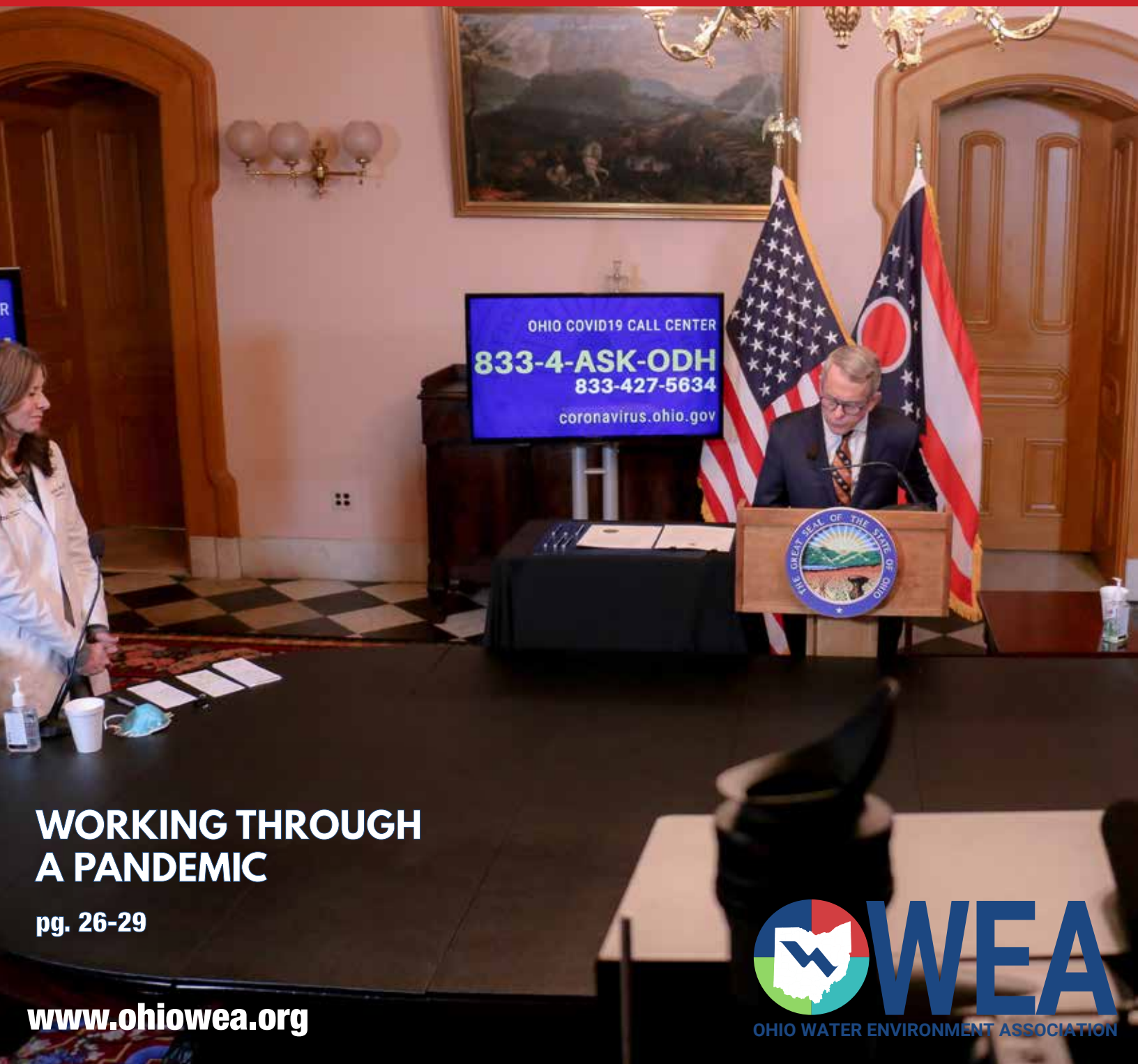


Buckeye Bulletin



**WORKING THROUGH
A PANDEMIC**

pg. 26-29

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Disclaimer

The Buckeye Bulletin (BB) is the official publication of the Ohio Water Environment Association, Inc., a not-for-profit corporation founded in 1926, dedicated to the improvement of water quality in Ohio and the continuing education of water professionals. It is one of the top five member associations of the Water Environment Federation.

The ideas, opinions, concepts, and procedures expressed in this publication are those of the individual authors and not necessarily those of the Ohio Water Environment Association, its officers, general membership, or staff.

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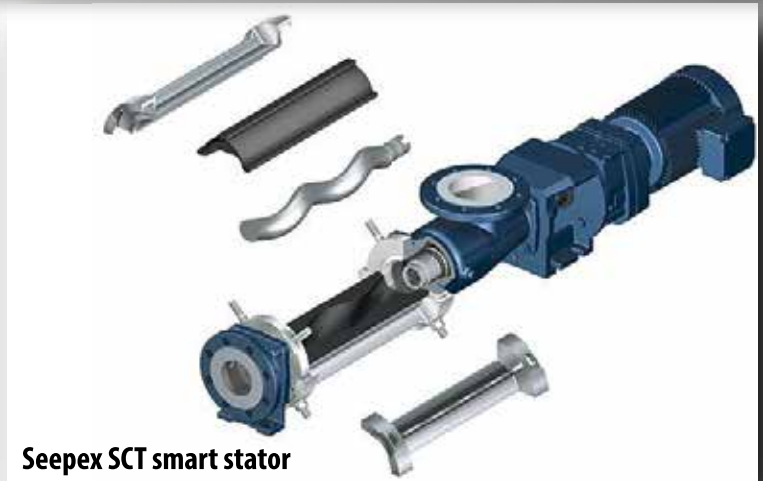
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222	1F036G1L	2F036G1L
295	1F050G1L	2F050G1L
370	1Q065G1L	2Q065G1L
435	1Q090G1L	2Q090G1L
565	1H115G1L	2H115G1L
742	1J179G1L	2J179G1L

Dimensions

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
1B072G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1B092G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1F036G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1F050G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1Q065G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1Q090G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1H115G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1J179G1L	42	16	14	12	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10



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I am hopeful that by the time you are reading this message our country and our lives are somewhat back to normal. I am also hopeful that you and your family members are all back to work; but I am mostly hopeful that you and your loved ones are all healthy and safe and we have all come through this time of crisis together. It is difficult in a time like this to write a message that I know our membership won't be reading for 3-4 weeks. I look back to just a month ago and so much has changed already. There is a new normal that seems to be continuing to change daily for all of us; however, in times like these we stand together and make the best decisions that we can with the information that we have for the good of our families, our friends and each other.



Kim Riddell-Furry
OWEA President

The Executive Committee, section officers and committee chairs have all worked very hard to put together a lot of programs that have ultimately been postponed or cancelled in these recent months and through the end of June at this time. We are very fortunate that to-date all of our state OWEA events have been able to be rescheduled including the Collections and Plant Operations / Laboratory workshops, the Wine Social and our Annual Conference. This is truly amazing as many other WEF member associations (MAs) have not been able to do so and that will potentially be a significant financial burden on them.

One thing can be said for certain; we have all come together in a variety of different ways to continue to move forward in this time of crisis:

- Employers have worked with their employees to implement work-from-home arrangements wherever possible.
- OWEA worked with OEPA to assist in getting out specific messages to our members on issues surrounding responses to COVID-19.
- OWEA and OEPA held multiple calls with member utilities to ensure that the agency was aware of any issues NPDES communities were having.
- Many of our members signed up either through OWEA or the OEPA to provide operations assistance to other communities if and when that became necessary.
- Our members have given up vacations, home-schooled their children, did the grocery shopping for our family and other loved ones, coped with isolation and in many cases continued to work at treatment plants and within collections systems.
- Our members followed the Ohio Department of Health and CDC guidelines all in an effort to protect our loved ones, our communities and each other.

I am amazed by and grateful to be a part of this

Upcoming Executive Committee Meeting Dates

June 21st, 2020

Kim is the Director of Business Development for Alloway. She has a Bachelor of Science in Biology from the University of Toledo and a Master's Degree in Organizational Management from Bluffton University. Kim resides in Delphos, Ohio with her husband Eric and her two children. Alex is working on his degree in Wildlife Management at Hocking College and Emmalee is a junior in high school. The family resides in their renovated Queen Anne Victorian home that served the Delphos community as a funeral home for over 80 years. In her spare time, Kim enjoys cooking and hosting family and friends in their home for weekend get-togethers, family holidays and their annual Halloween party.

President's Message

industry! I am looking forward to the opportunity to see as many of you as possible at our Annual Conference in Independence, OH at the Holiday Inn on August 31st through September 3rd. While conference may have to include some of our new norms like forms of social distancing or options for virtual attendance, I know that we will get through all of this together!

#InThisTogetherOhio
#TogetherAlone
#SlowTheSpread
#FlattenTheCurve

Until we see each other again, stay safe and healthy!

Kim Riddell-Furry

Executive Committee Positions Available

Interested in being part of the state executive committee? Nominations are being accepted through July 15, 2020 for the positions of WEF Delegate, Secretary-Treasurer and Vice President. If you are interested in one of these positions, send a letter of interest along with a letter of support from your employer to Nominations Chair, Ted Baker at kingsnu@aol.com.

Welcome New Members

January 2020 - March 2020

Chris Allen
Shawn Austin
Cathy Bailey
Michael Betts
Joe Blackwell
Zuri Brooks
Nathan Brune
Aaron Colson
David Cromley
Robert Culp
Eric Davis
Adam Diedrich
Chris Douglas
Wendy Dria
Elvis Eghombi
Eric Fallon
Stephen Farst
Anthony Ferrone
Emma Fox
Omkar Gokhale

Tom Goodman
Scott Hadder
Breven Hale
Kayleigh Hammond
Greg Hassler
Kevin Held
Jerry Iles
Jeremy Ingle
Laura Lair
Wesley Laub
Greg Lawrence
Eric Luckage
Pete Martin
Theresa McGeady
Tim McLaughlin
Jake Meinerding
Betsy Minnick
Ken Parks
Edward Plumb
Ben Poole

Sheila Rayman
Don Romancak
Mark Rufener
Randall Schneider
Stewart Shankel
Shaun Spiller
Erica Spitzig
Chad Stima
Richard Stockton
Jeff Stockwell
Jeff Thomas
Julie Watson-Ables
Joshua Weber
Jordan Wilhite
Philip Wright
Darcie Zirkle
Eric Zongo

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JAKE MEINERDING, P.E.

Jones & Henry Engineers is excited to share our Cincinnati Office Director and Project Manager, Jake Meinerding, has been named a Principal of the firm.



Jake notes, “I could not be more proud to be part of the future of Jones & Henry Engineers and our commitment to the water, wastewater and infrastructure industry. Working closely with Utilities and Municipalities and my involvement with organizations over the years, such as American Waterworks Association (AWWA) and Water Environment Federation (WEF), has taught me the importance of this field and how we can truly benefit society.”

Jake has been a valuable employee for over twelve years following his graduation from Ohio Northern University. At Ohio Northern, he gained his degree in Civil Engineering and the foundation was laid for his technical knowledge and

www.ohiowea.org

understanding of the problem-solving required in being a professional engineer. As he began his career in the water/wastewater treatment and infrastructure world, he sought to further enhance his skills and knowledge and took on the challenge of obtaining his Master’s Degree in Environmental Engineering from the University of Cincinnati.

Brad Lowery, P.E. and President of the firm shared, “Mr. Meinerding’s exceptional dedication to the firm and our clients made making him our newest Principal an easy choice.” He has been intricately involved in studies, designs, and construction projects and was recently the lead designer and project manager for his hometown of St. Marys’ new water treatment plant, which is currently under construction.

Jake shared he is, “looking forward to working with utilities and municipalities and our team at Jones & Henry for the rest of my career.”





AUGUST 31ST - SEPTEMBER 3RD

The date has changed but the opportunity has not! We know that things will probably look a little different but are confident our 2020 Annual Conference and Technical Program will still be amazing. There will still be engaging technical sessions and great networking. We are excited to be in our new location in Independence, Ohio and are sure that you will want to be there. Plan now to attend and give yourself something to look forward to!

Visit www.ohiowea.org/2020 to Register

Registration Options

	Early 3/2/20- 7/15/20	Late 7/16/20- 8/17/20	Onsite
Full Conference			
Full Conference Member	\$325	\$375	\$395
Full Conference Nonmember	\$445	\$495	\$515
Retired	\$175	\$225	\$235
Student	\$50	\$75	\$85
Partial Conference			
One Day Member	\$195	\$225	\$235
One Day Nonmember	\$275	\$305	\$315
Budget Option One Day Member w/lunch only	\$100	Not available after 7/15/20	
Budget Option One Day Nonmember w/lunch only	\$175		
Golf			
Golf - Team	\$360		Not available onsite
Golf - individual	\$90		
Hole Sponsor	\$250		
Exhibitor			
Exhibitor Member	\$800		Not available onsite
Exhibitor Nonmember	\$975		
Exhibitor Passport	\$200		
Booth Attendant (max 2)	\$165		\$185
Extras			
Tuesday Meet & Greet	\$100		
Wednesday Awards Lunch	\$40		
Wednesday Evening Networking	\$65		
Guest Package	\$185		
Ops Challenge Guest	\$100		

A more detailed breakdown of what each package includes is listed on the conference webpage.

Please be aware online registration is not available after August 17th. Any registrations after this date will need to occur onsite and could involve a significant wait time.

Register early and save!

Schedule of Events

Monday

8:00am - 5:00pm	Registration
8:00am - 5:00pm	Golf Outing
8:00am - 5:00pm	Ops Challenge Events
Noon - 6:00 pm	Exhibitor Setup - Ballroom & Corridor
1:00 pm - 5:00pm	Plant Tours
6:00pm - 8:00pm	Welcome Reception

Tuesday

7:00am - 5:00pm	Registration
8:00am - 5:00pm	Ops Challenge Events
7:30am - 9:30am	Breakfast
9:00am - 9:30am	Exhibitor Seminar
9:45am - 10:15am	Exhibitor Seminar
10:00am - 12:00pm	Round Table Seminar
10:00am - 11:00 am	Exhibit Hall Tour (earn one contact hour)
10:00am - 6:00pm	Exhibit Hall Open
12:00pm - 1:00pm	Lunch
12:00pm - 1:30pm	President's Lunch (by invitation)
1:00pm - 2:00pm	Exhibit Hall Tour (earn one contact hour)
2:00pm - 3:00pm	Exhibit Hall Tour (earn one contact hour)
4:00pm - 6:00pm	Exhibitor Reception - Including Ops Challenge Awards
6:00pm - 9:00pm	Exhibitor Tear Down
6:30pm - 10:00pm	Meet & Greet

Wednesday

7:00am - 5:00pm	Registration
7:00am - 9:00am	Breakfast
7:00am - 8:00am	Crystal Crucible Breakfast (by invitation)
7:00 am - 7:45 am	Early Bird Technical Session
8:00am - 11:45am	Technical Sessions (6 concurrent sessions)
Noon - 2pm	Awards Lunch
2:00pm - 3:45pm	Technical Sessions (6 concurrent sessions)
2:00pm - 3:00pm	Women's Networking Event
5:00pm - 6:00pm	YP Mixer
5:30pm - 6:30pm	Reception - 5S Induction
6:30pm - 8:00pm	Networking Reception

Thursday

7:00am - 11:00am	Registration
7:00am - 7:45am	Early Bird Technical Session
7:00am - 8:00am	5S Breakfast (by invitation)
7:00am - 9:00am	Breakfast
8:00am - 11:30am	Technical Sessions (5 concurrent sessions)

Golf

The Golf Outing will take place Monday, August 31, 2020 at Seneca Golf Course. For more information and to register go to ohiowea.org/2020.

Seneca Golf Course

975 Valley Parkway
Broadview Heights, OH 44147

Accommodations

Holiday Inn Independence

6001 Rockside Rd.
Independence, OH 44131

Group Rate: \$119/night

Go to ohiowea.org/2020 to reserve your room or call 216-524-8050 and reference Ohio Water Environment Association

Tuesday Technical Program

Round Table Seminar

9:45am-10:45am
11:00am-12:00pm

B It's All About the Dollars Part I: Rate Structuring, Management and Messaging

X
Panel led by Doug Baldessari, Baker Tilly

B It's All About the Dollars Part 2: Utility Project Funding Panel Discussion

X
Panel led by Doug Baldessari, Baker Tilly

Exhibitor Seminar

Track Information Coming Soon

ww = Wastewater

B = Both

om = Operations & Maintenance

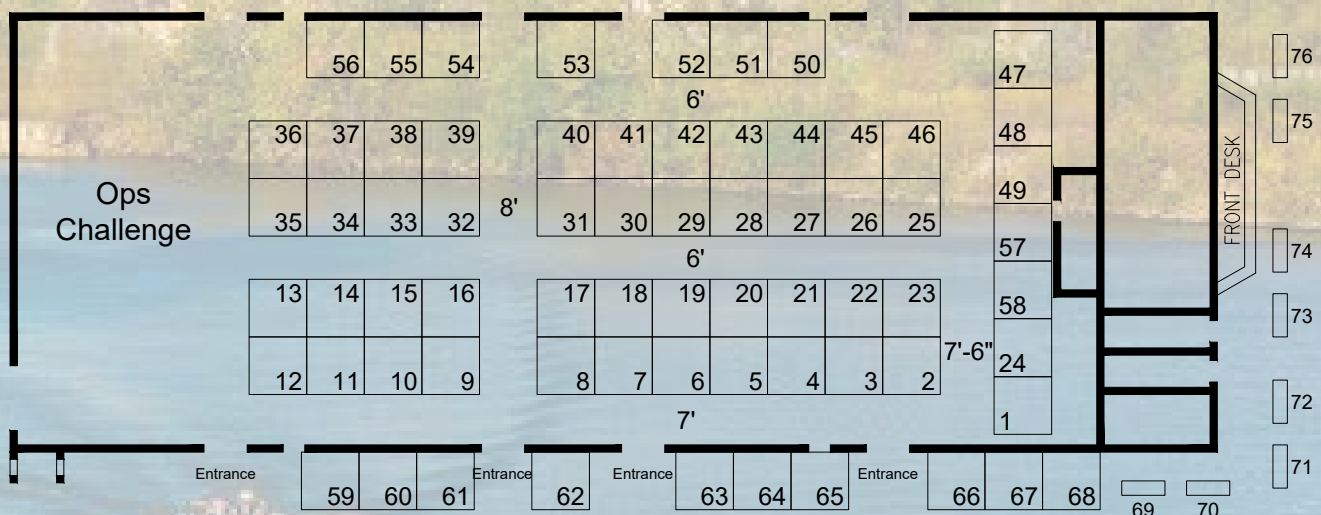
x = Other

Pending Approval from OEPA

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Energy Systems Group	15	Ulliman Schutte Construction	49
Environmental Express	18	Usabluebook	72
Environmental Operating Solutions, Inc. (EOSi)	7	VEGA Americas, Inc	57
Enviroscience Inc	35	YSI, a Xylem brand	48
Eurofins TestAmerica	75	Zimmerman Steel & Supply Co.	22

Exhibitors as of May 1, 2020



Wednesday Technical Program

Six Concurrent Sessions

	Nutrients	Planning & Design	CSO
7:00am-7:45am	<p>WW Improve Clarifiers with “Secret” Features from Yesteryear</p> <p>OM</p> <p>Amber McDonough, Black & Veatch; Jim Fitzpatrick, Black & Veatch</p>		
8:00am-8:45am	<p>WW Summary of Agricultural Phosphorus Reduction Demonstration Program</p> <p>X</p> <p>Rick Johnson, Applied Environmental Solutions</p>	<p>WW Regionalization: From a Vision to a Reality in the Valley</p> <p>OM</p> <p>Phil Lewis, K.E. McCartney & Associates; Matt Witter, K.E. McCartney & Associates</p>	<p>WW Peak Flow Dual-Use Filters Also Help Meet Dry-Weather Goals</p> <p>OM</p> <p>Bob O’Bryan, Black & Veatch</p>
9:00am-9:45am	<p>WW Sidestream EBPR Also Improves Mainstream Settling</p> <p>OM</p> <p>Rob Smith, Black & Veatch; Jim Fitzpatrick, Black & Veatch</p>	<p>WW Beneficial Biogas - Lakewood’s Design Build Digester Upgrades</p> <p>OM</p> <p>Timothy McCann, AECOM; Mirko Kucinic, City of Lakewood; Todd Schurig, Kokosing Industrial; Shawn Aiken, CT Consultants</p>	<p>WW Wet Weather Treatment Strategies at the NEORS D Easterly Plant</p> <p>OM</p> <p>Bob Bonnett, Northeast Ohio Regional Sewer District; Bob Hrusovsky, Stantec</p>
10:00am-10:45am	<p>WW Low Cost Nitrogen Removal and Optimization</p> <p>OM</p> <p>Alyssa Mayer, Hazen and Sawyer; Giles Thrift, Butler County Water and Sewer</p> <p>★ YP Paper Winner</p>	<p>WW An Integrated Approach to Optimizing Solids Handling for the Northeast Ohio Regional Sewer District</p> <p>OM</p> <p>Christine Umerley, Black & Veatch; Bob O’Bryan, Black & Veatch</p>	<p>WW Collection System Engineering and the application of passive hydraulic controls, to maximize in-system storage and avoid flood risk</p> <p>OM</p> <p>Muralikrishna Chelupati, Stantec</p>
11:00am-11:45am	<p>WW Nutrient and Energy Reduction with Low DO Operations</p> <p>OM</p> <p>Don Esping, Brown and Caldwell</p>	<p>WW A Second Look at CSO Control - City of Fostoria LTCP Improvements</p> <p>OM</p> <p>Adam Athmer, Strand Associates, Inc.; Todd Jenkins, City of Fostoria</p>	<p>WW Southerly CEPT: Startup and Operational Demonstration</p> <p>OM</p> <p>Darin Wise, City of Columbus Southerly WWTP; Anisa Hardin, Burgess & Niple; Christie Ruffner, Burgess & Niple; Kurt Kinney, Arcadis</p>
2:00pm-2:45pm	<p>B Achieving Low Nutrient Limits with Non-Hazardous Supplemental Carbon Sources</p> <p>OM</p> <p>Brendan M Luther, EOSi; Mahsa Mehrdad, PhD., EOSi</p>	<p>WW Saving Energy and Money through Better Wastewater Treatment Plant Mixing</p> <p>OM</p> <p>Michele Braas, Xylem Flygt Products</p>	<p>WW How Lakewood Crafted Ohio’s First Fully Integrated CSO Plan</p> <p>OM</p> <p>Joe Crea, Raftelis; Katelyn Milius, City of Lakewood</p>
3:00pm-3:45pm	<p>WW Kicking the Chemical Habit: Operational Modification of a “BNR” Oxidation Ditch for Phosphorus Removal</p> <p>OM</p> <p>Jon van Dommelen, Ohio EPA</p>	<p>WW Multi-Cell Aerated Lagoon Upgrade with MBBR Solves a Compliance Problem for Ohio Village</p> <p>OM</p> <p>Dale Kocarek, P.E., Stantec; Michael Betts, P.E., Stantec</p>	<p>WW Better Pathogen Removal by EHRT than Activated Sludge Alone</p> <p>OM</p> <p>Jim Fitzpatrick, Black & Veatch; Bob O’Bryan, Black & Veatch</p>

WW = Wastewater

B = Both

OM = Operations & Maintenance

X = Other

Pending Approval from OEPA

Construction & Project Delivery

Collections

Pretreatment & Lab

7:00am-7:45am	<p>WW Improve Clarifiers with “Secret” Features from Yesteryear</p> <p>OM</p> <p>Amber McDonough, Black & Veatch; Jim Fitzpatrick, Black & Veatch</p>		
8:00am-8:45am	<p>WW Curved Microtunneling: A Method to Minimize Disruption</p> <p>OM</p> <p>Nicholas D. Mill, P.E.; EMH&T; Guadalupe Monge Fabian, P.E.; Aldea Services Inc.</p>	<p>WW Control what you can, accept what you can’t. How CMOM can reduce the impact of SSO?</p> <p>OM</p> <p>Dan Porter, Brown and Caldwell; Mike Erkkila, Lake County Department of Utilities; Gary Fedak, Lake County Department of Utilities; Steve Donovan, Brown and Caldwell</p>	<p>WW Trying to find a correlation: TOC and BOD</p> <p>OM</p> <p>Paul Skerl, NEORSD; Deb Bhattacharyya, NEORSD</p>
9:00am-9:45am	<p>WW NEORSD Southerly WWTC - The Operational Benefits and Challenges of a 400-mgd “Squirle” Final Clarifier Retrofit</p> <p>OM</p> <p>Jeffrey Ifft, Brown and Caldwell; Harry Shaposka, NEORSD</p>	<p>WW Preventing Flushable Wipes Clogs in Smaller Collection Systems: Minimal Service Required</p> <p>OM</p> <p>Steve Dill, Duperon Corporation</p>	<p>WW Best Laboratory Practices for Accurately Measuring Common Wastewater Parameters</p> <p>OM</p> <p>Claudia Worley, YSI</p>
10:00am-10:45am	<p>WW Construction Challenges at the Euclid WWTP - EQ, Headworks and MBR construction while maintaining average daily flow.</p> <p>OM</p> <p>Lesley Gordon, CT Consultants; Tom Voldrich, CT Consultants</p>	<p>WW Prioritizing Field Work for LSES Projects using SSOAP</p> <p>OM</p> <p>Chris Pack, HDR; Bill Fussner, NEORSD</p>	<p>WW Analysis of Microcystins in Wastewater using LC-MS/MS</p> <p>OM</p> <p>Muhammad Ramzan, NEORSD</p>
11:00am-11:45am	<p>WW Successes & Failures: Insights on Sewer Rehabilitation Using SPR</p> <p>OM</p> <p>Sierra McCreary, Black & Veatch</p>	<p>WW Inspecting 100 year old sewers--which one to inspect first?</p> <p>OM</p> <p>Cecilia Mazzei, City of Cleveland Division of Water Pollution; Elizabeth McIlwee, AECOM</p>	<p>WW 5 Questions to Ask When Designing a Water Quality Monitoring Network</p> <p>OM</p> <p>Justin King, YSI</p>
2:00pm-2:45pm	<p>B What Public Officials Need to Know about Delivering Projects</p> <p>X</p> <p>Mike Keller, EMH&T</p>	<p>WW The City of Columbus Odor and Corrosion Control Program: Then & Now</p> <p>OM</p> <p>Lee Weber, P.E., Black & Veatch; Jeremy Cawley, P.E., City of Columbus</p>	<p>Session Information Coming Soon</p>
3:00pm-3:45pm	<p>B City of Napoleon’s Use of GIS to Support Operational Needs</p> <p>OM</p> <p>Justin Batt, Stantec; Siena Van Horne, Stantec</p> <p>★ YP Paper Winner</p>	<p>WW Utilities are Finding Relief with a New Approach to Cleaning</p> <p>OM</p> <p>Jay Boyd, IDEX Corp.</p>	<p>Session Information Coming Soon</p>

WW = Wastewater

B = Both

OM = Operations & Maintenance

X = Other

Thursday Technical Program

Five Concurrent Sessions

	Biosolids	Modeling	Utility Management	Operations	Unique Planning Concepts
7:00am-7:45am	Early Bird Session Information Coming Soon				
8:00am-8:45am	<p>WW Combining medium temperature dryer with a furnace based energy recovery system to treat PFAS laden sludge</p> <p>OM</p> <p>Sudhakar Viswanathan, Veolia</p>	<p>WW An integrated all-pipes CSO model: hydraulics and pollutants</p> <p>OM</p> <p>Mark Delisio, P.E., CT Consultants; Mark Papke, P.E., City Engineer</p>	<p>B Fixing Those</p> <p>X Affordability Challenges Requires a Full Toolbox</p> <p>Joe Crea, Raftelis</p>	<p>WW Non-clog Pump Selection: More than Just an Operating Point</p> <p>OM</p> <p>Bo Copeland, P.E., Hazen and Sawyer</p>	<p>B Cameras, iPads, and Other Things you Shouldn't Drop in Water</p> <p>X</p> <p>Joe Blackwell, Wade Trim Associates, Inc.</p> <p>★ YP Paper Winner</p>
9:00am-9:45am	<p>WW Effective Monitoring of Sludge Inventory to Optimize Sludge Concentration</p> <p>OM</p> <p>Benjamin Barker, YSI Inc, a Xylem brand</p>	<p>WW Directly Comparing 3D Models & Reality via Augmented Reality</p> <p>OM</p> <p>Megan Miranda, Arcadis; Seth Grimes, Arcadis</p> <p>★ YP Paper Winner</p>	<p>B Growing Pains: Modifying Rates to Meet the Changing Needs of Modern Utilities</p> <p>X</p> <p>Julianne Amenta, Hazen and Sawyer</p>	<p>WW Dual Disinfection of Wastewater Effluent with Peracetic Acid and Sodium Hypochlorite</p> <p>OM</p> <p>Achal Garg, Metropolitan Sewer District, City of Cincinnati</p>	<p>WW Going For Broke: Operating a Plant Scheduled for Abandonment</p> <p>OM</p> <p>Michael Ritter Jr., County of Summit Department of Sanitary</p>
10:00am-11:30am	<p>WW Ohio EPA Update</p> <p>OM</p> <p>Tiffani Kavalec, Ohio EPA</p>				

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Pending Approval from OEPA

The technical program is subject to change. Please visit ohiowea.org/2020 for most current schedule.

2020 Young Professional Award Winners

by Lindsey Hassenauer, Hazen and Sawyer, Chair, lhassenauer@hazenandsawyer.com

Each year the Young Professionals Award is given to one young professional from each section with an outstanding abstract to be presented at the annual conference. To be eligible, the person must be 35 years of age or less or have less than 5 years of experience in the wastewater industry.

The winners receive full conference registration from OWEA and an award from their Section to cover a 2-night hotel stay. The YP Award winners also present their topic at the annual conference. We had 25 YP abstracts submitted for consideration this year! As always, the YP committee members were impressed with the quality of all of the abstracts, and I would like to thank all the YPs who submitted. Keep up the good work!

This year's winners are presented below (note, their presentation may be co-presented with others who are not listed below). Be sure to sit in on their presentations at the 2020 Technical Conference and Expo!



Northeast Section: Joe Blackwell, Wade Trim

Presentation Title: Cameras, iPads, and Other Things You Shouldn't Drop in Water

Joe Blackwell, EIT is a Water Resources Engineer at Wade Trim. Based in Cleveland, he has worked on a variety of projects, including the Heights-Hilltop Local Sewer System Evaluation Survey developing system improvement costs and maps based on potential improvement alternatives. Joe spent most of 2019 working on the CHALET Stormwater Masterplan project for the Northeast Ohio Regional Sewer District developing stormwater models for various subwatersheds in the study area and serving as task lead for spherical imagery collection. Before joining Wade Trim Joe worked for Haley & Aldrich as a field engineer providing oversight for environmental remediation projects, conducting daily operations, maintenance and monitoring of a groundwater extraction and migration systems for General Motors, and calculating manufactured/processed quantities of hazardous chemicals under the requirements of SARA Title III, section 313 for clients in heavy manufacturing. Joe earned his Bachelor of Science in Civil Engineering from the Ohio State University.

Presentation Abstract: Wade Trim has utilized modern technology to support field data collection for the Northeast Ohio Regional Sewer District's (District's) Chagrin River and Lake Erie Direct Tributaries Stormwater Master Plan (CHALET) project. Modular Immersive Mapping System (Spherical Imagery) is Google Streetview style imagery which was collected in approximately 80 miles of stream within the

CHALET system to assist in many facets of the project, including supporting RSS asset inspections, H&H model development, and performance improvement alternatives development and evaluation efforts. Field data collection for CHALET is also supported using iPads distributed to field staff for various project tasks. The iPads were equipped with the District's Collector app, which provides valuable District enterprise data for field staff to access during inspections and evaluations. More detail on CHALET's overall scope, technologies used to support field activities, and lessons learned in the process will be discussed in the presentation.



Southeast Section: Megan Miranda, Arcadis

Presentation Title: Directly Comparing 3D Models & Reality via Augmented Reality

Megan Miranda is a Professional Engineer from Columbus, Ohio with a keen interest in improving how work is performed and delivered utilizing innovative digital techniques. She has 9 years of experience with Arcadis, designing water and wastewater treatment systems, conducting GIS-based analysis, utilizing BIM tools for quality control, designing custom scripts to enable collaboration between firms, supporting development of an online project and construction management information system, developing engineering tools, and providing training for emerging technologies. Megan holds a Bachelor of Science degree in Civil Engineering from the Rose-Hulman Institute of Technology, as well as a Master of Science degree in Environmental Engineering from the University of Houston. She is a certified Professional Engineer (PE), Geographic Information Systems Professional (GISP), Envision Sustainability Professional (ENV SP), and Construction Documents Technologist (CDT).

Presentation Abstract: New, innovative Augmented Reality (AR) tools and technologies are serving to revolutionize on-site experiences for design and construction field work. Through the use of hands-free tools utilizing Microsoft's HoloLens and Visual Live 3D software, personnel gain the ability to overlay a facility's BIM model at full scale directly on top of existing facilities. This quality assurance tool allows the user to catch issues quickly, minimizing rework and associated costs. No drawing sets, no on-site internet connection, minimal design familiarity, and no measuring is required in order to compare construction or existing facilities to the model. This presentation includes a case study showcasing examples of this tool in action at an active wastewater treatment plant construction site in Columbus, Ohio and describes the workflow used to make this AR experience possible.



Southwest section: Alyssa Mayer, Hazen and Sawyer

Presentation Title: Low Cost Nitrogen Removal and Optimization

Alyssa Mayer is a Senior Principal Engineer at Hazen and Sawyer in their Cincinnati office. She is a Professional Engineer registered in the state of Ohio with 8 years of experience in wastewater process

evaluation and facility design. Ms. Mayer currently specializes in wastewater treatment process modeling and has been involved in modeling and nutrient removal optimization projects at over 30 wastewater treatment plants throughout the country. She has a B.S. and M.S. in environmental engineering from University of Michigan. She is a member of the WEFTEC Facility O&M Symposium Committee and is the Co-Chair of the SWOWEA Plant Operations Committee.

Presentation Abstract: In 2019, Butler County Water and Sewer initiated a project with Hazen to evaluate strategies to implement nitrogen removal in the existing process at the LeSourdsville WRF with low cost improvements. A process model was used to evaluate potential operating configurations and step feed BNR with intermittent aeration was selected and implemented. An aeration control strategy was developed to provide automatic control of five motorized air valves on each basin. Intermittent aeration is achieved by rolling unaerated conditions progressively down the basins and then repeating the cycle continuously. This combined with step feeding influent to these anoxic zones provides conditions for denitrification. Optimization of the operating parameters is currently being performed in the field, but the preliminary model predictions estimate approximately a 2 mg/L- 5 mg/L reduction in effluent TN at average temperatures. This presentation will describe the process modeling and full-scale implementation of intermittent aeration and step feed BNR.



Northwest Section: Justin Batt, Stantec

Presentation Title: City of Napoleon’s use of GIS to Support Operational Needs

Justin is a Project Manager within the Water Group at Stantec, joining the Toledo office in 2013. He graduated from the University of Toledo with a bachelor’s degree in Construction Engineering Technology in 2008 and decided to return to the University of Toledo in 2011 to obtain a master’s degree in Civil Engineering. With Stantec, he has focused on local water and wastewater projects for municipalities for the past 7 years. He has been involved in several projects for the City of Napoleon, including performing various field studies, hydraulic modeling and long-term planning for their Wet Weather Program since 2014. More recently, he has worked with Andrew Faley and Siena Van Horne on the development of Napoleon’s GIS program. Justin and his wife are both from the Northwest Ohio area and live in Holland, Ohio with their newborn son.

Presentation Abstract: Stantec has been working with the City of Napoleon to develop an enterprise GIS program over the past 5 years to support its daily operations. Working through a phased approach “quick-win” features were targeted to utilize existing data to allow City Staff to see the benefits of a GIS program early in development. From there the program has incorporated the public utility system through existing CAD files and record drawings and started to refine the database to meet the City’s needs. There have also been efforts to improve the City’s ability to update features directly in the field with the use of high accuracy GPS receivers and the ESRI Collector mobile application. In its current state, the City’s ArcGIS Online (AGOL) interface has applications/features that are used by multiple departments. Moving into 2020, the focus will be to continue to expand/improve the available features and begin training City Staff in the management of their GIS program.



WEA 2020
AUGUST 31ST - SEPTEMBER 3RD

Operations Challenge Invitational

OWEA is proud to announce they will be hosting an Operations Challenge Competition and National Invitational as part of our 2020 Technical Conference and Exhibition

- ◆ 12 team spots available
- ◆ 6 spots held for invitational teams

\$100 Team Registration (up to 5 people) includes:

- ◆ Breakfast on Monday
- ◆ Lunch on Monday
- ◆ Welcome Event Monday evening
- ◆ Breakfast on Tuesday
- ◆ Lunch on Tuesday
- ◆ Entrance to Exhibit Hall on Tuesday
- ◆ Tuesday Reception where Ops Challenge awards will be presented
- ◆ Tuesday Meet & Greet

Registration and details at www.ohiowea.org



Process Control

2020 Operations Challenge Invitational

Laboratory

Test Your Skills!
 Meet and compete with fellow Operations Challenge teams

Collections

Great way to prepare for 2020 National Competition in New Orleans

Maintenance

Visit www.ohiowea.org for details

Safety

Don't Miss It!

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 Columbus, OH 43212
 614.488.5800
www.ohiowea.org
info@ohiowea.org

Maintenance Event

Wipes, Ragging, FATBERGS... Oh My! A lift station trouble alarm was received via the SCADA system at the Operations Control Center. A crew has been dispatched to troubleshoot the alarm. The teams will need to troubleshoot the electrical control panel, perform routine maintenance on the submersible pump and wet well, and then ultimately restore the pump station back to normal operating condition. While troubleshooting the alarm, it has been decided to replace the impeller of the pump to prevent continued calls due to clogging – all because of wipes. In a first for this event, we will be using a “live” pump and wet well. In the last step of the event the teams will be testing the pump to be sure their work was successful.

Safety Event

While a facility crew is working, two of the workers collapse inside the bottom of a (confined space) lift station unconscious, ladder already set-up in the manhole. It is suspected that one victim has been electrocuted and the second has collapsed for some unknown reason. The in-plant rescue team is immediately called to the scene. Two members of the team will enter the confined space, and rescue the downed workers. After the first victim is removed from the confined space, CPR will be performed while recovery of the second victim is completed. LOTO of electrical will need to be performed for entry and CPR will be administered to one of the victims.

Process Control Event

This event consists of a written test and computerized process simulator meant to evaluate an operator’s knowledge of WRRF process control. The written test is made up of four main sections: short math, multiple choice, extended multiple choice and longer process scenario questions. Point values range from 10 for multiple choice to 200 for the process control scenarios in the written portion. The process simulator will be run by each team on a laptop that will be provided. The process simulation software is provided by Hydromantis and will be the same for each team. Each scenario lists a set of goals and points are awarded for the number of goals achieved.

TWO DAY
COMPETITION!

**AWARDS WILL BE PRESENTED
ON TUESDAY AT THE EXHIBITOR
RECEPTION.**

Collection Systems Event

How long do you think it would take you to cut through an 8” SDR-35 pipe with a hand saw? No battery powered Sawzall® here. 30 seconds . . . how about 45 seconds? Unless you can be around 20, don’t even try. The object of the Collections Event is to cut out a 1’ – 2’ section of broken sewer line from a six foot long pipe, replace it with another unbroken section using two Ferncos®, and install a new saddle connection on the fresh pipe. You have four team members: who cuts what, and when? Choreographed chaos is the best way to describe the event. Complete the whole thing in less than two minutes and you might just be fast enough to be the winners.

Laboratory Event

One of the primary functions of your treatment plant is removing solids from the waste stream. In order to do this effectively and efficiently you must first know where the solids are throughout the plant. The lab event requires you to complete analysis for total suspended solids from samples collected throughout a WWTP. This event will require the preparation of filter paper for drying for each of the samples. You will also complete a total dissolved solids analysis of each sample using a calibrated YSI MultiLab instrument. Team members will then weigh pre-dried filter paper samples and complete calculations for total suspended solids on each sample. Bench sheets will need to be completed properly in addition to proper performance of such techniques as measuring with graduated cylinders, pipetting, use of a balance, and basic math skills.

Working in the Middle of a Pandemic...

Whether you are a frontline operator, engineer, lab analyst, support staff or salesperson, COVID-19 has changed how, and often, where you are working. All Water Warriors are working through what is our new normal and we felt the best way to caption all that is going on during this pandemic is through photos.

We hope that pictures memorialize all that has happened and how our world will probably look different for quite some time.

All water professionals, regardless of what their workspace looks like, are trying to figure out how to navigate this situation. We are in this together. As you always do, you will change and shift, try and fail, and ultimately figure it out because you are **ESSENTIAL** and will always be our **FIRST LINE OF DEFENSE IN PROTECTING OUR MOST PRECIOUS RESOURCE OF WATER.**

Special thanks to all OWEA members that submitted photos for this spread.



Photo Courtesy of Governor DeWine's office





Workspace Changes

Empty parking lots, home offices, social distancing signage



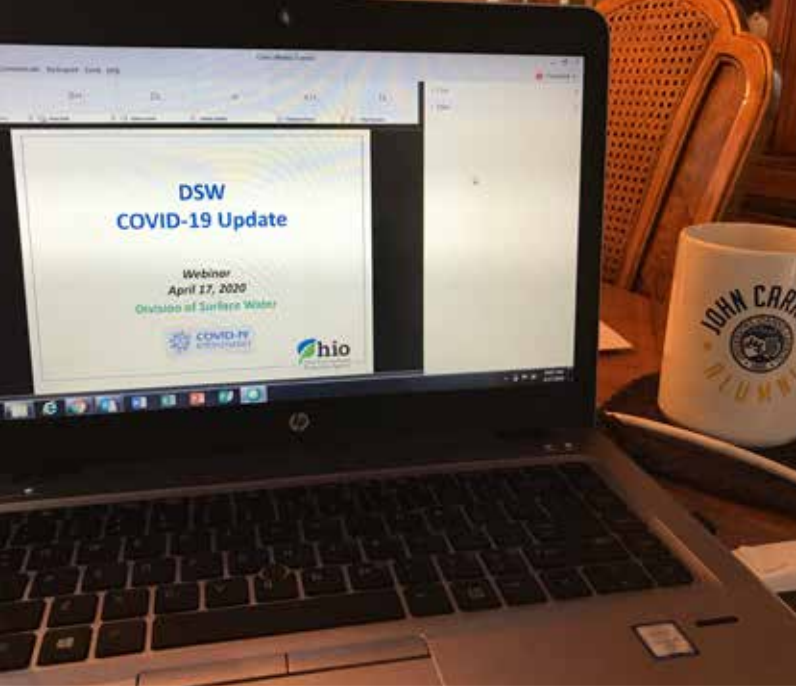
IN AN ATTEMPT TO HELP PREVENT THE TRANSMISSION AND SPREAD OF THE COVID-19 CORONAVIRUS, EFFECTIVE IMMEDIATELY, THIS OFFICE IS CLOSED TO THE PUBLIC.

SHOULD YOU HAVE OFFICIAL BUSINESS PLEASE CALL (Jeff Lamson) AT (419-334-3876). THANK YOU!



Protocol Changes

Additional cleaning, limiting contact with coworkers



Communication Changes

Webinars, Press Conferences, Zoom calls, providing additional educational messaging to the public, talking to coworkers from different rooms to respect social distancing



Photo Courtesy of Governor DeWine's office



Remember, no wipes in the pipes | Collection Reminder - See Below

 City of Columbus 8:00 PM
To You ...

THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

**Collection
Reminder**





“Coworker” Changes

Balancing working from home with kids, online schooling, pets, and spouses



Tradition Changes

All of spring has looked a little different this year

Photo Courtesy of Stacy Pendergest-Sandlin



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Developing and Retaining Employees

by Thomas B. Merritt, President, H.R. Gray

During my years as a public employee, I was driven by a commitment to serve the community. Early in my career, I was fortunate to have managers who placed their trust in me. They provided me with the responsibilities and opportunities to grow and gain confidence in assigned projects. I learned a lot about myself during my tenure in the public sector including what motivated me. I also learned as much as I could about how the organization operated, what challenges it faced and what actions drove success. During these observations, I saw a range of management styles, uncovering similarities in how the most successful leaders managed their teams. These included how they communicated with their employees, handled challenges and dealt with employees' unique work styles, as well as their ability to create an environment in which employees strive to perform.

These managers also had something else in common. They led by example and did more than just talk about communication, empowerment and trust—they were known as leaders who “walked the talk.” Too often, leaders appear to embrace the theory, yet fall short when it comes to turning their talk into action. I once worked

with a manager who wore a ball cap with the letters MBWA on the cap. He was proud to explain to everyone that MBWA was the acronym for “Management by Walking Around.” Ironically, the only time this person walked around his employees was when he was asking for a donation for something or berating us. Not very motivating, not too effective and most definitely not a great example of good management.

I had a much better experience with a manager who took time to speak with me, ask about my family, my job duties and challenges, and what he could do to help. Sincere and consistent communication by managers with their teams can go a long way in motivating employees to be more invested in the role they play in the organization's success.

Creating an environment where your employees feel valued and trusted will help you and your team identify and implement new ideas as well as solutions to challenges. Leaders who underestimate or ignore their employees' desire to contribute are missing a huge opportunity to not only improve the overall success of

The People Place

This Buckeye Bulletin series focuses on the people side of our industry, hence the title: The People Place. Traditionally, the Buckeye Bulletin comes loaded with mountains of technical pieces: plant profiles, industry trends, regulatory insight, project overviews, etc., which, without proper ‘people-care’ would not be possible! After all, your organization can only be as successful as the health, wellness, and productivity of your people and culture. Focus areas of this series are topics such as leadership, management, health and wellness, succession planning, work/life balance, recruiting/retaining, change management, knowledge transfer, career laddering/branding, etc. We hope you enjoy this series as much as we are excited to bring it to you! If you are interested in submitting an article or specific focus area, please contact Jason Tincu. (jtincu20@gmail.com) Thank you!



their organization, but to also create an environment where employees can develop professionally, are empowered and more satisfied in their jobs.

Why development and retention of employees is so important

Whether in the public or private sector, most leaders will agree that developing and retaining good employees is a top priority. Not only does high turnover impact the organization's bottom line, the lack of employee motivation and the failure to invest in knowledge transfer and leadership training can seriously stunt success and future growth.

The scarcity of qualified employees, a tight job market and the competition's willingness to pay your employee more than your budget allows are also reasons why employee retention is so critical. The financial impact of turnover can be significant. An organization's direct investment in each employee through training and experience is difficult to recover if that employee leaves. In addition, there are side effects to turnover that can include lowered productivity and an increased workload for you, your team, your HR department and others within the organization. To combat turnover, insightful leaders have identified solutions like expanded training programs and employee surveys. By providing the tools for career path success, creating a work environment that rewards creativity and trust, giving employees a voice, and delivering a good work-life blend, these leaders are turning the tide on turnover.

While the public sector leader may feel particularly challenged in identifying and implementing actions that are effective while still meeting the rules and requirements of their agency, there are some simple steps that a creative and thoughtful leader can take to be successful, no matter how structured the work environment. For example:

- Whether managing two employees, a team, a large department or an entire organization, recognize that each of your employees brings their individual

strengths to the table.

- Engage with your employees, i.e. know them by name, talk with them, ask questions and say, "thank you." A simple and effective way to get to know your team is to periodically share a brown bag lunch with them.
- Create an environment where you are accessible and willing to provide support, guidance and insight.
- Really listen to your employees and let them know that you hear them.
- Communicate your vision and where employees fit into that vision.
- Consistently recognize the value and contribution of your employees, personally and in public settings. Spotlighting achievements through programs like employee-of-the-month and in team meetings are two good examples.
- Provide opportunities for your employees to attend meetings to which they would not typically be invited.
- Create growth opportunities for employees which could include public speaking or presenting the results of a team project to other employees, teams, organizations, or at professional conferences. OWEA, for example, offers many great speaking opportunities.
- Empower your team to do the best thing for the customer.

The financial cost for these initiatives is minimal, but the pay-out in terms of employee satisfaction and motivation is immeasurable.

Additionally, employees respond well when they can see that their contributions in the workplace

serve a greater purpose in the community or beyond. This presents a great opportunity for managers to ensure that their employees clearly understand the organization's mission to serve the public and/or protect the environment. Improving the quality of life, creating a safer and healthier environment and providing more efficient transportation operations are all great examples of honorable and genuine achievements. Most small and large businesses promote "giving back to the community" through volunteerism and events, enabling their employees to form a stronger sense of team and take pride in their efforts that benefit the communities where they live and work. By the sheer nature of the work they do, public sector employees are giving back to their communities every day.

Furthermore, simple investments such as hosting lunch-and-learn sessions can lead to increased awareness about new initiatives within your organization and provide insights into the latest technologies or processes. These sessions, along with ongoing training opportunities, will demonstrate to your employees that you are invested in their development and their future within the organization.

What H.R. Gray is doing to develop and retain its employees

Several years ago, we at H.R. Gray had what I like to call an Aha! moment—the realization that success in developing and retaining employees begins with hiring the right people. We recognized the importance of attracting candidates who not only were a good fit with the position, but also with the company's culture and values. We integrated new steps in the hiring process that included scheduled time with their potential supervisor and peers as well as a visit to an actual jobsite. By taking the time to ensure the right fit for both the candidate and H.R. Gray, we subsequently saw a reduction in turnover and the development of a more cohesive team.

This change in our hiring philosophy has led to increased satisfaction among our employees. For the past six years, H.R. Gray has been recognized as a Top

Place to Work. We achieved this pinnacle by hiring those who are a fit with our organization and by creating an environment in which consistent communication, recognition, empowerment and reinforcement of employees' roles in our organization's future are embedded in our culture. We also developed career path criteria for every job classification which outline the various trainings, certifications and experience required for each. These criteria give employees a clearly defined path to advancement within the company and empower them to take ownership of their career.

Additionally, we rolled out employee surveys to encourage open and honest feedback. While these surveys can provide great insights, it's not a one-and-done effort. Managers should be prepared to investigate and address any issues that are identified in their surveys or in other forums that enlist feedback. The most important takeaway from gathering feedback is to pay attention to the responses you receive. If there is a problem or perceived problem, own it and take the necessary actions to address it.

Communication is the cornerstone in H.R. Gray's development and retention strategy. Our employee newsletter, for example, was created to spotlight new employees, personal milestones like births and professional recognition and certifications. This is particularly effective in that recognition shared among peers is a powerful motivator. When we celebrate our achievements in a broadly read forum like a newsletter, we are demonstrating our organization's belief in the value that these employees bring to the business.

In addition, our company conducts quarterly online meetings that provide employees with insights into the overall business operations. Content typically includes an overview of the company's financial metrics, project successes and targeted job opportunities. These insights provide employees with the "big picture" and helps them see how they play an integral role in the company's long-term success.

Painting the picture of the short and long-term goals of the organization is a valuable tool in gaining input

from employees and instilling a sense of progress and belonging. To ensure employee buy-in, leaders must clearly communicate that the organization is forward focused and recognize the employees' contributions to its success and growth.

While newsletters and webcasts are just two examples of communication tools leaders can utilize, we have seen great results at H.R. Gray since launching these initiatives. Our employees are more engaged and feel part of the bigger team. I have also observed an increased sense of belonging among our employees and a greater understanding of the services we offer that benefit our customers and communities.

The principles and solutions I've outlined here work well in agencies of all sizes, whether public or private. For leaders to succeed, no matter the size of the organization, it is important to start by developing a team of managers or subordinates whom they can trust and empower to communicate with their teams and manage their respective areas of responsibility. There should be no room for a manager who doesn't know or ignores his or her employees' strengths, motivations, goals and aspirations. Every manager at every level should know their employees in order to create the best work environment for everyone. Employees who feel respected, valued and motivated become more invested in the organization and are less likely to look for employment elsewhere.

Attracting, developing and retaining employees are major stressors for most leaders, but they don't have to be. Creating an environment with a clearly defined culture where communication is in the organization's DNA and where your employees feel valued, trusted and empowered, will lead to a happier, higher performing team who are more satisfied in their jobs and less likely to leave. This should be the goal of every leader and organization.

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WEF Utility Partnership Program

The WEF Utility Partnership Program (UPP) is designed to allow Ohio utilities to join WEF and OWEA while creating a comprehensive membership package for designated employees. Utilities can consolidate all members within their organization on to one account and have the flexibility to tailor the appropriate value packages based on the designated employees' needs. Key benefits include:

- UPP is fully customizable, based on the needs of each utility, and a WEF team member will be on-hand to walk each utility through the enrollment process.
- ALL members at the utility will be enrolled, with synchronized begin and end dates, on ONE invoice, for an easy one-time per year payment.
- All members, who were already WEF members, retain original membership number, credit for all years of membership, and remain a full-voting WEF member.
- ALL employees at the UPP utility will be eligible for membership registration rates at WEFTEC, as well as the early-bird rate for Premium and Standard WEFTEC registration at anytime throughout the registration period.
- ALL employees at the UPP utility will also be eligible for member rates for the OWEA Technical Conference and Exposition, OWEA Workshops, and events.
- All employees at the utility will be eligible to register for a WEFTEC Exhibition-only pass at NO-Charge.
- WEFTEC registrations can be included in the UPP Membership transaction at the time of enrollment or can be grouped and submitted closer to WEFTEC.
- UPP also includes a special, NO-Charge membership for Public Officials designated by the Utility, at their discretion.
- Up to five new WEF/OWEA members can be added by the utility each year, at no charge for the first year of membership.
- UPP utility will be eligible for distributor pricing on all WEF products and services – that's 40% off list pricing. In addition to traditional items this discount also extends to online learning in the new WEF Knowledge Center.
- UPP members will be eligible for special discounted registration for other WEF Conferences and events.

OWEA currently has 33 municipalities signed up for the Utility Partnership Program. To learn about the benefits for your utility visit <http://www.wef.org/UtilityPartnership/>

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Butler County Water and Sewer
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City of Canton
City of Celina
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City of Warren
Clermont County Sewer District
Delaware County Regional Sewer District
Fairfield County
Fremont Water Reclamation Center
Greene County Sanitary Engineering Dept
Lake County Dept. of Utilities
Metropolitan Sewer District of Greater Cincinnati
Montgomery County Environmental Services
Northeast Ohio Regional Sewer District

Oxidation Reduction Potential, a Versatile but Misunderstood Wastewater Treatment Monitoring Parameter – Part 1

by Rob Smith, Black & Veatch and Ben Barker, YSI

This is the first of a 2-part article on the parameter oxidation reduction potential (ORP) which describes oxidation reduction reactions in water and wastewater treatment and interpretation of the ORP parameter. Part 2 will examine case studies of the application of ORP for process control.

Oxidation reduction (redox) reactions have a central role in water quality management. Biologically mediated redox reactions reduce the oxygen demand and toxicity of polluted water and facilitate the removal of nutrients which fuel growth of aquatic plants in the environment. In addition, chemically-mediated redox reactions eliminate pathogens from treated liquid effluent and destroy odor-causing compounds in gases released from sewers and treatment processes. A sample of redox reactions that occur in water and wastewater treatment are shown in Table 1.

The status of redox reactions is vital information for the operation of treatment processes employed to achieve water quality objectives. It is possible to monitor many of the critical redox reactions in water treatment by directly monitoring the increase or decrease of parameters involved in the reactions. However, it may not be practical to monitor all the relevant parameters for every reaction. Alternatively, oxidation reduction potential (ORP) can be used to directly monitor the redox status of the sample environment with a sensor that is easy to operate and relatively inexpensive. The drawback is that the measurement is non-specific such that it can be complicated to interpret.

This article explains the principles of ORP and provides several examples of how it is used to increase the operational efficiency of a water resource recovery facility (WRRF).

Process	Oxidant	Reductant	By-Products
BOD removal	Oxygen	BOD (organic carbon)	CO ₂ (g), water
Nitrification	Oxygen	Ammonia	Nitrate(aq)
Denitrification	Nitrate	BOD (organic carbon)	CO ₂ (g), N ₂ (g)
Dechlorination	Chlorine	Sulfite (SO ₃ ²⁻)	Chloride(aq), sulfate(aq)
Anaerobic digestion	Organic carbon	Organic carbon	CO ₂ (g), methane(g)
Odor control	Chlorine or nitrate	Sulfide	Chloride(aq) or N ₂ (g), sulfate
Deammonification	Nitrite	Ammonia	N ₂ (g), nitrate(aq)
Taste and Odor control	Potassium permanganate	Iron and manganese (aq)	Iron and manganese(s)

(g) – gas; (s) – solid; (aq) aqueous

Oxidation Reduction Reactions Primer

In order to understand redox, it is first necessary to be familiar with the basic building block of nature, the atom. It is safe to say that everyone that has completed grade school is at least familiar with the concept of the atom but if you need a refresher, google “venus flytrap explains the atom” for a video of a segment from the 70s sitcom WKRP in Cincinnati. They just don’t make TV like that anymore. In any event, Venus’ 2-minute explanation is sufficient to win his wager but a little more explanation is required for understanding ORP.

A particular atom may have different numbers of electrons. An atom that has 3 fewer electrons than protons has a net “charge” of +3 and is said to have an oxidation number of +3. Electrons can also be transferred between atoms resulting in a change of its oxidation number. This is what happens in a redox reaction.

All redox reactions involve an oxidation reaction and a reduction reaction which occur simultaneously. In each reaction, an oxidant gains electrons and a reductant loses electrons. Think of it as a game of Red Rover with each child representing an electron. The team sending a child (electron) is the reductant and is oxidized. The team receiving the child is the oxidant (assuming he or she fails to break the chain) and is reduced. A helpful mnemonic is LEO goes GER which means the material that Loses Electrons is Oxidized and the material that Gains Electrons is Reduced. The classic example is rust in which the reductant, iron (Fe^0), loses electrons and is oxidized to ferric iron (Fe^{3+}) by the oxidant oxygen (O) which gains electrons and is reduced (O^{2-}) forming iron oxide (Fe_2O_3).

Of course, not all oxidants and reductants are equal in their ability to receive and donate electrons, respectively. The strength of an oxidant (or reductant) is quantified by its reduction potential. Reduction potential is a measure of the tendency for a substance to be reduced and is influenced by its electron configuration and other properties. The more positive the value, the stronger the oxidant (greater tendency to gain an electron); the more negative the value, the stronger

the reductant (greater tendency to lose an electron). Standard Reduction Potential (SRP or E°) is a standard laboratory measurement of the relative oxidizing or reducing potential of oxidants and reductants. Ozone, permanganate, and hydrogen peroxide have high SRP values indicating their value in chemically destroying pollutants including pathogens. Oxygen has a relatively high SRT relative to nitrate demonstrating why bacteria preferentially consume oxygen because they get more bang for the buck.

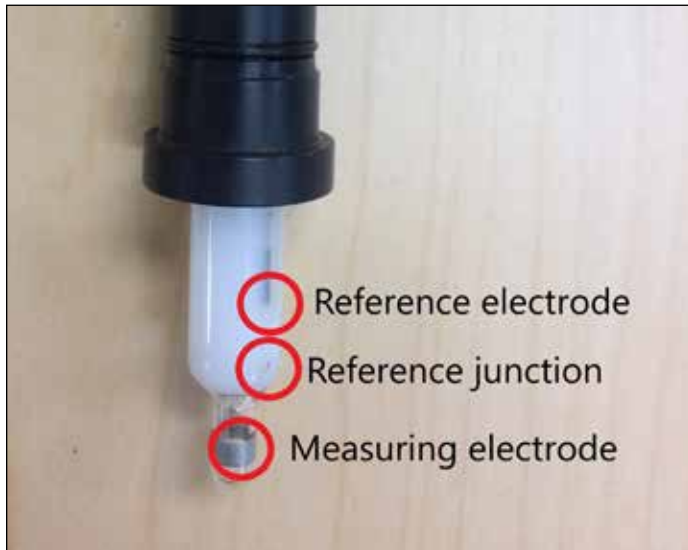
Chemical	SRP (V)
Ozone	+2.08
Permanganate	+1.70
Hydrogen peroxide	+1.76
Chloramine	+1.45
Chlorine	+1.42
Oxygen	+1.23
Nitrate	+0.94

For many reasons, direct measurement of SRP in environmental and process samples is not practical. In those cases, the non-standard parameter ORP provides a simple method for measurement of the net balance of redox reactions in a sample. In general, sample environments with a net balance of oxidized substances, e.g. DO and nitrate will have a positive ORP and sample environments with a net balance of reduced substances, e.g. organic carbon and ammonia, will have a negative ORP.

ORP Sensor Design

The measurement principle for ORP is potentiometry, a common analytical technique which has been utilized for decades for monitoring pH and many other parameters in water and wastewater samples. ORP is measured as the difference in electrical potential of a measuring electrode in contact with the sample, typically a piece of platinum metal, on the outside of the sensor and an

internal reference electrode made from Ag/AgCl wire immersed in an electrolyte solution. The most common design is a combination electrode in which the measuring electrode and reference electrode are built into one sensor body. A well-designed combination electrode will last for months before needing replacement with only simple maintenance required. Furthermore, in our experience, calibration is optional in many cases because it is the relative value that matters.



Interpretation of ORP

ORP is widely applicable for monitoring wastewater treatment. Applications include biological processes such as activated sludge and chemical processes such as disinfection.

Biological Treatment

In biological treatment, ORP is an indicator of the presence or absence of DO and nitrate. In the vocabulary of wastewater treatment, the conditions of a biological reactor can be divided into three types:

Oxic is the condition in which DO is non-limiting which means that organisms that want or need it, get it. In general, ORP is +50 mV and above in an oxic condition. The biological reactions that may occur under oxic conditions:

- Oxidation and removal of organic carbon (as

BOD).

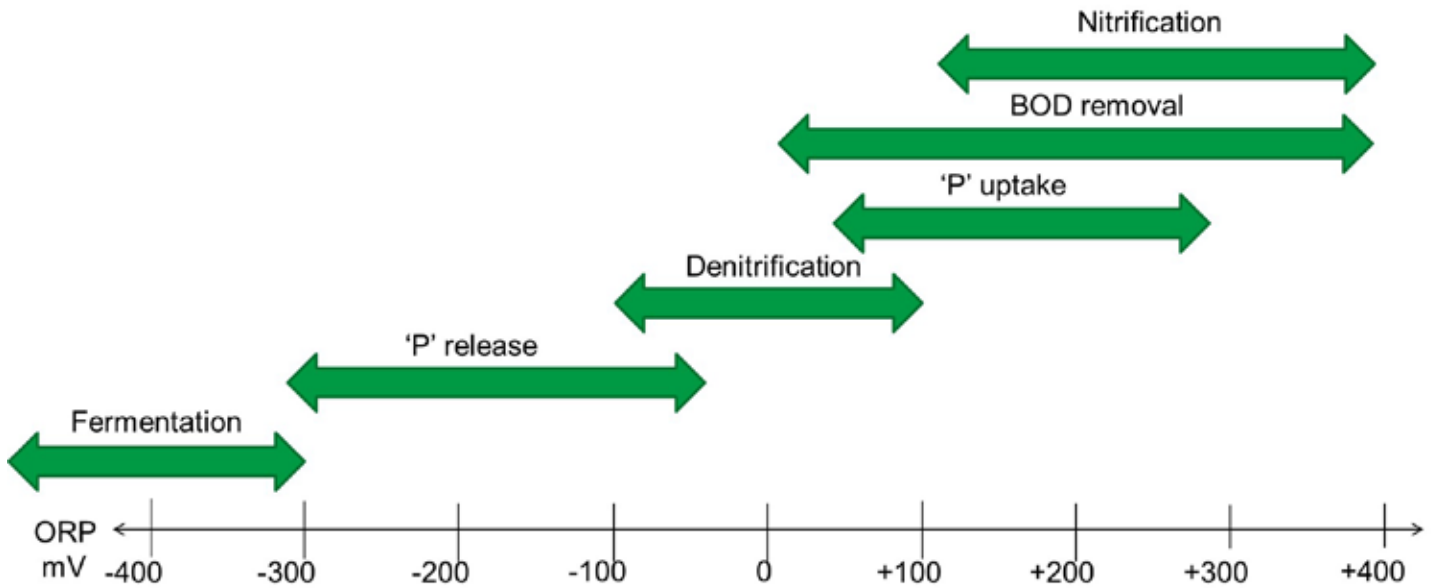
- Oxidation of ammonia to nitrate (NO_3) by nitrification. BOD removal will precede nitrification. ORP will reach a maximum value after ammonia is depleted signaling completion of nitrification.
- Uptake of phosphate by phosphorus accumulating organisms (PAOs). P uptake involves redox reactions but Phosphorus does not change oxidation state. PAOs require energy to accomplish P uptake which is acquired by oxidizing internally stored carbon sequestered during an anaerobic stage with oxygen as an electron acceptor.

Anoxic is the condition in which DO is deficient, but combined oxygen in nitrate (NO_3) and nitrite (NO_2) are present in amounts to support respiration. In general, ORP is +50 mV or less as DO is depleted and facultative bacteria respire using nitrate instead. The biological reactions that may occur under anoxic conditions:

- BOD removal. If DO is very low, facultative bacteria consume BOD using nitrate oxidizing BOD to CO_2 and nitrate to nitrogen gas.
- Nitrogen removal by heterotrophic denitrification (see explanation for BOD removal)
- Phosphate uptake. P uptake is not a redox reaction as stated above. Recent research has revealed P uptake occurs under anoxic conditions as well as oxic conditions.

Anaerobic is the condition in which neither DO nor nitrate are present in measurable amounts such that respiration does not occur. In general, the ORP is -50 mV and below in an anaerobic condition. The biological reactions that may occur under anaerobic conditions:

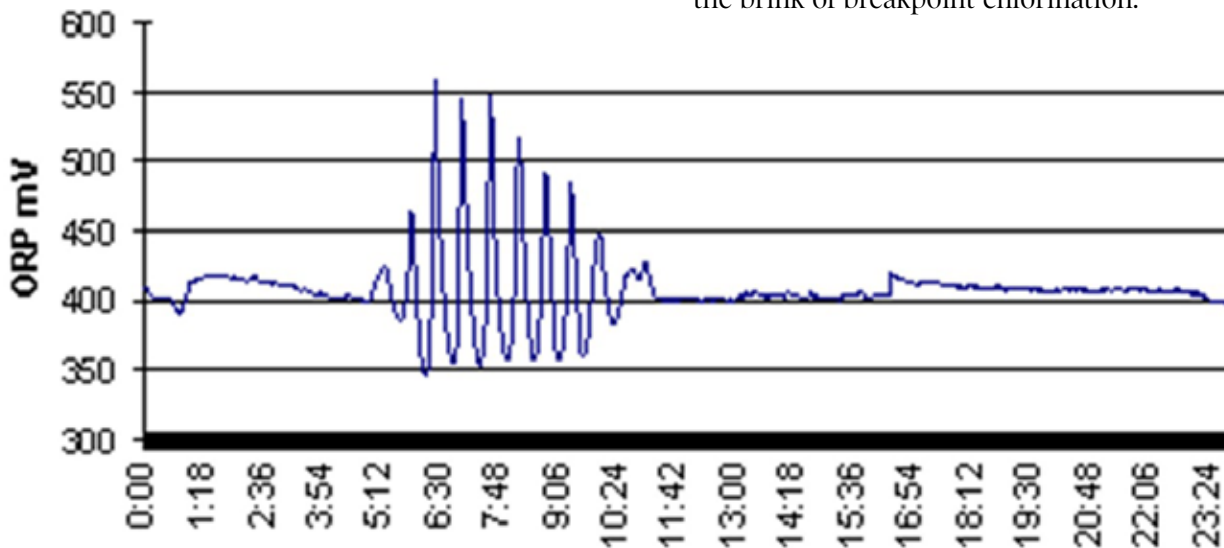
- Phosphate release. Phosphorus does not change oxidation state but anaerobic conditions are required to select for PAOs which sequester BOD, releasing P in the process.



- Fermentation. Fermentation involves the breakdown of larger organic molecules into smaller organic molecules which are required for PAOs and denitrifying microorganisms. Recent findings have revealed that an ORP of -300 mV or lower is required to achieve the deep anaerobic conditions needed for fermentation.
- Anaerobic digestion.
- Nitrogen removal by autotrophic oxidation of ammonia (Anammox).

Chemical treatment

Interpretation of ORP in chemical treatment can be very simple when used for monitoring specific reactions to completion. The critical parameter to define is the equivalence point (EP) which defines the concentration of an added chemical at which a reaction has gone to completion. The EP is identified by gradually increasing chemical dosage until ORP varies dramatically. As chemical dosage is increased beyond the EP, ORP becomes stable again at a higher or lower value than before depending on the reaction. The figure shows wide variation in ORP in a chloramine disinfection system on the brink of breakpoint chlorination.



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"How to interact with the media when they come knocking on the WWTP door"

"Plant profiles from across the state"

"Social media and how it can affect your plant"

"Shift transition process control communication"

"Asset Management - a consultant's and a utility's perspective"

"Resource recovery - pros and cons from a utility that has walked the path"

"Greene County tornado outbreak disaster preparedness lessons"

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Safety Programs Post Pandemic

by Mike Welke, Superintendent for the City of Warren WPC

While I pondered about what to write for this issue, my thoughts kept going to the Covid-19 crisis we all are facing. Most of us have never seen a pandemic like this. What a strange new world we live in. Never have we seen our towns so empty, almost no traffic, and so many businesses closed. Even our facilities look barren with reduced staff. Our normal way of life and work has changed forever. This pandemic has opened our eyes to things we once took for granted, like how we socialize, entertain, congregate, and even work. This crisis makes us look hard at our safety polices. It also heightens our awareness of the importance of following general hygiene practices.

I applaud the front line workers that are face to face with the Covid-19, such as anyone in the medical field or our safety forces. As I thought about others who must continue to work that are considered essential; they need applauded as well, because they risk being exposed to the virus daily. I then thought of how we in the water and wastewater industries are on the front line. We protect the public health and safety of our water. I am very proud of our **“Water Warriors”**. The pandemic really showed me and hopefully everyone else that we are essential to the health and well-being of everyone.

As I was writing this I did not want to hash over all of the safety precautions that were put out everywhere like social distancing, keep 6 feet apart, wash your hands (**constantly**), don't touch your face, cough into your elbow, wipe down surfaces, isolate yourself if you have a fever or feel sick, and so on. **Ok, so I did just go over a lot of the precautions.** We have all seen them so much it becomes old hat. Not that it is a bad thing, it's just the new normal way of life.

Now that I ran down that rabbit hole it is time to get to
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the point of this article. What will our safety programs look like post Pandemic? One idea my Director (Ed Haller) gave me was to do a **Hot Wash** of the safety program. **Hot Wash:** “Is the immediate “After Action” discussions and evaluation of an agency’s performance following an exercise, training session, or major event”. I thought that was a great idea. Having your safety personnel doing a “Hot Wash” post pandemic will show areas of your safety program that need improved or added to. It could show what new policies need added to your program. For example: How much PPEs (Personal Protection Equipment) should be kept on hand (like masks, gloves, face shields, disinfectant spray, safety glasses, and disposable cover all). Also, one could question, should there be any changes to your hygiene procedures? Should we implement the purchase of a no touch thermometer, and a policy for use and care of it? Another conversation could be had on how important other amenities could be during a crisis. Such as hand sanitizer, paper towels, toilet paper, and other cleaning products. Doing this hot wash after the pandemic ends, allows your team to share ideas while it is fresh in their heads.

In conclusion, I want everyone in the Water and Wastewater Industry to feel proud for being the front line **Water Warriors**, assuring that the public has clean and safe water. Consider doing a Hot Wash of your safety program to better prepare for the next crisis. Keep your heads held high and be proud of the work you do. Hopefully by the time you are reading this we are on the downhill portion of the pandemic curve, and are heading to the new normal for this **“Brave Blue World”**. As always be safe and healthy.

Signs, Signs, Everywhere there's Signs...

by Travis Cooper, City of Dayton, SW Section Safety Chair

Blockin' out the scenery? Breakin' my mind? Do this, don't do that? Can't you read the sign? For being one of the forefathers of modern signage song stylings, the Five Man Electrical Band was hip to safety. Yes, the Tesla version is a cover, I honestly had no clue! Regardless, these bands are zeroed in on the importance of signage and how they need to spread the word of long haired freaky people!

What signs have you seen at your workplace? I've worked at a few different places and some of my favorites would be, "No Whining", "Your mom doesn't work here, clean up after yourself", or simply "This Place". These signs declare something. They let you know that your whining will not be tolerated, or that in fact, your mom is not a coworker whose job it is to clean up after you. "This Place" is just universal to many conversations with coworkers, and is usually only used to highlight the amazing things that your facility does... (Insert non-sarcastic remark here)

These signs, while quirky, aren't really useful to completing your assigned duties or keeping you safe.

Keeping you and your coworkers safe is one of the main priorities that every facility should have. The

following signs convey their point immediately and with clear instructions.

OSHA has a section that lays out all the correct signage that should be in the workplace. It's under 1910.145 - Specifications for accident prevention signs and tags.

Does your workplace have the proper signage? Is it displayed correctly? Will anyone know who the band Tesla is?

My hope is that the answer to all of those is a resounding, YES!

End comment - I feel I'd be dishonest if I didn't at least tell you all that Ace of Base was a strong front runner to be included in this article. I just couldn't remember how their sign song went. I'll look it up.

Additional end comment - I regret looking up that song as it's been stuck in my head for days. Please. Send. Help.

Questions? Comments? Hilarity? Contact me! Travis. cooper@daytonohio.gov

HAZARD AWARENESS CHART

HAZARD CLASSIFICATIONS

HEALTH HAZARD (Blue) FIRE HAZARD (Red)
SPECIFIC HAZARD (White) REACTIVITY (Yellow)

HAZARD INDEX

- 4 - SEVERE HAZARD
- 3 - SERIOUS HAZARD
- 2 - MODERATE HAZARD
- 1 - SLIGHT HAZARD
- 0 - MINIMAL HAZARD

PERSONAL PROTECTION PICTOGRAMS

- Safety Goggles
- Face Shield
- Apron
- Dust Mask
- Vapour Respirator
- Self-Contained Air Respirator
- Gloves
- Boots
- Full Protection Suit
- No Smoking

HAZARD SYMBOLS

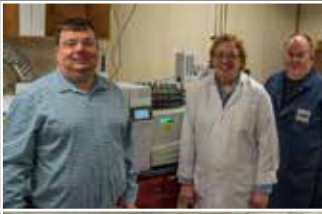
- Compressed Gas
- Flammable Material
- Oxidizing
- Explosion Hazard
- Harmful or Fatal
- Biohazardous/Infectious
- Corrosive
- Health Hazard
- Harmful
- Harmful to the Environment

stop sign

danger

Poison

slippery when wet



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Spin into Control: How the Wastewater Centrifuge Saves Time and Yields Great Data

When I go to a new wastewater treatment plant site that is experiencing noncompliance with its NPDES permit, I typically unload the “tools” from the back of my work truck and cart them into the lab or wherever I will be doing my testing. These tools are mobile tools that run on batteries or are nonelectronic, such as settleometers and core samplers. But there is one tool that I need 110VAC to run: my wastewater centrifuge. When I pull the centrifuge from the truck, often operators will ask, “What is that thing?”. My response is that the centrifuge is the most useful tool in my truck. “Really?” they say.

The wastewater centrifuge is truly a multiple use tool. Originally, it was designed to estimate the amount of solids in various processes in a wastewater treatment plant. A mixed liquor sample (or returned activated sludge, or clarifier core sample) is collected. The centrifuge tube is filled with the well mixed sample

up to the 100% mark. The filled tubes are inserted into the turntable inside the centrifuge lid. The centrifuge is turned on and a 15-minute timer starts. After the 15 minutes, the centrifuge stops (actually, it slows down and takes about 2 more minutes to fully stop), and the centrifuge tubes are then removed from the turntable. The tubes have gradations printed on their sides, and the amount of solids can be easily read and recorded. Fifteen minutes to have a pretty good estimate of the amount of solids in a tank. Now that is real time saver.

I know what you are probably thinking. How good is this number quantifying the amount of biological solids in an aeration tank? Consider this argument. A mixed liquor suspended solids (MLSS) is supposed to document the amount of bacteria in an aeration tank or in any sample. How long does an MLSS test take? After collecting a sample, setting up the vacuum apparatus, weighing the sample and the filter paper, drying it in an oven, letting it cool in the desiccator, and then weighing it again, it may take 2-3 hours. Depending on how many



Figure 1: The Wastewater Centrifuge



Figure 2: The Turntable and Collars that Hold the Tubes

MLSS samples you may be running, it may take even longer. It is a time-consuming process and involves a whole lot of expensive equipment. What is in that sample? Bacteria, of course, but also lint, paper fibers, hair, silt, and other relatively large and small particles that won't pass through filter paper. These materials are not bacteria, but if the assumption that everything on the filter paper is bacteria, I contend that is very likely not the case. Weighing a MLSS sample to some distant decimal place is possible, but that does not make it more accurate nor more useful.

The wastewater centrifuge scale is somewhat different. It is a volume-to-volume measurement, not a volume-to-mass measurement. That alone gets rid of the weighing portion in the MLSS test. The centrifuge test determines the volume of solids occupied by the solids in the sample as a percentage of the entire volume, 100%. Typically, a well running wastewater treatment plant will have an aeration tank spin of somewhere around a 2-4 spin as

a percent of volume. Return activated sludge will have a spin of at least double the aeration tank spin or a 4-8 spin percentage, if the biomass is not filamentous. And if you core sample a clarifier, empty the core sampler into a bucket, mix it, and spin that, the clarifier core spin should be much lower than the aeration tank spin, around 1-1.5 spin percentage ideally. If the numbers are much different from these numbers, then it is time to use the other process control tools to see if the system can sustain those numbers. Usually if the aeration tank spins are much higher than 3.5-4.0, then settling may slow down considerably. Run a settleometer to see for sure.

What else can a centrifuge do? If all that is done is to determine how many solids are under aeration, then at least half of the available data is missed. That clear supernatant above the solids at the bottom of the tube is very valuable. Using various test kits, nutrient concentrations can be run on the solids-free supernatant. Most test kits require a pretty small sample in the test, and even less if it needs to be diluted to get the sample within the range of the test meter. Usually there is about 15 mL of supernatant available in each centrifuge tube. Typically, I will run an ammonia test on the supernatant to see if the ammonia in the aeration tank is high or low. If it is high, then I would need to make an adjustment to the air, the mass, or the alkalinity to bring the aeration tank and the ammonia concentration back in line. If no process control sampling and testing are performed, other than on the final effluent, then the opportunity is



Figure 3: Emptying a Clarifier Core Sample into a Bucket



Figure 4: Sampling the Bucket



Figure 5: Sampling the Effluent End of the Aeration Tank

lost to bring the WWTP back into compliance before the aeration tank water becomes the effluent water. Other tests that I run with test kits are nitrate, orthophosphate and alkalinity. The nitrate and alkalinity tests will give an operator insight in the nitrification process (if the ammonia is high, the nitrate will likely be very low, indicating a loss of nitrification. If the alkalinity is low, then the ammonia will likely be high, also indicating a loss of nitrification). For biological nutrient removal systems, all three nutrients should be run on all three zones (the anaerobic, anoxic, and oxic zones) in order to see if the bacterial response is correct, and if the nutrient concentrations are different from what they should be. This will provide insights into what may be going wrong biologically in the zones. What I have found using the centrifuge and test kits is that nitrates



Figure 6: Filling the Centrifuge Tubes up to 100%

can overload anaerobic zones and even anoxic zones with internal mixed liquor recycles that cannot be turned down, or that there is insufficient carbon in the influent wastewater to drive these reactions. I can perform all of these tests with a centrifuge and the three test kits in about an hour. Then I will have the data to know what process control changes need to be performed to change the environment in these zones to get the bacteria to work as they should. If I make the correct analysis of this data, and implement the correct changes to these zones, then I will use the centrifuge and test kits to check the trending data of the bacterial response. If the chemical trails are what they should be, then they are working properly again.

There are other samples that can be collected and centrifuged and analyzed for nutrients as well. Sampling influents and spinning them down will make that water acceptably clear for nutrient or alkalinity testing. It is always good to know what it is that you are asked to treat. What about side streams flows? I have tested aerobic digester contents for nitrates and orthophosphates that were so high (about 400 mg/L of NO₃-N and just under 200 mg/L PO₄-P) that it totally upset the biological nutrient removal processes in the WWTP when the digester was dewatered and the filtrate went back to the head of the plant. By the way, we changed the dewatering process so that would not happen again. In addition, there is an entire wasting scheme using the centrifuge and another scheme for setting return activated sludge pumping rates as well.



Figure 7: The Fully Loaded Centrifuge Tube

What I have discussed here is nothing more than the tools that I use to troubleshoot wastewater treatment plants that are not performing as designed. Using a centrifuge to get an estimate of the amount of solids and where they are located is important. Running nutrient analysis on the same samples is important. Good data is so important to process control. Getting this data quickly and efficiently is key to solving treatment problems in a timely manner.

I have a confession: in 20 years of troubleshooting wastewater treatment plants, I have never, ever run a gravimetric mixed liquor suspended solids test. I run the wastewater centrifuge to get the multiple datasets that I need. I use it at small package plants and large municipal wastewater treatment plants. It works, it is efficient, and honestly, I don't have time to run time consuming tests. And that is why I tell people that the centrifuge is the most useful tool in my truck.

Jon van Dommelen, along with Andy Gall and Nick Hammer, are the Compliance Assistance Unit of Ohio EPA. Each district office of Ohio EPA has 8 centrifuges and 8 dissolved oxygen probes that can be loaned out to operators to augment their process control toolkits. They can be checked out for use by contacting your inspector and requesting the tools. If you need help with the tools, contact Jon, Andy, or Nick and we will be glad to work with you. Jon's email is jon.vandommelen@epa.ohio.gov



TOP: Figure 8: Aeration Tank Spin of 7. Too Much Mass!

BOTTOM: Figure 9: The Return Activated Sludge Spin of 16. Pretty thick RAS!

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Experts Share Advice on Continuity of Operations During Coronavirus Pandemic



by Justin Jacques, WEF Highlights

Even during the coronavirus pandemic, water resource recovery facilities (WRRFs) cannot cease operations even for a moment. It remains critical, then, for WRRF managers to develop actionable plans to ensure continuity of operations despite potential staffing shortages and supply chain disruptions.

For utility managers, effectively responding to coronavirus requires additional attention to employee safety and welfare, workplace hygiene, and public communications. Water sector experts discussed these vital considerations for WRRFs during the Water Environment Federation (Alexandria, Va.) webcast, “Pandemic Continuity of Operations (COOP) Essential Personnel”.

Provide Flexibility and Reassurance Where Possible

Essential personnel, which includes many WRRF operators, must remain on-site despite social-distancing requirements, John Bennett, Deputy Executive Manager for the Trinity River Authority (TRA; Arlington, Texas). These workers are there to continue providing clean water and maintain regulatory compliance. For these employees, work shift exceptions and schedule modifications often are done on a case-by-case basis.

“Trying to ‘navigate the waters,’ so to speak, to find options that are most equitable and work best for the specific duties of the employees that are out there has

been quite a challenge,” Bennett said.

TRA manages both large and small WRRFs, ranging from a 3-mgd facility with seven employees to a 162-mgd facility with over 200 employees. While the majority of TRA’s support staff are working remotely, a large fraction of operators are on the job.

In recent weeks, TRA has begun staggering operator shifts such that only the bare minimum number of employees are operating equipment at a time. Dusti Lowndes, Director of Emergency Management for DC Water (Washington, D.C.) described a similar approach, in addition to limiting all fieldwork and construction activities to only the most essential, emergency-related projects. Charlotte (N.C.) Water also is using workforce staggering. And the utility is updating and restocking its emergency operator supply kits in case operators need to stay at their WRRF stations for extended periods of time, according to Operations Chief Joseph Lockler.

Recognizing that shift modifications may lead to irregular work hours with financial repercussions, Charlotte Water also is ensuring its operations staff are compensated fairly.

“There were operators who may not have necessarily gotten in 40 hours per week,” Lockler said. “We have made a commitment as a department that we are going to ensure, no matter what, that our employees are paid for a minimum of 40 hours. Right now, they are our most

critical asset and we know that. We have to keep them healthy and in the plant.”

On the other hand, employees who must work overtime to keep services operating during the coronavirus pandemic also must be compensated accordingly, advised Teresa Jakubowski, a partner at the law firm Barnes & Thornburg (Washington, D.C.).

“It’s very important to accurately track overtime during this period. Some employees may be working longer shifts to cover for those who have to be absent due to illness or exposure,” Jakubowski said. “Also, to the extent employees are working outside of their regular positions, you will need to ensure that your determinations of exempt or non-exempt status remain accurate.”

Maintain a Clean Workplace

Although Jakubowski emphasized that the U.S. Occupational Safety and Health Administration has specified no additional requirements to stem the spread of coronavirus, she also reminded employers about their general requirement to address known hazards in the workplace. In the case of coronavirus, that entails observing U.S. Centers for Disease Control guidance as well as directives from state and local health departments, Jakubowski said.

Speakers from TRA, DC Water, and Charlotte Water described new, rigorous cleaning and disinfection regimens of all their facilities, occurring at all common WRRF areas as often as before each shift.

At DC Water, all contractors who must be onsite at its facilities must now fill out a detailed form that helps the utility’s dedicated emergency response team identify potential infection risk factors, Lowndes said.

TRA’s official procedures have always specified that operators are not to bring their personal protective equipment home after their shifts, however, Bennett admitted that that rule was not always enforced. Operators now must change into street clothes on-site at the end of their shifts to limit disease transmission risks, he said. TRA also has instituted a maximum limit of two people at a time traveling in any TRA vehicle.

Charlotte Water currently has five major construction projects ongoing, meaning construction crews and contractors still must move in and out of utility facilities, Lockler said.

“We put notice out to all our contractors that work is going to continue, but that contractors, inspectors, vendors should have no in-person contact whatsoever with operations and maintenance staff,” Lockler said.

Communicate Both Internally and Externally

As the effects of the coronavirus pandemic become more evident, Steve Frank, executive vice president of emergency communications firm SDF Communications (Laguna Niguel, Calif.) urged utility managers toward transparency about their challenges and preparedness.

“Your job of continuing to provide service to your community isn’t done until you’ve considered the communication part of it,” Frank said. “You have two audiences to consider – your external audience, your customers; and your internal audience, your employees.”

Leadership at TRA are first making sure that employees have authoritative information about how coronavirus spreads and what they can do to mitigate it. They also are being sure to consult employees about potential schedule changes or workflow modifications.

“We’re constantly making sure credible information is getting on bulletin boards, getting posted on doors, and that the supervisors are talking to their crews about what’s going on and the best way to proceed,” Bennett said. “Make sure your staff know that they do have a voice, and though not all suggestions can be implemented, that they’re at least being considered.”

Lowndes also described how employees are being kept in the loop about DC Water’s operating plans as they change.

“We are open and operating as normally as possible with some provisions to our operations and our mission. We’re telling people that we’re not closing, we’re just adjusting how we’re meeting our customers’ needs and communicating with each other.”

Frank recommended that utilities who do not already have a media spokesperson designate and train one as

soon as possible. Concerns about water quality due to the coronavirus pandemic are bound to arise, he said. When performing public outreach activities, Frank advised that water professionals should stress that evidence suggests risks to water supplies related to coronavirus are low and the utility’s disinfection protocols are effective.

“Think about this as an opportunity to show your community that you’ve given this some serious thought. Even if you don’t think you have a message, you do, and it’s this: We’ve prepared for this,” Frank said.

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As the world adapts to dealing with coronavirus — social distancing, working from home, and self-quarantining if ill — the perceived hoarding and scarcity of toilet paper has emerged almost as a joke. But, if people start flushing unsuitable materials, the results will be anything but funny.

by Will Fowler

As toilet paper runs short, many citizens may turn to alternatives such as “flushable” wipes and sanitizing wipes. These poor substitutes can cause problems for the nation’s sewers that could include backups into homes and malfunctioning treatment equipment.

“If kitchen towels, baby wipes or industrial papers are used as a replacement for toilet paper, our sewage systems could readily become blocked with the resulting chaos and increased health risks associated with this,” said Professor Richard Wilding, Professor of Supply Chain Strategy at Cranfield School of Management (Bedford, U.K.), in a release.

Flush Wisely

“Being self-quarantined at home can be tough,” said Walter E. Marlowe, WEF Executive Director. “Being self-quarantined at home with a backed-up sewer is much, much worse. Do not flush things that should not be flushed.”

Rob Villee, former Executive Director of the Plainfield Area Regional Sewer Authority (Middlesex, N.J.) had similar advice, “Don’t flush baby wipes, ‘flushable’ wipes, or any other single-use plastics.

“Take this time to learn to be more conscious about the products you use and how they affect the sewer system,” he said. “And if you do use alternatives to toilet paper, just dispose of them in the garbage, where they belong.”

Three Ps Only!

Educational materials from WEF lay out the best practices quite simply: “Only the three Ps belong in the toilet: pee, poop, and toilet paper. Period. Anything else — including wipes — is bad news for the pipes and pumps that carry water from your home to your community water resource recovery facility, where professionals are working 24/7 to clean your used water.”

Even those products marked “flushable” are not.

“There is no wastewater recognized standard to ‘certify’ what is flushable other than toilet paper,” according to Brianne Nakamura, Senior Manager of Technical Programs in the Water Science and Engineering Center at WEF. “When in doubt, don’t flush it. Use the trash can.”

Proper Precautions

If a sewer does get clogged, wastewater agencies will

respond because maintaining water and wastewater infrastructure is vital service during times of emergency. The Metropolitan Water Reclamation District of Greater Chicago released a fact sheet on its coronavirus response that states, MWRD “continues to provide critically important water reclamation operations and stormwater management services around the clock to ensure the region’s wastewater is cleaned and that public health and the environment are protected.” It continues, the “essential work at the MWRD will continue despite all these obstacles.”

One of those obstacles is a challenging staffing situation for water workers, according to Villee. Many water companies are already running on reduced staff because of the coronavirus pandemic, he said.

“The last thing we want is an entire crew getting stuck in quarantine and unable to work,” Villee said. “So we’ve started splitting staff into groups that work on alternating days.”

Working from home isn’t an option for many water workers, Villee said. “In our industry, a lot of physical work is still required,” he said. “Some things we can monitor remotely, but a lot of the essential maintenance work we do requires a physical presence.”

This manual and in-person work includes unclogging lines jammed with things that should not be flushed.

Safe Sewers

It’s also reassuring to know that the U.S. Environmental Protection Agency has stated “there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment” and the regular procedures and personal protective equipment (PPE) that wastewater operators use protects against coronavirus. That’s good news.

On the other hand, water workers often work in crews that require face-to-face contact with customers and coworkers. To help prevent person-to-person spread, www.ohiowea.org

services have been reduced somewhat. Villee said that the Plainfield Area Regional Sewer Authority has cut non-essential and preventive maintenance and billing activities to minimize the spread of the virus. They’ve also taken a second look at their PPE.

“We’ve ordered new masks with [filtration] cartridges,” he said. But due to supply chain interruptions, the cartridges haven’t arrived yet. Still, he said, it’s only a precautionary step and the standard PPE should be enough.

Toilet Teamwork

As coronavirus continues to interrupt our daily lives, it’s up to all of us to help each other out, Marlowe said. That includes better cooperation between utility workers and the public.

“Our water and wastewater operators always protect our public health and keep our systems running smoothly,” he said. “Let’s help them out by following their guidance when it comes to what goes down the toilet.”

“This article solely reflects the personal opinions of the authors, not necessarily WEF and its members. It is provided for educational purposes only, and is not intended to substitute for the retainer and advice of an appropriate professional. No warranties or endorsement of any kind are granted or implied.”

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OWEA Lab Analyst Certification Review

by Tony Hintze, City of Fremont, OWEA Laboratory Analyst Co-Chair

Although OWEA's Laboratory Certifications are voluntary, many facilities now require their analysts to have an OWEA certification. To date, there have been over 500 Analysts certified as Class I through Class IV. Upon recognizing the need for growth in education covering this area, Ohio Water Environment Association's (OWEA) Laboratory Analysis Committee (LAC) are now offering two reviews per year. The Spring Review will cover the exams for Class I and II Certifications. The Fall review will cover the exams for Class III and IV Certifications. The review sessions will be held approximately one month before the exams.

On March 10, 2020 we successfully completed our 2nd Lab Analyst Certification Review with 20 attendees! Using statistics from past exams we were able to determine the areas that needed the most attention. The morning sessions consisted of presentations aimed at addressing these areas.

- Essentials of pH Measurement- by Timothy Meirose-- Thermo Fisher Scientific
- The Importance of QA/QC and MDLS- by Melodi Clark-- City of Columbus



- Laboratory Safety for Process Labs & Operators- by Melodi Clark--City of Columbus

During the afternoon session attendees got hands on experience in the City of Columbus' 10,000 square foot Surveillance Lab. The hands on training exposed attendees to methods they may not do at their own facility but need to understand for their exams. They learned different methods and had their questions answered by experienced chemists. Attendees that were present at our March review learned about:

- pH
- Ammonia (NH₃)
- Total Phosphorus
- Nitrite and Nitrate (NO₂+NO₃)
- Total Kjeldahl nitrogen (TKN)
- Oil and Grease

The following is a list of other resources that will help you study for the exam:

- NESOWEA WW Analyst Study Manual (http://ohiowea.org/docs/Laboratory_Review_Manual_Order_Form2018.pdf)
- WEF/ABC Wastewater Laboratory Analysts' Guide to Preparing for the Certification Examination (<https://www.wef.org>)
- ABC Certification need to know Criteria (http://www.abccert.org/testing_services/need_to_know_criteria.asp)

Although the Lab Analyst Certification Review is www.ohiowea.org



geared towards the certification exam anyone new to the laboratory or looking for a refresher would benefit from attending. If you are considering taking the exam be sure to sign up for the review session that meets your needs. Go to https://www.ohiowea.org/lab_analysts.php# for more information and dates for the exam. If you have any questions please contact Melodi Clark (MLClark@columbus.gov) or myself Tony Hintze (thintze@fremontohio.org). We look forward to helping you along your path to becoming an OWEA Certified Analyst .

Office Offerings

I want to admit, writing Office Offerings for this Buckeye Bulletin has been a bit of a challenge...nobody taught me how to do my job during a pandemic, just like none of you have been taught how to do yours in the new COVID-19 world. We are all just treading water trying to stay afloat...so here is my version of attempting to swim.

When I first came to OWEA, I never expected to be writing an article updating you about what is happening at the office in the middle of a pandemic. I never thought our office doors would be closed and I would be working from my dining room table every day. I never thought that our future might involve never shaking hands again.

What I did figure out early on in joining OWEA is what an amazing group of people we have. Every water professional is used to being flexible and changing quickly. Whether it's an engineer dealing with multiple change tickets or an operator figuring out how to handle lab results that are very much outside of normal ranges, you change and adapt and PROSPER. You do this because you will do whatever is necessary to protect our most precious resource of water.

Our current situation is no different. You have once again accepted the new challenges COVID-19 has brought us. More than 1,100 of you signed up to help each other, in the event of short staffing, both through the OWEA website and the Ohio EPA. You have listened to webinars, learned to work with the EPA remotely and electronically, searched for PPE and planned for staffing challenges. You are truly Water Warriors and you are ESSENTIAL.

OWEA is also flexible and we hope you see that during this challenging time. Hopefully, by the time you read this, our office is now open, but regardless we still are here for you, our members. Stay at Home Order or not, we will still answer the phone when you call and respond to emails. We are trying multiple avenues of communication, including email blasts and social media. We are in weekly communication with the Ohio EPA as how to best get the most current COVID-19 information out to you. We are also working with them on bi-weekly webinars where you can ask YOUR Covid-19 questions



directly of EPA leaders. Finally, as of when this was written, all state events and our conference are still happening just on different dates! We know that our events may look a bit different, but we will work through the details and still deliver amazing programming.

Another way that OWEA is choosing to stretch and be flexible is through exploring online webinars and programming as a way for our operators to still obtain needed contact hours from their office or home. We are hopeful that by the time you are reading this we will have some online or virtual offerings available.

As I stated earlier, this is not an easy article to write... and it's a harder one to wrap up. I want to say that I have never been prouder to work for an organization that is ESSENTIAL to our society's health and wellbeing. I am inspired daily by your flexibility and dedication. I know things are tough right now and we have some challenging weeks ahead, but I am confident that we will get through them together. Thank you for inspiring me daily.

DAWN LARSEN, CAE,
EXECUTIVE ADMINISTRATOR



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Resiliency Through the Lens of Coronavirus

by Dale E. Kocarek PE, BCEE, Past President 2010-2011

Pre-Amble

News on COVID-19 changes daily, and by the time this is published I pray that the worst is behind us. Each day brings innovation and new hope.

The Coronavirus is being called a once in a century event. While we are experiencing great devastation now, this singular event will change our collective way of thinking about public health, preparedness, and resiliency forever. This episode in human history will be an inflection point for us. Despite the havoc and chaos now, it is an opportunity for us to reinvent ourselves for the better. Over time, it will change the way OWEA and WEF do business forever. To be effective this change should be gradual and well tested through strategic planning efforts. We are up to the challenge!

An Unseen Foe

Viruses are unusual in that they are not considered as living beings. They consist of only a few strands of DNA and need a host to replicate.

We are told that Coronavirus and resulting COVID-19 is a once in a century event. The most similar event in modern history was the Spanish Flu in 1918 - 1920. Interestingly, the point of origin was Hastings County Kansas close to a US Military Training Base for World War I. Military and civilian trains carried the virus to ships across Europe and around the world with great efficiency. There was no concept of social distancing at the time although a parade in St. Louis was wisely cancelled.

The speed of advancement of Coronavirus over the last few weeks was swift. In our OWEA Government Affairs workshop of 240 people on March 4th, we spoke about it and even joked a bit about it while doing elbow bumps. At that time, it was confined to a distant land.

Can anything good come out of this?

Leadership Emerges

It has been inspirational to see examples of good leadership including our own Governor Michael DeWine and the Health Department Director Amy Acton. Both demonstrate good knowledge, clear communications, without drama or hype direction, and encouragement. They care about people which has given them credibility and trust in our great state.

Isaac Newton's Example

Throughout the 14 and 18th Centuries, the Black Death swept through Europe in multiple waves. The worst period was 1348 to 1354 when parts of Europe lost 60% of their populations.

The last significant outbreak in England was in 1666 in London when Isaac Newton (1642-1727) was 24 years old and a student at Trinity College at Cambridge. He was suddenly sent home to his family estate in the county Woolthorpe Manner, where he entered a period of forced idleness. His father did not need his help with the estate, so Newton had to find ways to occupy his time. It was during this period that he contemplated the principle of gravity and began delving into the mechanics that we now call Newton's Laws of Physics. So, what is reported in legend as Newton sitting under an apple tree was a little fanaticized but essentially true.

The Apostle Paul had a similar experience when under house arrest by Rome in the 1st Century AD. Paul used this time to write his Letters to the Epistles, which provide much of the foundational doctrines of the Christian Religion.

We have a similar opportunity to use our time in isolation to study for operator exams during idle times. For example, I am going to pursue a long-term objective and sit for the Class I Water Exam this fall.

Member Association Challenges

There is no doubt that OWEA, other Member Associations, and WEF will experience financial impacts due to the Coronavirus. We are taking steps to mitigate it by rescheduling events through the year. I am thankful that we held several good events in January and February and our Government and Regulatory Affairs workshop on March 4, 2020.

Through the last few years, both WEF and OWEA have made efforts to establish a reserve fund to handle short term interruptions of business. Part of this is good business planning, but also taking advances learned from 9/11, when WEF had an event (WEF Small Communities O&M Workshop) cancelled in middle September and later rescheduled in early December in Cincinnati. WEF has set up its budget and trimmed expenses through the years to allow a 50% reserve fund, which allows them to pay its expenses for six months during significant periods of interruption.

Refocus on Public Health and Infrastructure

The pandemic creates an opportunity to reinvent the way we do business including remote meetings and training. This will drive innovation in these areas to create better and more robust systems moving towards virtual reality. With limited band width and other challenges, the current way we do work is like driving a Model T Ford across the United States in the 1920s. It can be done, but it is not easy.

For decades funding for the National Institute of Health (NIH) has been in a mode of steady decrease due in part to the adoption of private sector models that seek to cut cost to the bone. The pandemic proves there is an important role for government and on-going research, which must be increased and funded at appropriate levels.

The pandemic also calls into the question of national infrastructure and jobs, which is an ongoing message of ours. Not only does a great country have great infrastructure, but it provides good jobs in America. Not only do we need to enhance and strengthen our message of clean water, but we need a robust economy to work in tandem with improving public health at all levels.

WEF's Perspective

To write this article and gain WEF's perspective including additional credibility, I spoke to Jackie Jarrell, WEF President. I have had the pleasure to get to know Jackie at a WEFMAX in Vail Colorado in 2016. She expressed gratitude that WEF staff have been nimble, adaptable and responsive to recognizing member needs in our changed world.

Jackie recognizes ongoing and future changes that WEF and our community will undergo in the future. WEF has done a lot over the last few years to streamline its organization to improve efficiency, responsiveness and reduce operating cost. More training will be virtual distance learning. WEF developed a website called Access Water that is a place where one can search anything. It is a resource for those wishing to research any topic to do so easily.

WEF will continue to reach out to Member Associations (MAs) to provide legal and contract guidance and will also be continuing its work on position statements that MAs can use to communicate positions. WEF recognizes that Member Associations are a critical part of our organization and wish to provide assistance to ensure their success.

Jackie also mentioned that the need for operator license reciprocity will increase as a priority as there will need to be more operators crossing state lines for assistance. Past barriers that currently exist between states in honoring reciprocity must be overcome sooner rather than later.

Today is a Good Day for a Good Day!

I predict that the initial big wave of this pandemic will be behind us soon, and that the collateral damage less than anticipated. There is a lot to the axiom “plan for the worst and hope for the best.”

I will leave you with a photo I saw on the wall of a Marathon



Travel Plaza on U. S. Route 30 east of Wooster on March 14, 2020 on the eve of the pandemic. A worker in the store said that many people take photos of this. I was uplifted by this little message and I hope you will be too!



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Kathy Richards



Fred Smith

“It was the best of times, it was the worst of times”. This 161 year old phrase from Charles Dickens seems to sum up life in Ohio... wait, scratch that in the USA... wait scratch that too, in the world, pretty well right now. Funny that almost every state has finally recognized that our members are deemed essential. Really? So without this virus we're not? I think, like most of you... wait probably all of you are essential, every minute of every day, all year, every year. And we shouldn't need a virus for some politician up town or in our state capital to know that!

As your representatives to our national organization (WEF) in Washington D.C. we remain fully engaged with not only the state committee but with the WEF committees that we are all on and with the WEF staff. Unfortunately like many people, we have had all our face to face meetings cancelled as we moved everything to some digital form. Perhaps most disappointing was the cancelling of all the WEFMAX meetings. This informative exchange of face to face information always brings new ideas and new energy to our organization.

This year Ohio delegates have been involved in three workgroups, with Ohio having representation on all of them. Following are the workgroup's charges for the year. Fred Smith is part of The Water Utility Workforce of the Future: This workgroup will seek to assist and work with www.ohiowea.org

the WEF Operator Advisory Panel and the WEF Plant Operations and Maintenance Committee to enhance programs and practices that promote the water utility workforce of the future. The focus will be on front-line water utility personnel like facility and collection system operators, mechanics, and laboratory technicians. The workgroup will develop materials and collaborate with the Member Associations regarding local water utility workforce development and recruitment and assist the Member Associations (MAs) in delivering materials that promote the water utility profession.

Kathy Richards is part of The Stormwater NGICP/IGICP: This workgroup will assist the National Green Infrastructure Certification Program (NGICP) with marketing the program. This program has earned the 2019 Power of A Summit Award which is the industry's highest honor and recognizes organizations that distinguish themselves with innovative, effective and broad-reaching programs and activities that positively impact America and the world. Delegates will focus on the need for skilled individuals and assist with compiling a list of prospects to receive information about the certification. Delegates will also work to compile State Agencies that WEF could be coordinating with as the program continues to expand.

Ted Baker is part of The Public Education/Brave Blue

WEF Delegates Report

World: This workgroup will have responsibility for screenings of the documentary film "Brave Blue World." Delegates will be ambassadors for the documentary within their MAs. Specifically, the responsibility is to work with other MA leaders and volunteers to hold film screenings that are as meaningful as possible. To support delegates, WEF is developing a toolbox to include social media content, graphics, blogs, clips from the film, and more. Delegates serving on this workgroup will be asked to report on the screenings held within their MAs. The objective is to have this movie viewed by as many

people as possible and to spur conversations about water in communities.

Should any of these workgroups be of particular interest we would encourage you to reach out to any of us to discuss what we are doing in more detail. Most importantly in this time of uncertainty we want each of you to be safe and remain in good health.

Ted Baker, Senior Delegate



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Erik Torgersen, President

Spring Forward

The COVID-19 pandemic has brought to light the importance of the water and wastewater industry. While much of the non-essential services and businesses have come to a standstill, the world of water cannot afford an interruption. Thank you to all those who keep essential services going!

Committee Addition

Bryan McNutt of Middletown, OH was nominated to be the new first-year director on the Executive Committee. Bryan has served on the SWOWEA Plant Ops Committee for several years and is currently a co-chair on that committee. An official vote will take place among the membership at the next section meeting, which looks like it will now be in July.

Recent Events

We were able to sneak in a Section Meeting on March 12th. That was right about the time when various government entities started to make declarations regarding COVID-19. Just days prior to the event, Cincinnati banned City employees from traveling outside of Hamilton County. Hence, attendance at this event was low at only about 70 people. The tours went well though at both the interceptor and pump station, and the technical sessions were well done. Thank you to the Collections Committee for putting this section meeting together!

Awesome Operator

SWOWEA is looking for nominations from our section members for the Awesome Operator Award. The award winner will receive admission to one day at the OWEA annual conference as well as two nights of lodging. The annual conference this year is in Independence, OH near Cleveland. Nominations should be made by a supervisor or someone who works with the nominee routinely in the field. Feel free to nominate anyone in your organization that you feel is deserving of recognition.

The deadline for nominations was originally April 24, 2020. Since the state conference has been moved, we are accepting nominations past this date for some time. A firm date has not been set yet.

The nomination can be completed on the OWEA website. Please do your part in recognizing the outstanding operators that are working hard and representing our profession every day!

Upcoming Events

Due to the COVID-19 virus, we have had to postpone or cancel some of our events. Providing educational opportunities for our members remains our top priority. Be sure to check the OWEA website for updates.

- The Operator Education Day scheduled for April 24 has been canceled. It may be rescheduled depending on when the operator exams are rescheduled. A new date for the operator exams has not been set.
- The May Section Meeting originally scheduled for May 14 in Miamisburg, OH has been canceled. It may be rescheduled or combined with a future event.
- The June “Nearly Free” Plant Operations Seminar scheduled for June 4 has been tentatively rescheduled for mid-July at the Greene County Fairgrounds.



Chris Tarr, President

I hope everyone is coping well with the Stay at Home order issued by Governor Mike DeWine. Because of the Covid-19 Stay at Home order, SEOWEA had to cancel our Plant Operations and Collection Systems section meeting to be held in April. We will not be rescheduling this meeting for the year 2020. We also had to postpone our annual Safety, Regulatory, and Biosolids Meeting to be held in May. This meeting is also our annual section awards presentation meeting. It is our hope that we will be able to reschedule this meeting sometime during the summer assuming there will be no restrictions due to Covid-19. Please be sure to keep an eye out for SEOWEA email announcements in the coming months in the event we are able to go forward with our awards meeting.

Recent SEOWEA Events

On Thursday, February 20th, 2020, the Southeast section held our Pretreatment & Industrial Workshop. We started the event with a tour of The Village of Commercial Point WWTP in the morning. After the tour we had lunch and three technical presentations held at Cooks Creek Golf Club. Approximately 60 people attended this workshop and attendees received four contact hours.

www.ohiowea.org



Tour of the newly upgraded Village of Commercial Point WWTP during February Section Meeting.



Mark Lehnert, President

As I write this message, I first want to say what an unprecedented time we are living in at the moment. With the Coronavirus turning our way of life completely upside down not only at our place of employment but our personal lives as well, we must be unified as never before to combat this pandemic. Our City has taken the approach to limit staffing as much as possible by having employees work alternating days so we can lessen the work force and still maintain the operations and maintenance of our treatment plant as well as the sewer system. We have locked all our doors to outside visitors and require packages to be left at the main entrance. I have suspended all sewer cleaning unless absolutely necessary due to the spray that comes out of the manholes when jetting. I have instructed our sewer crews to wear Tyvek suits, gloves and full-face respirators if cleaning of the sewer line is necessary. We have people walking around the treatment plant cleaning with a water bleach solution, all the surfaces that one may touch throughout the day. We have removed chairs at our break tables so only two employees can eat together at any one time, keeping the six-foot distance. This is only a small percentage of what we are doing to prevent the spread of this disease but I wanted to paint the picture of how things have changed. I'm sure you all are taking necessary precautions as well and I wish nothing but good health for all of you.

On a more personal note my wife and I both work jobs that are essential so we have no choice but to be out and about. With my wife working in the health care field as a nurse and myself working at the wastewater plant, we know our risks are higher than non-essential personnel who are working from home. We have isolated ourselves from our children and grandkids which I think is the hardest part of this social distancing. We use face time to see our grandkids but it just isn't the same. They are very young, one, four, five and six and they just don't understand why grandma and grandpa don't come over to visit or why they can't come to our house to visit. We all have to make sacrifices if we want to get through this with as little impact as possible.

While writing this message we are currently under a stay at home directive from the Governor. I would normally tell you about our March section meeting and what we learned; however, the section meeting was cancelled at the last moment so there is nothing to report. As for our May section meeting at this time the meeting is on hold and we hope to have a make-up date later once we get through this pandemic. All other events in Northwest Ohio are currently cancelled and makeup dates will be announced once we get through this pandemic.

I can be reached at mlehnert@cityofdefiance.com

Stay safe everyone.

Sincerely,

Mark Lehnert, President NWOWEA



NESOWEA

Doug Harris, President

As we begin to welcome the signs of spring we are all faced with a situation we couldn't have imagined three months ago. If you're like me, you are probably tired of hearing the phrase "A New Normal" – there is nothing normal about this. Our daily routines will likely change; however, our spirit will not be broken, and we will emerge stronger than ever. And, with the dedication of the water professionals of this organization, we will continue to provide the high quality wastewater collection and treatment that is often unnoticed by the customers that we serve.

Unfortunately, as a result of the current world affairs, our Annual Innovations Seminar and May Section Meeting had to be cancelled. The business meeting and awards presentations typically included in the May meeting will likely be moved to the Fall Section Meeting which is tentatively scheduled for September 17, 2020 in Niles. We are also looking into the logistics of electronic voting for election of the next Executive Committee member and Treasurer. More details will be distributed in the near future.

By the time this article is published, the Northeast Section Student Design Competition will be complete. For everyone's safety, this year's competition will be conducted via webinar. Tune in to social media and future newsletters for the results of this competition! We continue to be encouraged by the interest in water coupled with the new talent entering our workforce. Thanks to Krishna for continuing to lead and grow this successful competition!

Save the date for our 14th Annual BioMass-ter's
www.ohiowea.org

Open golf outing which is still scheduled for July 17th at Grantwood Golf Course in Solon. This is a highly attended event and a great time to be social for a good cause! Sponsorship opportunities exist and proceeds support various charities. Please contact Michael Cook at Michael.Cook@ads-pipe.com for questions and to sponsor.

In the midst of everything that is happening in the world while many of us are working remotely, we seem to be busier than ever. This is not how I imagined ending my term, but I can honestly say that it has been an honor to serve in this role. I have a much greater appreciation for the work that all of the Ohio Water Environment Association volunteers provide 'behind the scenes' to make this organization one of the best in the business. And, most of all, I am grateful for the friends that I've made along the way.

I want to thank all of the Executive Committee members and committee chairs for the time and energy that each of you put into every event. I welcome the new, talented committee members that will lead these committees in the future. If you are not currently involved in a committee and would like to be; please, send me an email and I will connect you with the appropriate people.

And finally, one last shout out to the State Executive Committee and administrative staff for everything they have done and continue to do to make the work load at the Section level a little more manageable. We couldn't do this without you!

Douglas J. Harris

NESOWEA President

doug.harris@cantonohio.com



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Laboratory Analysts

by Melodi Clark and Tony Hintze

Greetings from your state lab co-chairs. We had a great Lab Review workshop on March 10th. We had over 20 people attend and the day was a great success. We will be holding another review workshop in the fall that will cover the 3 and 4 lab analyst tests. The Plant Ops Lab two day workshop has moved to the fall as well so check your emails for updates. Tony and I are hoping everyone is staying safe and practicing best lab practices while working as essential employees to keep our waters of the state safe. We will get through this together. If anyone needs help with anything or has questions that come up with your labs please feel free to reach out to Tony or I and we will help any way we can.

Southeast Section

Greeting's from the SELAC. Currently we have no meetings scheduled due to the COVID-19. Please check back with us as we hope to get in at least two meetings by the end of the year. Stay safe.

Northwest Section

Hello again from the Northwest Section. Unfortunately with COVID-19 there is not a lot to report from our section. I think it is important that we all follow CDC's guidelines to minimize community spread. Stay healthy and take care of your families.

Committee Mission Statement

The OWEA Laboratory Analysis Committee (LAC) strives to provide relevant and timely information on laboratory regulation and policy for the collection and analysis of wastewater and surface water samples. We strive to provide training in a relaxed, stress-free manner, to ensure the ability for participants to gain knowledge and skills to benefit them in their professional environment.



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Certification Committee

by Kathy Beckett

During this time of uncertainty, the COVID-19 pandemic has forced everyone to change routines and practice social distancing. Postponements and cancellations of annual events like March Madness is becoming the new norm. Governor DeWine ordered the closing of schools and some businesses to limit the spread of this disease throughout the state.

This change in routine is also impacting the water and wastewater sector. The spring OWEA laboratory analyst examination in April was postponed until summer. It is rescheduled for Friday, July 17th. With that in mind, OWEA will still accept applications for this examination until June 19th. On a positive note, this gives examinees additional time to study and prepare for the exam. The autumn OWEA examinations will still take place October 16th with the application deadline being September 18th.

The jobs we perform in the water and wastewater sector are vital to public health. Now more than ever, it is recognized that the work we do is extremely important. Many of you may be sheltering in place or working from home during this pandemic while others like treatment plant operators and frontline workers are still reporting to work to provide essential public utility services to the population they serve. I applaud everyone for their dedication to this work. Stay safe and stay healthy.



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- Students must be enrolled in a minimum of 6 credit hours in an accredited college or university.
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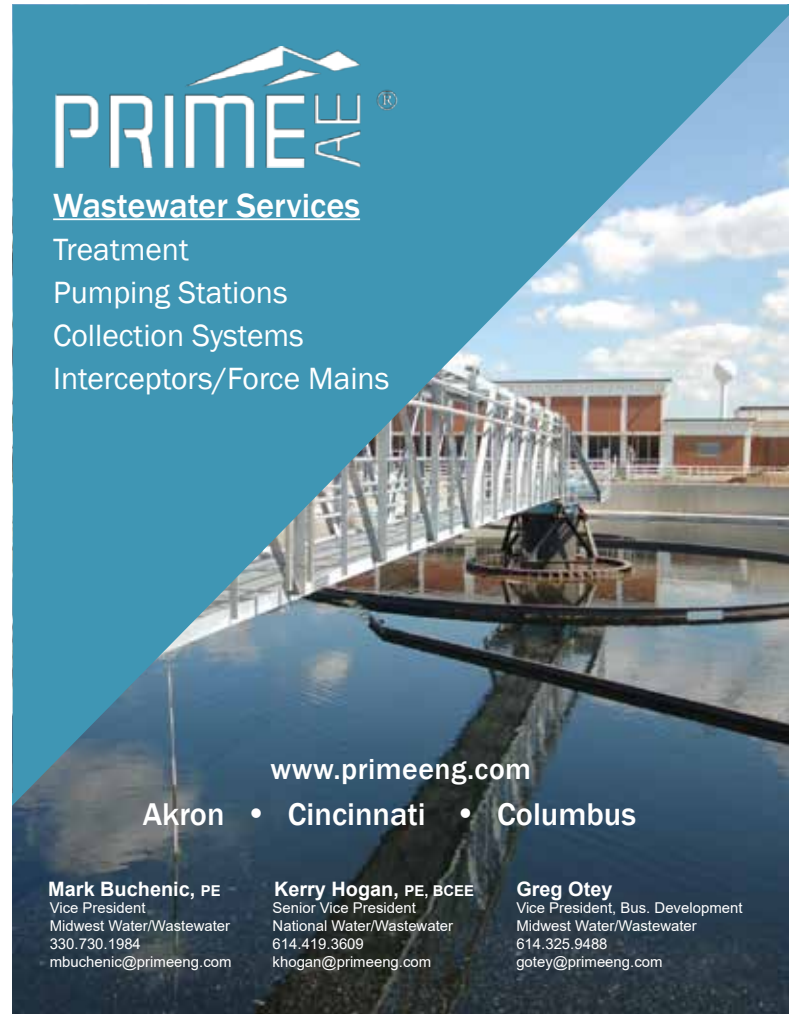
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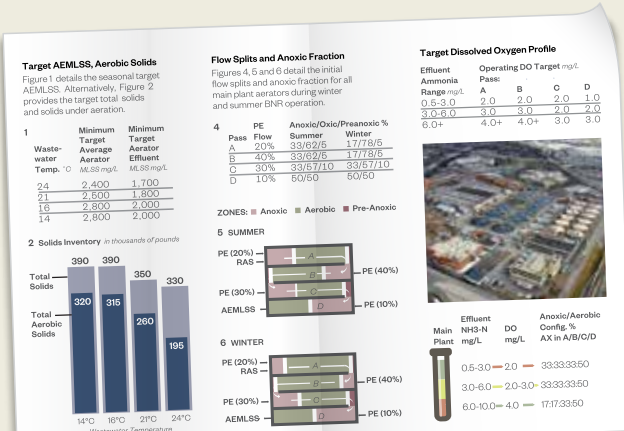
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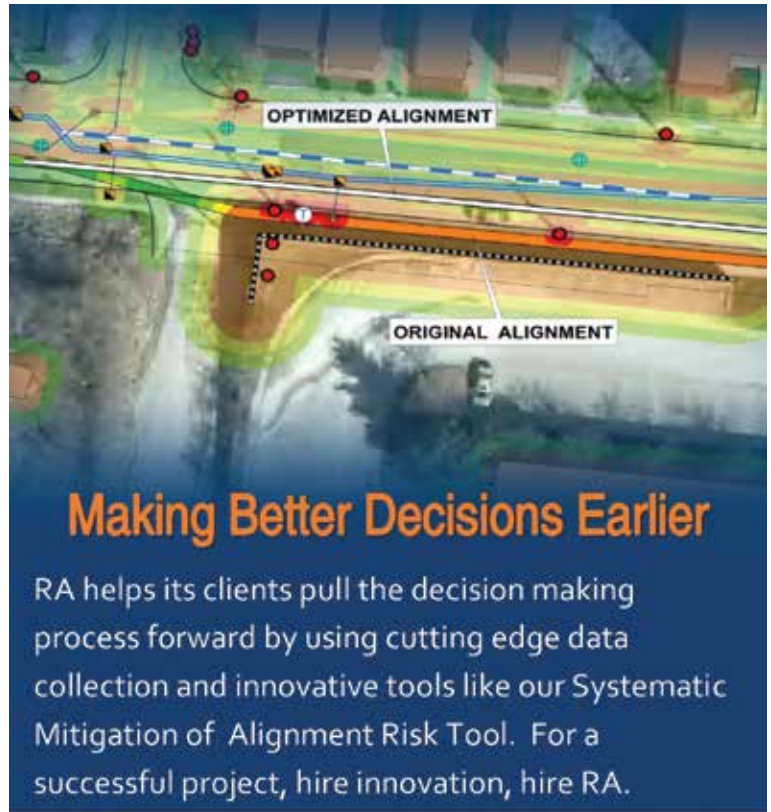
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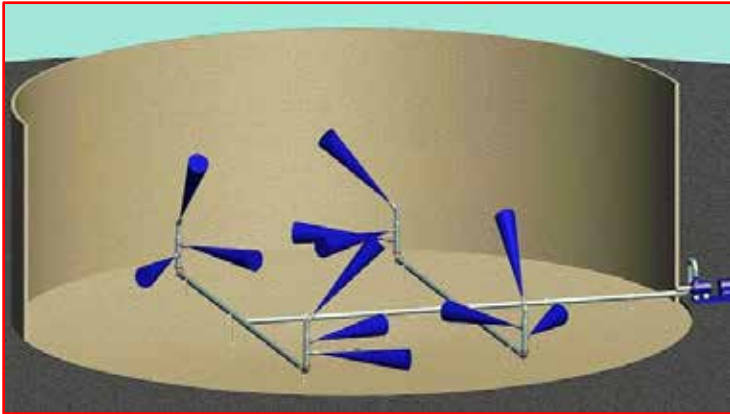


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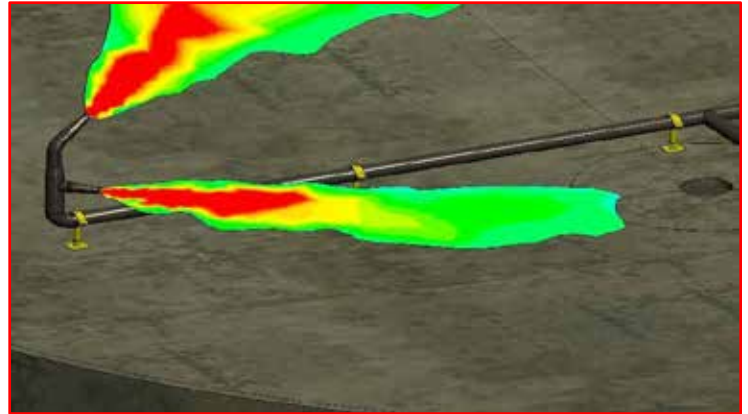


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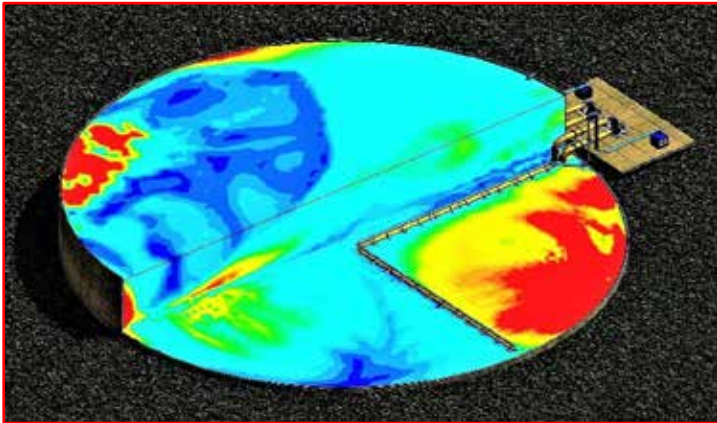
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