can be administered at a lower dosing rate.
- Demonstrate that the additive will only be used intermittently.
- Verify the estimated effluent concentration and ensure that any dilution from other waste streams has been accounted for in the calculation.

If Some Is Good, More Is NOT Always Better!
It is important for operators to realize that correct dosing is critical. Additives have the potential to achieve impressive results when used correctly. However, negative impacts can occur when additives are used at levels above the effective dose recommended by the manufacturer. For example, several facilities have experienced whole effluent toxicity (WET) test failures due to overdosing their phosphorus treatment chemicals (e.g., alum, ferric chloride and ferrous sulfate).

To avoid this and other problems, operators or their chemical suppliers should perform jar tests or other studies to determine the proper dose for their particular system before using any additives.

Additionally, if your facility has an approved additive but would like to increase the dosage, an additional additive review and approval would be necessary.

When in Doubt, Please Reach Out
Additional information, guidance and additive tools and worksheets are available at the DNR webpage: https://dnr.wisconsin.gov/topic/Wastewater/Additives.html (or you can search “Additives” on the DNR homepage).

If you still have questions about additive use or specific wastewater applications, contact Sarah Luck, DNR Water Resources Engineer, at sarah.luck@wisconsin.gov, or locate your local DNR representative by visiting https://dnr.wisconsin.gov/topic/wastewater/permitsstaff.html

For additives program information, contact DNR Water Quality Toxicologists, Meghan Williams, MeghanC3.Williams@wisconsin.gov, or Kari Fleming, Kari.Fleming@wisconsin.gov.

If it involves water, MSA has the expertise to address it.

MSA applies a holistic approach to wastewater treatment.
Our experts place utmost importance on the implementation of cost-effective solutions that are operator-friendly and sensitive to long-term operational costs.

We’ll work with you to plan, design and implement a water reclamation solution that achieves compliance today and will maintain compliance tomorrow as your community grows.

Start a relationship with us today.
(800) 362-4505
www.msa-ps.com
John Nehmer joins Ruekert Mielke

Ruekert & Mielke, Inc. (R/M) is pleased to announce the addition of John Nehmer, former Wastewater Utility Supervisor for the City of Columbus, to its team. John will be part of R/Ms municipal wastewater team.

“R/M is very excited to welcome John Nehmer to our team,” said Stan Sugden, President of R/M. “The depth of his experience in collection systems and wastewater will elevate our ability to comprehensively serve our clients and offer them a broad range of solutions for their infrastructure challenges.”

John will be primarily focused on clients in Columbia, Dodge, Dane, and Jefferson Counties.

Wisconsin Dells hosts Southern meeting on July 29

Wisconsin Wastewater Operators’ Association (WWOA) Southern District Meeting on July 29, 2021
Hosted by Wisconsin Dells Lake Delton Sewerage Commission.

Thank you to MSA Professional Services (MAS) for sponsoring the meeting.

A. The first speaker was Andy Zimmer from MSA who discussed the steps taken for a comprehensive infiltration/inflow (I/I) reduction program for the Roxbury Sanitary District. MSAs goal was to identify all manhole issues and televise all associated piping, making note of any clear water. MSA discovered the need for 5,500 feet of cured-in-place pipe (CIPP) main lining, 31 manhole repairs, and 40 locations that required lateral rehabilitation. Andy stated that public engagement occurred via newsletters, monthly meetings, and individual property owner meetings to provide education on I/I, explain why the public should care, and the steps to solve the problem. After completion, data showed positive results with Roxbury Sanitary District average flow reduced and overall power usage down 52 percent.

B. The following speaker was Steve Muther from Town and Country Engineering. Steve discussed supervisory control and data acquisition (SCADA) system hardware and software maintenance and security. He mentioned that SCADA systems typically fall under Operational technology (OT) professionals. Information technology (IT) and OT professionals must recognize this and apply expertise in their own respective systems. He also gave an overview of all essential hardware related to SCADA systems including switches and routers; firewalls and modems; programmable logic controllers (PLCs) and touchscreens; computers and PC monitors; and telemetry radios. Lastly, a security breach could be detrimental to a facility. To prevent this, receive regular security updates and keep office computers, printers, and cameras off the SCADA network.

C. The next topic was oxidation ditch improvements by Mark Pamperin from Evoqua Water Technologies. He gave a brief overview of different disc aerator technologies to choose from based off design flow with a focus on Orbal oxidation ditches. He described simultaneous nitrification and denitrification (SNDN), the path of flow through the Orbal process, the advantages of reactors in series, and

continued on page 37
e potential for energy savings. Mark also described the mechanical components on an Orbal process and the advantages of the technology used. This includes Orbal's gearbox, shaft options, bearings, couplings, auto lube system, and disc aerators. Lastly, he provided a list of typical maintenance activities required for the upkeep of an Orbal process.

D. The next presentation was from Stephan Dagovitz from Kaeser Compressors, Inc. on current blower technology and isentropic efficiency in blowers. Stephan explained four common technologies including multistage, turbo, rotary lobe, and rotary screw and where they may play a role in facilities. He followed that up by defining and explaining isentropic efficiency to compare real power to theoretical power based off blower, motor, silencers, filters, drive losses, and auxiliaries. Also, when making a decision, know your application and consider investment costs. When assessing technologies, consider newer technologies, estimate potential savings, refine your estimates, call a contractor, and get it on the schedule.

E. During the WWOA Southern District business meeting, the Treasurer's report was provided, and the 2021 operator's competition was advertised for the annual conference. Randy Langer provided upcoming WWOA events including the next WWOA Southern District meeting in the City of Fennimore, Wisconsin on September 15, 2021. Lastly, Randy reminded WWOA Southern District members about the two $250 tuition aid scholarships available.

F. Tom Fitzwilliams from MSA, Mitchell Vinz from the Wisconsin Dells Lake Delton Sewerage Commission, and Rick Treleven from BCR provided the next presentation which included an overview of Wisconsin Dells Lake Delton Wastewater Treatment Plant (WWTP) and its biosolids dryer. There was a need for the dryer project because of increased challenges to land application, public acceptance (odor and perception), sustainability, and the desire to have class A biosolids. They chose thermal drying because of having a small footprint and obtaining 80 percent reduction in volume. They explained the costs of operation, the process of system integration, design considerations, their daily operations, and the biosolids storage and disposal.

G. Lastly, Nick DeQuardo and Tom Lee from ABB provided hands-on training on ABB equipment for the oxidation ditch at the Wisconsin Dells Lake Delton WWTP. They described best practices to extend equipment life, energy savings from their motorized torque arm, and which lubricants to use based on desired unit. They also went into detail on the assembly, start up, and upkeep on ABB equipment. Wisconsin Dells Lake Delton Sewerage Commission tour at 8 South Bowman Road, Wisconsin Dells, WI 53965

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**ADAPTOR was founded by water and sewer contractors with the mission of providing quality solutions to common challenges in the field.**

Our American-made water and sewer products save municipalities time and money, and have proven effective time and again.
CALLING ALL INVENTORS

It’s time to TOOT Your Own Horn!

At this year’s WWOA Annual Conference we will feature an expanded “Tricks of the Trade”

So now is the time to showcase your invention, innovation, ideas, “tool of all tools”, management practice, etc.

Possible categories of Tricks of the Trade include Sampling/Monitoring, Improved Accessibility, Process Control, Containment/Algae & Odor Control, Cleaning, Preventive Maintenance, Safety, Public Education & Watershed Awareness, Automation, Signage & Communication, Data Management, and Training & SOPs

Please submit your Tricks of the Trade topic to Tom Steinbach, tom@tallpinesconservancy.org, by September 28. If you don’t like the limelight that’s fine, we will assist you or present your topic for you. Just submit a few PowerPoint slides or photos and we’ll help you put it all together.

For more information or to discuss your topic you can also contact Tom Steinbach at 262-302-1466.

“Tricks of the Trade” session will be October 5, 2021 at 10:00 am.
Laboratory Limelight: Lab Safety – How Not to Blow Up Your Lab…or Cause Permanent Injury

By Rick Mealy, RGM Lab Consulting

OK, so maybe blowing up your lab is a stretch (although it IS possible), but you get the point. It’s been over 7 years since George Bowman and I put together a number of simple tips for laboratories. Some were efficiency-related, but many were solid safety tips. As we see more turnover in lab personnel with the retirements of Baby Boomers, the importance of lab safety needs to be re-visited. The following are good reminders for all wastewater labs.

1. Fume hoods…use ‘em if you got ‘em. Not every wastewater lab has the luxury of fume hoods, but if you do…use them when dealing with things that can affect your health and safety in the lab. If possible, open digestions should be done under a hood. Also working with volatile, toxic, or hazardous chemicals should be done under a hood. Do NOT place solids ovens and other equipment in the fume hoods; they belong under canopies or vented to snorkel vents. If equipment must be located in a hood, the device should be raised properly to ensure adequate airflow so the hood works properly. When using unvented ovens, whatever is in the sample is in the vapors and can be inhaled. Think about it, largely you are drying things that come from where the sun doesn’t shine! Do you REALLY want to be breathing that?

2. Careful With That Acid, Eugene. Pardon the Pink Floyd reference, but I think the inappropriate logic here has to be something along the lines of, “If I use this much, it’s good, so if I use more, it’s better”. Wrong! Some labs are still needlessly using 50% hydrochloric acid to rinse glassware for phosphorus testing when 10% is more than adequate and in many cases, 1% is sufficient. Overuse creates dangerous and unnecessary fumes. Get lots of rust around your lab bench? That means you have a corrosive environment, and you are breathing that. If it rusts metal, what do you suppose it does to your lungs? Can you say, “chemical pneumonia”, boys and girls? How about “pulmonary edema”? Plant managers… think about the consequences of this.

3. Just Say No to Mercury and Asbestos! There are STILL labs that have at least one mercury thermometer. That’s a neurotoxin waiting for an opportunity. Get rid of them. Familiar with the term, “mad as a hatter”? Hatmakers (haberdashers) in the old days used mercury to make linings for hats. They also suffered from severe neurological damage. It’s tough eating an ice cream cone when you lack control over your hand movements.

Also, too many overly frugal municipalities have older ovens and furnaces that contain crumbly, flaking asbestos lining. It’s a major health hazard, and can result in a lawsuit against your community. Dear management…do you want a lawsuit? Didn’t think so. Get a new oven/furnace!

4. Glove and Goggle Up! Personal protection is a major concern in wastewater plant labs, and it’s one of the easiest problems to solve. Hello! Wastewater! Every bacterial, viral or fungal infection in the community passes through the treatment plant. It’s even more important in the age of pandemics. Wear lab gloves when working in the lab! Many labs don’t require any eye protection. That doesn’t mean you shouldn’t use some type of protective eyewear, especially when the operator/analyst wears contact lenses. That’s a big problem. Trust me…I’ve known individuals that had to be hospitalized from eye contact with acids, reagents and samples.

5. You’re Not Going To Eat/Drink That…Are You? I get it…I need my coffee in the morning—several times—too. But recall the earlier discussion of chemicals that are in the lab air. You really do not want to have your coffee, or your lunch in the lab. A guy comes in and plops down a nice bucket of septage, spewing droplets intro the air. Yuck! That could aerosolize and end up in your coffee. Yeah…I can hear you from here…YOUR coffee mug has a lid, so it’s fine. Except that it’s not. Some things have to simply be imperatives. Would you eat or drink sitting by the plant headwaters? Nevermind, I know some would say yes. Neither food nor beverages should be consumed in the lab, period. At the very least, have an “office area”, away from testing, in the fringes of the lab where food/beverages can be consumed.

6. THINK Before Dealing With a Spill. It happens. An operator spills something in the course of their duties, and tries to quietly and diligently clean up their mess. Operators know operations, but lab folks know chemicals. PLEASE talk to your lab manager or lab analyst before considering a chemical cleanup approach. Bad reactions can occur if the choice of chemical remedy is inappropriate for the material spilled.

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7. Bleach and Acid Do Not Play Well Together. Many labs wash bottles in a heavy bleach solution (more is better...right?) alone (no detergent) and then follow with hydrochloric acid (HCl). The residual bleach in the sink mixed with the HCl can release enough chlorine gas to cause serious injury.

Rinsing glassware with more than 1% HCl in sinks that are not vented is a major safety concern, not to mention another source of corrosion in the laboratory. If possible, at least one sink should be vented with a slot vent.

Many labs also prepare dilute acids in the lab from concentrated sulfuric acid (H2SO4) and hydrochloric (HCl) acid. This is a problem for those labs that don’t have a fume hood or those that have a fume hood but cannot use it because it’s filled with equipment like ovens. Why make up acids and take risks when you can buy them already diluted? Vendors sell 10% HCl for cleaning (phosphorus-free) and dilute acids that can be used for preserving samples. It’s a small price to pay for safety and efficiency.

5N, or at the most 11N, H2SO4 is recommended for preserving samples.

8. Get Your SDS Together, Man! Safety Data sheets (SDS, formerly called Material Safety Data Sheets, or MSDS) for all products and reagents used not only in the lab but the entire facility should be retained in a location known to all staff. These should be consulted before using any of the products or before responding to a spill. If you regularly work with lab reagents, read these and KNOW the potential hazards of handling these chemicals/products.

For example, many labs do COD testing to quickly get an idea of BOD levels. Many COD products contain mercury. Remember the “mad as a hatter” reference? Whether they contain mercury or not (some unapproved products don’t), all COD vials are considered hazardous. They contain...
sulfuric acid, silver sulfate, and potassium dichromate in the vials, all of which are hazardous and need to be handled and disposed of properly. These should be handled with care and NOT be poured down a lab sink.

9. Walk With “Spidey” Ability. Spiderman has natural "grippy" abilities that are valued in the lab. Make sure your footwear protects you from slips and falls. Not only can you fall and hurt yourself, but carrying chemicals when a fall occurs heightens the risk. It’s happened, people… a lab analyst walks through the lab carrying two jugs of concentrated acids, slips, and one or both bottles smack into a counter or lab bench causing the bottles to break. Instant hazardous situation. I saw this happen once with a guy wearing a waist length lab coat and…shorts! Make sure the soles of your footwear don’t put you at a risk for slipping.

10. Not Playing Well Together, Part 2: Chemical Storage Considerations. Acids and bases should not be stored in the same cabinet. Unlike in Lifetime Channel movies, in chemistry, opposites don’t attract. They do not get along and if mixed inadvertently, will cause dangerous and violent reactions. There will be some storage of oxidizers in close proximity to reducers in laboratories. However, violent reactions can occur when these opposites are spilled or mixed.

Also try NOT to store dangerous reagents (acids, bases, etc.) above eye level, which increases the chances of dangerous spills to the face. Keep ‘em low.

11. Don’t Put Your Mouth on That! Occasionally, and unfortunately, mouth pipetting is still a problem. Seriously, people. DO NOT mouth-pipet. Maybe you occasionally siphon gasoline at home by mouth, but that’s your business.

At work, in the lab, NEVER mouth pipet anything. They make very inexpensive pipet bulbs and other aids to do this safely.

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**2022 WWOA Conference**

**Join us for the 56th Annual Conference**

**KI Conference Center, Green Bay, WI**

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“The Clarifier is the publication of the Wisconsin Wastewater Operator’s Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. All members are encouraged to contribute to the mission of the Clarifier.”

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Jon Butt, Clarifier Editor
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Office: 414-291-8840
CSWEA / WWOA Collection System Seminar

Watertown, WI
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Technical presentations 8 AM to Noon
Beverages, breakfast and snacks     Lunch at Noon
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2021 revisions to WWOA Articles of Incorporation and ByLaws

At the annual business meeting (held virtually) in October, 2020, changes were approved for both the Articles of Incorporation and the association ByLaws. The Board of Directors also announced that the revision process would occur in two phases, with Phase II slated for 2021.

Early in 2021, the Resolution and ByLaws Committee, consisting of WWOA President-Elect, Rick Mealy, WWOA Past President Kelly (Zimmer) Anstett, and WWOA Lifetime Member and former WEF Board of Trustees member, Joan Hawley, met virtually on a number of occasions to finish the revisions necessary to bring the Articles and Bylaws into compliance with current state requirements. In addition, the committee worked diligently to fix other errors that were identified and to both simplify and reduce the language in both documents.

While it would be preferable to offer “redline/strikeout” versions of these documents, as approved in 2020, the reality is that so many items were re-organized, edited, or abbreviated, that this type of format is virtually unreadable. Therefore, we are offering the both the approved revision from 2020 as well as the proposed edited/recreated versions for comparison. These documents will be proposed for full membership approval at the annual business meeting in October.

Editor’s Note:
Approved revision from 2020 is in normal type
Proposed edited/recreated version for 2021 is in bold/italic type.

Approved revisions from 2020 annual business meeting Articles of Incorporation

Amended October 2020

Executed by the undersigned for the purpose of forming a non-profit Wisconsin corporation under Chapter 181 of the Wisconsin Statutes:

ARTICLE 1: The name of the Corporation shall be: WISCONSIN WASTEWATER OPERATORS ASSOCIATION, INC.

ARTICLE 2: The period of existence shall be perpetual.

ARTICLE 3: The purposes shall be as follows:

A. The advancement of fundamental and practical knowledge concerning the treatment of wastewater and the management of wastewater facilities.

B. The promotion of good public relations in the water pollution control field.

C. Assistance and training of personnel interested in water pollution control, management or operation.

D. The encouragement of exchanging information and experiences in the operation of wastewater treatment facilities.

E. The publication and distribution of a newsletter relating to the water pollution control field.

ARTICLE 4: The mailing address of the principal office of the corporation shall be 7044 S. 13th Street, Oak Creek, WI 53154-1429, and the name of its registered agent at such address is Liz Kutz, WWOA Executive Secretary.

ARTICLE 5: The number of directors may be fixed by the ByLaws but shall not be less than four (4). The manner of election or appointment of directors shall be as provided by the By Laws.

ARTICLE 6: The number of directors constituting the initial Board of Directors shall be eight (8).

ARTICLE 7: The names and addresses of the initial directors are:

Grant Haugstad
2107 South 17th Street
La Crosse, WI 54601

John Allen
RR 6, Box 92
Chippewa Falls, WI 54729

Thomas O’Keefe
1127 N. Street
Hudson, WI 54016

John Wallendahl
223 S Watertown Street
Waupun, WI 53963

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ARTICLE 8: The membership of the Corporation shall consist of the following classifications:

A. An Active Member shall be any interested person employed in administration, engineering, collections systems, operation, analysis or teaching in the field of wastewater and industrial waste treatment, both public and private; or any person representing a manufacturer or supplier of products with particular application to the wastewater and industrial waste treatment field. In addition, an Active member may be a student interested in the wastewater treatment field, or those involved in regulation, consultants, and public officials.

B. An Honorary Member shall be one who has the qualification of an Active Member and whose practical or scientific knowledge in matters pertaining to the operation of wastewater treatment plants entitle him/her to special recognition by the Corporation or a person who through his/her efforts has benefitted the Wisconsin Wastewater Operators Association, Inc. Said Honorary Member shall be elected by a majority of the officers of said Corporation, subject to the approval of a majority of the members present at the first subsequent regular meeting of the membership of the Corporation. Honorary Members shall have the same voting privileges as Active Members but shall not be required to pay dues.

C. A Life Member shall be one who has been an Active Member for 25 years or more in this Corporation or 25 years in the Wisconsin Wastewater Work Operators Conference and Wisconsin Wastewater Work Operators Conference Incorporated, the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members. Life Members shall receive a 20% discount on current active membership dues. A Life Member wishing to hold an office in the Organization may do so only if they are paying full active membership dues.

D. A Student Member: Eligibility; Any student enrolled in a 2-year or greater college program with studies relating to the field of wastewater treatment. Student must be enrolled as an active in-class member of a college, be recommended by their student advisor, and present their Student ID (or provide a copy with their application). All regular membership benefits apply except WWOA awards and tuition assistance. Terms of membership shall be two years with renewal one time if enrolled in a 4-year program. Membership rate shall be one-half of the normal WWOA membership dues at that time.

ARTICLE 9: No part of the net earnings of the Corporation shall inure to the benefit of, or be distributable to, its members, directors, officers, or other private persons, except that the Corporation shall be authorized and empowered to pay reasonable compensation for services rendered.

ARTICLE 10: The Corporation shall not participate in or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office.

ARTICLE 11: Upon dissolution of the Association, the assets of the Association remaining after payment of, or provision for, all liabilities or obligations to the Association shall be distributed to such organizations having purposes or objectives similar to those of the Association as the Board of Directors may designate for scientific and educational purposes within the meaning of Section 501(c)(3) of the U.S. Internal Revenue code of 1986, as amended (or the corresponding provisions of any successor law).

ARTICLE 12: All income of the Corporation for each taxable year (for Federal income tax purposes) shall be distributed at such time and in such manner so as not to subject the Corporation to Federal Tax under Section 4942 of the Internal Revenue Code of 1954.

ARTICLE 13: The Corporation created hereby shall not engage in any act of self-dealing (as defined in Section 4941 of the Internal Revenue Code of 1954, as amended) make any investments in such manner as to subject the Corporation to tax under Section 4944 of the Internal Revenue Code of 1954, as amended, or make any taxable expenditures as defined in Section 4945 (d) of the Internal Revenue Code 1954, as amended, or retain any excess business holdings as defined in Section 4943 (c) of the Internal Revenue Code of 1954, as amended.
Amended October 2020

ARTICLE I – MEMBERSHIP

1.01 Members of Predecessor Organization

All members of the Corporation’s predecessor, Wisconsin Wastewater Operators Association, shall automatically be deemed to be members of the Corporation and the classification of each member as Active, Honorary, Life or Student Membership shall remain the same in the predecessor organization.

1.02 Election to Membership

The Executive Secretary shall receive all applications for membership for the Active classification. Such applications shall include current dues. The Executive Secretary satisfied of an applicant’s eligibility shall issue a membership card and shall add the applicant’s name to the Corporation roster as a new member.

1.03 Annual Meeting of Membership

The annual meeting of the membership shall be held at the date, hour and place designated by the President of said Corporation or by the Board of Directors, or the date of the anniversary of the beginning of the Corporation.

1.04 Special Meeting of Membership

Special meetings of the membership for any purpose or purposes, unless otherwise prescribed by the statute, may be called by the President of the Board of Directors, and the date, hour and place of that meeting shall be designated by the President of the Board of Directors.

1.05 Notice of Annual or Special Meetings

Written notice stating the place, day and hour of the meeting and, in case of a special meeting, the purpose or purposes for which the meeting is called, shall be delivered not less than five days and no more than fifty days before the date of the meeting, either personally, by mail, by e-mail, or by the direction of the President, Executive Secretary, or other officers or persons calling the meeting, to each member of record. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the member at his/her address as it appears on the books of the Corporation, with postage thereon prepaid.

1.06 Waiver of Notice by Member

Whenever any notice whatever is required to be given to any member of the Corporation under the Articles of Incorporation or Bylaws or any provision of law, a waiver thereof in writing, signed at any time, whether before or after the time of the meeting, by the members entitled to such notice, shall be deemed equivalent to the giving of such notice; provided that any waiver in respect to any matter of which notice is required under any provision of the Wisconsin Business Corporation Law shall contain the same information as would have been required to be included in such notice, except the time and date of meeting.

1.07 Conduct of Meetings

The President, and in his absence, the President-Elect, then the Vice President in the order provided under Section 2.01, and in their absence, any person chosen by the members present shall call the meeting of the members.

1.08 Voting List

The Executive Secretary having charge of the membership books of the Corporation shall, before each meeting of members, make a complete list of the members entitled to vote at such a meeting, or any adjournment thereof, which list shall be produced and kept open at the time and place of the meeting and shall be subject to the inspection of any member during the whole time of the meeting for the purposes of the meeting. Failure to comply with the requirements of this section shall not affect the validity of any action taken at such meeting.

1.09 Quorum

Except as otherwise provided in the Articles of Incorporation, the members present at an annual or special meeting shall constitute a quorum. The affirmative vote of the majority at any such meeting and entitled to vote on the subject matter shall be the act of the membership.

1.10 Committees

(a) Standing Committees shall be the Executive Committee, Technical Committee, Local Arrangements,
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(b) Additional committees, from time to time that may be required, shall be appointed by the President.

ARTICLE II – OFFICERS AND BOARD OF DIRECTORS

2.01 Officers and Composition of Board of Directors
The Board of Directors of the Corporation shall consist of nine (9) directors. The Officers of the Corporation shall be a Past President, President, a President-Elect, a Vice President, and five (5) Directors, all of whom shall be Active members of the Corporation and in good standing. These members shall constitute the Board of Directors of the Corporation.

2.02 Election of Officers and Directors

The three most recent Past Presidents shall constitute the Nomination Committee. In case three Past Presidents are not available; the current President shall appoint an Active member or members to fill any vacancy. This committee shall report to the Executive Secretary prior to the time of the election meeting, and its report shall recommend at least one name for each elective office about to become vacant. Following the report of the Nominations Committee at the annual meeting, the President shall call for nominations from the floor. If more than one name is placed in nomination for any office, voting shall be by ballot. The office of Vice President shall be an elective office, and the Vice President will automatically become President-Elect of the Wisconsin Wastewater Operators Association, Inc. upon completion of his/her term as Vice President. The office of President-Elect will automatically become President of the Wisconsin Wastewater Operators Association, Inc. upon completion of his/her term as President-Elect. Further, the initial Board of Directors and initial Officers shall be those Directors named in the Articles of Incorporation and those Officers of the Corporation's predecessors, Wisconsin Wastewater Works Operators Conference, and Wisconsin Wastewater Works Operators Conference, Incorporated.

2.03 Terms of Office

All Officers, except the Directors, shall be elected for a term of one year. The President, President-Elect and Vice-President shall not succeed themselves to the same office for consecutive terms. The election of all elected officers shall be at the Annual Meeting. The term 'one-year' is construed to mean from the date of one Annual Meeting to the date of the Succeeding Annual Meeting, regardless of elapsed time.

(a) The Executive Secretary of the Wisconsin Wastewater Operators Association, Inc. shall be appointed or hired by a majority vote of the Board of Directors. The position of Executive Secretary is defined as held by either an individual or by a contracted Association Management Company who will appoint an individual to serve as the Executive Secretary. The Executive Secretary shall be contracted with for a term of no more than three (3) years.

(b) The Directors of Wisconsin Wastewater Operators Association, Inc. shall be elected for a term of two (2) years. Two Directors shall be elected in each even numbered year and three Directors shall be elected in each odd numbered year.

2.04 Vacancies on the Board of Directors or of Officers

In the event that an office becomes vacant between election meetings, the Board of Directors shall elect an Active member to serve until the next election meeting.

2.05 Duties of the Board of Directors

It shall be the duty of the Board of Directors to carry on the business and advance the interest of the Corporation between meetings. All actions of the Board of Directors require a majority vote of said Board of Directors.

2.06 Annual Meeting of Board of Directors

There shall be one annual meeting of the Board of Directors at a time and place designated by the President. The President may call additional meetings of the Board or may conduct Board and Corporation business by mail, phone, video conferencing, in person, or any electronic method.

2.07 Quorum

Except as otherwise provided by law, by the Articles of Incorporation or by these By-Laws, a majority of the number of Directors set forth in Section 2.01 shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, but a majority of the Directors present (though less than such quorum) may adjourn the meeting from time to time without further notice.

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2.08 Notice/Waiver

Notice of each meeting of the Board of Directors shall be given by written notice delivered personally, mailed, or e-mailed, to each Director at his/her business or residential address, in each case not less than two days prior to the meeting. Whenever any notice whatever is required to be given to any Director of the Corporation under the Articles of Incorporation or By-Laws or any provision of law, a waiver thereof, in writing, signed at any time, whether before or after the time of meeting, by the Directors entitled to such notice, shall be deemed equivalent to giving such notice.

2.09 Expenses of Board of Directors Meetings

The Executive Secretary shall have authority to honor reasonable out-of-pocket expenses, not reimbursable by the Boards members’ employers, incurred by attendance at authorized Board meetings.

2.10 Duties and Responsibilities of the Executive Secretary

The Executive Secretary shall maintain the financial and membership records of the Corporation and be the Registered Agent of the Corporation. The Executive Secretary shall perform all duties as designated in the position description, or within a contract if an Association Management Company serves in the capacity of an Executive Secretary. In addition, the Executive Secretary shall perform the duties assigned by the Board of Directors. The Executive Secretary will have the authority to perform his/her assigned duties but will not have the authority to commit the Corporation without the approval of the Board of Directors.

ARTICLE III – FINANCES

3.01 Dues

The dues shall be sixty dollars ($60.00) for each two years or fraction thereof. These dues shall be effective September 1st. Student membership ‘Terms of Membership’ shall be two years renewable one time if enrolled in a four-year program. Membership rate shall be one-half of the normal WWOA membership dues at that time.

3.02 Finances

(a) All money received by the Executive Secretary shall be deposited in a bank approved by the President; said funds to be in the name of the Wisconsin Wastewater Operators Association, Inc.

(b) Upon approval of the President, the Executive Secretary shall have the right to make all necessary disbursements.

(c) No Officer or member of the Corporation shall be authorized to contract for expenses exceeding the cash assets of the Corporation.

3.03 Compensation for the Executive Secretary

(a) If the Board of Directors votes to appoint an individual as Executive Secretary, said individual shall be a paid employee of the Corporation. The salary of the Executive Secretary shall be determined by the Board of Directors. Expenses for which the Executive Secretary will be reimbursed shall also be determined by the Board of Directors.

(b) If the Board of Directors opts to use an Association Management Company, a contractual agreement which describes responsibilities and rate of compensation, shall be drawn up and approved by a majority of the Board of Directors.

3.04 Fiscal Year

For accounting purposes, the fiscal year shall begin on January 1st of each year, and end on December 31st of the same year. At the end of each fiscal year, the Executive Secretary shall submit his/her records for audit to a committee appointed for that purpose by the President.

ARTICLE IV – REGIONAL ASSOCIATIONS

4.01 Definition of Regional Association

There shall be no more than six (6) regional associations throughout the State of Wisconsin. The six regional associations shall be recognized as follows: Southern, Southeast, West Central, Northwest, North Central, and Lake Michigan.

4.02 Regional Affiliation

Any WWOA member will automatically have a specific regional affiliation based upon their county of residence and/or their place of employment dependent upon which
address is reported as their primary address to the WWOA database.

4.03 Requirements for Affiliation

Regional associations applying for membership in this organization shall submit written application for affiliation in the form and manner prescribed by the Board and shall be subject to the acceptance and approval of the Board of Directors. The procedures for affiliation shall be:

(a) Adoption of the standard form of regional association By-Laws prescribed by the Wisconsin Wastewater Operators Association, Inc. or as otherwise approved in accordance with 4.05;

(b) Payment of such charter fees as may be established by the Board of Directors;

(c) Submission of a list of charter members, each of whom shall have paid the full membership fees as established in the regional association By-Laws;

(d) Compliance with all the requirements for affiliation as prescribed in these By-Laws and by the Board of Directors and agreement to accept and abide by the Articles of Incorporation and By-Laws of this organization now and hereafter in force.

4.04 Officers

Annual elections of regional officers shall be held at the last Regional Meeting of the calendar year and the Region shall immediately report to the Executive Secretary of the Corporation, the names and addresses of the newly elected officers. Regional officers shall assume their official responsibilities as of January 1st following their elections.

4.05 Regional Membership Fees and Annual Dues

Regional associations may establish membership fees in their By-Laws as they see fit.

4.06 By-Laws

A regional association shall not change or amend its Bylaws without the consent of the WWOA said regions’ members.

4.07 Meeting Requirements

Meetings shall be held at the date, place and hour designated by each region. One-day only meetings are encouraged. Regional association meetings shall not be held two weeks before or after the Annual WWOA State meeting and shall attempt to avoid other WWOA sponsored events.

4.08 Resignations/Revocation of Charter/Appeal

(a) Any regional association may resign from WWOA, by reason of dissolution or other reason, provided that all financial obligations to WWOA have been fulfilled and that, if incorporated, the Corporation shall be legally terminated as a WWOA regional association, and that notice of such resignation or dissolution shall be legally terminated as a WWOA regional association, and that notice of such resignation or dissolution shall be certified to the Executive Secretary of WWOA. Such notice of resignation or dissolution shall become effective as determined by the Board of Directors of WWOA.

(b) Any regional association that fails to conform with the accepted standards for chartered associations, or whose conduct is considered by the Board of Directors to be injurious or prejudicial to the image and best interests of WWOA or its other regional associations, may have its charter revoked or suspended by a two-thirds majority vote of the Board of Directors. Any regional association that violates the Articles of Incorporation or By-Laws of WWOA, or that is more than one hundred and twenty (120) days in arrears for any indebtedness to WWOA may have its Charter revoked or suspected by a two-thirds majority vote of the Board of Directors. The Board of Directors may impose such conditions as it may deem reasonable or necessary. However, the Officers of the Board of Directors assisted by the Executive Secretary of WWOA shall first be given the opportunity to investigate and report thereon to the Board of Directors. The Executive Secretary of WWOA shall have sent notice of such proposed action and reasons therefore by certified mail to the last reported officers of such regional association not less than thirty (30) days prior to the date on which the Board of Directors shall act upon the proposed suspension or revocation. In the event of such revocation or suspension, the Executive Secretary of WWOA shall send, within fifteen (15) days, a notice of such action and reasons therefore to the last reported officers of such regional association.

(c) Upon the revocation or suspension of the charter and membership of any regional association, the Executive Director shall return to the recorder/treasurer of the regional
association all surplus reserve funds credited to the account of the regional association remaining after payment of all regional association obligations to the WWOA. There will be no proration of any charter fee.

(d) In the event a charter and membership of a regional association is revoked or suspended, such regional association may, within thirty (30) days of mailing of the notice of such revocation or suspension, file with the Executive Secretary of WWOA a written appeal of such action, which appeal shall be considered at the next meeting of the Board of Directors. If a regional association whose charter has been suspended fails to exercise the right of appeal within the specified period, its charter and membership shall be automatically revoked as of the date of suspension.

(e) Upon the revocation or suspension of the charter and membership of any regional association for any reasons whatsoever, such regional association shall forfeit all rights and privileges of Membership, services provided by WWOA and the right to use the names, slogans, emblems, marks or other insignia of the organization, except that the Board of Directors may, at its discretion, postpone the forfeiture of such rights, privileges and services until the expiration of the appeal period or, if an appeal is received, until the Board of Directors considers the appeal at their next meeting.

4.09 Annual Charter Fee

Each regional association shall pay to WWOA for each of its members an annual charter fee as determined by the Board of Directors each year. The Board of Directors shall have the opportunity to grant an extension of time for payment of obligations to WWOA when, in the judgment of the Board of Directors, circumstances indicate such extension would best serve the interests of the organization.

4.10 Liability Insurance

(a) Each regional association shall pay to WWOA as part of its charter, a fee as determined by the Board of Directors for the payment of the annual premium for comprehensive general liability insurance.

(b) Insurance coverage shall not be provided by WWOA for regional associations for activities or meetings where intoxicating beverages are served by and/or provided by the regional association or members with or without monies from the membership of the regional association or another chartered regional association.

ARTICLE V – AMENDMENTS

5.01 Amendments

Amendments to these By-Laws may be made either by a two-thirds majority vote of members of the Corporation voting at a regular meeting or by two-thirds majority of members of the Corporation voting by mail ballot.

Proposed 2021 WWOA Articles of Incorporation

(Amended October 2021)

Executed by the undersigned for the purpose of forming a non-profit Wisconsin corporation under Chapter 181 of the Wisconsin Statutes:

ARTICLE 1: The name of the Corporation is: WISCONSIN WASTEWATER OPERATORS ASSOCIATION, INC. (WWOA). This includes predecessor organizations Wisconsin Wastewater Works Operator Conference, Wisconsin Wastewater Works Operator Conference Incorporated, and the Conference of Wisconsin Sewerage Works Operators.

ARTICLE 2: The period of existence shall be perpetual.

ARTICLE 3: The purposes shall be as follows:

A. The advancement of fundamental and practical knowledge concerning the treatment of wastewater and the management of wastewater facilities.

B. The promotion of good public relations in the wastewater and water treatment fields.

C. Assistance and training of personnel interested in wastewater and water treatment, management or operation.
D. Provide education and exchange of information and experiences in the operation of wastewater treatment facilities.
E. The publication and distribution of news relating to the wastewater and water treatment fields.

ARTICLE 4: The name and mailing address of the principal office of the corporation and registered agent is Association Executives Group (AEG) at 7044 S. 13th Street, Oak Creek, WI 53154-1429.

ARTICLE 5: The number of directors may be fixed by the Bylaws but shall not be less than four (4). The manner of election or appointment of directors shall be as provided by the Bylaws.

ARTICLE 6: The names and addresses of the initial directors are:

- Grant Haugstad  
  2107 South 17th Street  
  La Crosse, WI 54601  
  John Allen  
  RR 6, Box 92  
  Chippewa Falls, WI 54729

- Thomas O'Keefe  
  1127 N. Street  
  Hudson, WI 54016  
  John Wallendahl  
  223 S Watertown Street  
  Waupun, WI 53963

- Robert Deering  
  708 Linden Drive  
  Green Bay, WI 54301  
  John Wagner  
  W250 S3856 Reacquired Drive  
  Waukesha, WI 53186

- Ward E. Holtz  
  705 George Street  
  Rothschild, WI 54474  
  Albert Winter  
  1013 Hennas Street  
  Kaukauna, WI 54130

ARTICLE 7: The membership of the WWOA shall consist of the following classifications:

A. An Active Member is considered any interested person in the field of wastewater or water treatment.
B. An Honorary Member is considered one who has the qualification of an Active Member and whose practical or scientific knowledge in matters pertaining to the operation of wastewater treatment plants entitle him/her to special recognition by the Corporation, or a person who through his/her efforts has benefitted the WWOA.
C. A Life Member is considered one who has been an Active Member for 25 years or more in the WWOA or 25 years in the predecessor organizations of this Corporation, or a total of 25 years in both. Life Members shall have the same voting privileges as Active Members and Honorary Members.
D. A Student Member is considered to be any student actively enrolled in a degree or certificate program relating to the field of wastewater or water treatment.

ARTICLE 8: No part of the net earnings of the WWOA shall inure to the benefit of, or be distributable to, its members, directors, officers, or other private persons, except as authorized by the Board to pay reasonable compensation for services rendered.

ARTICLE 9: WWOA shall not participate in or intervene in any political campaign on behalf of any candidate for public office.

ARTICLE 10: Upon dissolution of the WWOA the assets of WWOA remaining after payment of, or provision for, all liabilities or obligations to the WWOA shall be distributed to such organizations having purposes or objectives similar to those of the WWOA as the Board of Directors may designate for scientific and educational purposes within the meaning of Section 501(c)(3) of the U.S. Internal Revenue code of 1986, as amended (or the corresponding provisions of any successor law).

ARTICLE 11: All income of the WWOA for each taxable year (for Federal income tax purposes) shall be distributed at such time and in such manner so as not to subject the WWOA to Federal Tax under Section 4942 of the Internal Revenue Code of 1954.

ARTICLE 12: The Corporation created hereby shall not engage in any act of self-dealing (as defined in Section 4941 of the Internal Revenue Code of 1954, as amended) make any investments in such manner as to subject the Corporation to tax under Section 4944 of the Internal Revenue Code of 1954, as amended, or make any taxable expenditures as defined in Section 4945 (d) of the Internal Revenue Code 1954, as amended, or retain any excess business holdings as defined in Section 4943 (c) of the Internal Revenue Code of 1954, as amended.

Proposed 2021 bylaws continued on page 51
Proposed 2021 WWOA Bylaws

(Amended October 2021)

ARTICLE I – MEMBERSHIP

1.01 Members of Predecessor Organization

All members of the Corporation and its predecessors, who are in good standing shall be automatically deemed members of WWOA and the classification of each member as Active, Honorary, Life or Student shall remain the same as in predecessor organizations.

1.02 Membership

Upon receipt of dues by the Executive Secretary, a person is considered a member of WWOA.

1.03 Annual Meeting of Membership

The annual meeting of the membership shall be held as designated by the President or by the Board of Directors of WWOA (“the Board”). Members shall be notified sufficiently in advance of an annual meeting.

1.04 Special Meeting of Membership

Special meetings of the membership for any purpose or purposes, may be called by the President or by the Board. Members shall be notified sufficiently in advance of a special meeting.

1.05 Conduct of Meetings

The President, and in his or her absence, then the President-Elect, then the Vice President, and in their absence, any person chosen by the members present shall call the meeting of the members.

1.06 Quorum

Members present at an annual or special meeting shall constitute a quorum.

1.07 Voting

All WWOA members in good standing are entitled to vote in person or electronically, depending on meeting forum. The majority vote of members on any subjects discussed will be the decision of the membership.

1.08 Committees

(a) Standing Committees shall be the Executive Committee; Technical Committee; Exhibits, Manufacturers & Consultants, Nominations; and Bylaws.

(b) Other committees, as described in the WWOA Policy Manual or as designated by the President, may be established.

ARTICLE II – OFFICERS AND BOARD OF DIRECTORS

2.01 Officers and Composition of the Board

The WWOA Board, all of whom shall be Active members of WWOA, shall consist of nine (9) directors, including 4 Officers. The Officers of WWOA shall be a Past President, President, President-Elect, and Vice President. These nine members shall constitute the Board of WWOA.

2.02 Election of Vice-President and Vacant Director positions

Election of a Vice-President and Directors shall be recommended by the Nomination Committee at the annual business meeting. This committee shall recommend at least one name for each elective office about to become vacant. Following this recommendation, the President shall call for nominations from the floor. If more than one individual is nominated for any office, voting shall be by ballot.

2.03 Terms of Office

(a) Vice-President, President-Elect, President, Past President. The Vice-President shall serve a term of one-year, beginning at the conclusion of the WWOA annual conference. The Vice-President shall automatically succeed to the office of President-Elect for a one-year term, then to the office of President for a one-year term, and finally to the office of Past President for a one-year term. Individuals are limited to one full term in the office of President, Past President, President Elect, and Vice-President with the exception of an individual appointed to fill a vacancy who may serve for the unexpired term in office which they fill.

(b) Directors. Directors of WWOA shall be elected for a term of two (2) years. Two (2) Directors shall be elected in each even numbered year and three (3) Directors shall be elected in each odd numbered year.

continued on page 52
(c) Executive Secretary. The Executive Secretary of WWOA shall be appointed or hired by a majority vote of the Board. The position of Executive Secretary is defined as being held by either an individual or by a contracted Association Management Company who will appoint an individual to serve as the Executive Secretary. The contract with the Executive Secretary shall be for a term of no more than three (3) years.

2.04 Vacancies on the Board

In the event that a vacancy occurs, the Board shall elect an Active member to serve until the next election.

2.05 Duties of the Board

It shall be the duty of the Board to carry on the business and advance the interests of WWOA. All Board actions require a majority vote of the Board.

2.06 Meetings of the Board

(a) Number of meetings

There shall be a minimum of three meetings annually with one at the annual conference. Other meetings shall be as designated by the President.

(b) Notice

Notice of meetings of the Board shall be given to each Director a minimum of seven days prior to any meeting.

(c) Quorum

A majority of the Board shall constitute a quorum.

(d) Voting

1. Any action allowed or required to be taken by the Board shall take place at a meeting at which a quorum is present.

2. All motions approved by the Board shall consist of the majority of the quorum present.

3. Board members may participate through the use of real-time communications technology by which they hear, vote, or otherwise fully participate in the meeting.

2.07 Expenses of the Board

The Executive Secretary shall have the authority to honor reasonable out-of-pocket expenses not reimbursable by the Board member’s employer.

2.08 Responsibilities of the Executive Secretary

The Executive Secretary shall maintain the financial and membership records and shall be the Registered Agent of WWOA. He/she shall perform all duties as designated in the position description, or within a contract with an Association Management Company, or as assigned by the Board. He/she will have the authority to perform his/her assigned duties but will not have the authority to commit WWOA without the approval of the Board.

ARTICLE III – FINANCES

3.01 Dues

Association dues are payable every two years, or fraction thereof, effective September 1st.

3.02 Finances

(a) All money received by the Executive Secretary shall be deposited in a bank approved by the President and Past-President; said funds to be in the name of the WWOA.

(b) Upon approval of the President and Past-President, the Executive Secretary shall have the right to make all necessary disbursements.

(c) No Officer or member of WWOA shall be authorized to contract for expenses exceeding the cash assets of WWOA.

3.03 Compensation for the Executive Secretary

(a) If the Board votes to appoint an individual as Executive Secretary, said individual shall be a paid employee of WWOA. The Board shall determine the salary and reimbursable expenses of the Executive Secretary.

(b) If the Board opts to use an Association Management Company, a contractual agreement which describes responsibilities and rate of compensation, shall be drawn up and approved by a majority of the Board.
3.04 Fiscal Year

For accounting purposes, the fiscal year shall begin on January 1st of each year, and end on December 31st of the same year. At the end of each fiscal year, the Executive Secretary shall submit the records for audit to the Board.

ARTICLE IV – REGIONAL ASSOCIATIONS

4.01 Regional Associations

The six (6) regional associations in the state of Wisconsin are Southern, Southeast, West Central, Northwest, North Central, and Lake Michigan.

4.02 Regional Affiliation

Each member is assigned to only one region. Regional affiliation for a member is based on the address provided to WWOA.

4.03 Affiliation Requirements

The requirements for affiliation shall be:

(a) Each regional association shall pay an annual charter fee to WWOA for each of its members as determined by the Board. The Board may grant an extension of time for payment of obligations to WWOA.

(b) Each regional association shall pay an annual insurance fee to WWOA as determined by the Board for the payment of WWOA's annual premium for comprehensive general liability insurance. Insurance coverage shall not be provided WWOA for regional activities or meetings where intoxicating beverages are served by and/or provided by the regional association, members, or sponsors.

(c) The regional affiliations shall comply with all WWOA Bylaws and Articles of Incorporation.

4.04 Regional Officer elections

Annual election of officers shall be held at the last Regional Meeting of the calendar year and the Region shall immediately report to the Executive Secretary of WWOA the names and addresses of the newly elected officers. Regional officers assume their responsibilities January 1st.

4.05 Meeting Requirements

Meetings shall be held as designated by each region.

Regional association meetings shall not be held two weeks before or after the Annual WWOA State Conference and shall attempt to avoid other state or regional events.

4.06 Resignations/Revocation of Charter/Appeal

(a) Any regional association may resign from WWOA, by reason of dissolution or other reason, provided that all financial obligations to WWOA have been fulfilled, and that notice of such resignation or dissolution shall be legally terminated as a WWOA regional association, and that notice of such resignation or dissolution shall be certified to the Executive Secretary of WWOA. Such notice of resignation or dissolution shall become effective as determined by the WWOA Board.

(b) Any regional association that fails to conform with the accepted standards for chartered associations, or whose conduct is considered by the Board to be injurious or prejudicial to the image and best interests of WWOA or its other regional associations, may have its charter revoked or suspended by a two-thirds majority vote of the Board. Any regional association that violates the Articles of Incorporation or Bylaws of WWOA, or that is more than one hundred and twenty (120) days in arrears for any indebtedness to WWOA may have its Charter revoked or suspended by a two-thirds majority vote of the Board.

(c) The Executive Committee shall investigate and report findings to the Board. A written notice of proposed actions and rationale shall be sent to the last reported officers of the regional association. The region shall have at least thirty (30) days to respond to the Board. The Board shall review the response and determine whether or not to revoke or suspend and the Board shall send their decision, within fifteen (15) days, to the last reported officers of the regional association.

(d) A regional association shall return all surplus funds to WWOA upon the revocation or suspension of its charter.

(e) A regional association shall forfeit all rights and privileges of membership, services provided by WWOA, and the right to use the names, slogans, emblems, marks or other insignia of WWOA upon revocation or suspension of its charter.

ARTICLE V – AMENDMENTS

5.01 Amendments

Amendments to these Bylaws shall be made by a two-thirds majority vote of WWOA members at the annual meeting.
Lake Michigan District holds May 20 meeting virtually

On May 20th, the Lake Michigan District held its second virtual meeting during the continued COVID pandemic. Since the first virtual meeting went well with an abbreviated schedule, the same was done for the second meeting. We had an average attendance of around 30 people streaming the meeting.

The first presentation of the day was given by Tom Trainor, program chemist for the WDNR, whose presentation was titled NR 149 Updates for Registered Labs BASE 4 Tests. Tom started his presentation by providing a long list of items removed by the recent revision to NR 149. Tom then discussed the PT updates and how they will affect the testers. Following that, Tom walked the group through the calibration changes. Next, Tom described the updates for LOD, LOQ, and reporting limits. The presentation ended with guidance on how to run various tests.

Next on the agenda was Rusty Schroedel, Wastewater Manager for AECOM’ Milwaukee office. Rusty’s presentation was titled Anaerobic Digestion 101 – Do’s and Don’ts. Rusty began the presentation by providing a basic summary of anaerobic digestion. Rusty then went on to explain the different methods of anaerobic digestion. After that, Rusty walked the group through the concerns and considerations regarding feeding a digester. Next, Rusty listed the different available forms of mixing options, and explained the associated pros and cons of each mixing type. This led into explaining how temperature is critical and how biological activity is affected by various temperatures. Rusty finished his presentation by providing operation guidance for various scenarios.

The third and final presentation of the day was by Todd Sturtz, Dupont Water Solutions. Todd’s presentation was titled PFAS Removed with Closed Circuit RO. Todd first identified and discussed the different types of filtration, along with defining some key terms. Then, Todd stated how reverse osmosis (RO) works, and explained the different RO variations, such as pressure vessel array, multistage, and closed circuit. This led Todd into discussing the nitty and gritty of the closed-circuit RO process and the various operation options. Next, Todd introduced the...
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common available treatment options for PFAS. Todd described how the various PFAS treatment methods performed under 3rd party testing. Todd ended his presentation by discussing the findings from multiple case studies across the United States.

Matt Schmidt called the WWOA-LMD business meeting to order. Last quarter’s minutes and treasurer’s report were presented and approved. The next item on the agenda was the WDNR update by Roy Van Gheem.

First off, for the WDNR update, Roy provided guidance for completing the CMAR and reminded everyone that they are due by June 30th. The second item is that the WDNR is still not conducting quarterly statewide exams, and currently, there is no timeline for when they will resume. However, urgent exam request forms are available and urgent exams are being held twice a month in Plover, but the exams are limited to 23 people. Following the WDNR update, Josh Voigt gave the WWOA Board of Director’s update.

A special thanks to Courtney Harris for her assistance in setting up and running the virtual meeting platform from behind the scenes.

After a poll was conducted during the meeting, the LMD region has decided to go back to in-person meetings, starting with the upcoming meeting on August 19th so watch your mail, e-mail, or check the calendar on the WWOA website soon for more details.

Reminder, meeting presentations, if allowed by the presenter, can be found on the WWOA website on the WWOA website.

Minutes submitted by Josh Steffeck, Lake Michigan District Secretary/Treasurer

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Don’t forget to
Pre-Register
for the Conference!


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