Buckeye Bulletin

Ohio Water Environment Association | Volume 83:3 | Issue 3 2010

2010 Annual Conference Recap and Photos
page 28

Featured Plant Sugarcreek WRRF
page 43

Portage River Watershed
page 32

Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

www.ohiowea.org

2010 Ohio Operations Challenge

Who Will Represent OWEA at the WEFTEC.10 Operations Challenge?
page 20

Plant Operations and Laboratory Analysis Workshop
September 1 & 2 in Columbus *page 22*

Inside this Issue

On the Front Cover: 2010 Operations Challenge teams. Photo by Judi Henrich.

Contact Hour Information: All OWEA training is submitted for contact hour approval.

Check out OWEA's website *ohiowea.org* for a complete listing of OWEA approved training.

Article Deadlines: 1st day of January, April, July, and October

Publication Dates: Spring, Summer, Fall, and Winter

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Water Environment Federation®
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2010 Calendar of Events

August 2010
18 Executive Committee Meeting
20 NESOWEALAC Training
26 OWEA Free Webinar on Asset Management

September 2010
1-2 Plant Operations/Lab Analysis Workshop
9 Mega Meeting/EC and Committee Chairs
10 NWOWEA Executive Committee Meeting
16 SWOWEA Section Meeting
30 OWEA Free Webinar on Asset Management

October 2010
14 SWOWEA LAC Meeting
20 NWOWEA Section Meeting
21 SEOWEA Section Meeting
21 SWOWEA Operator Education Day
29 NWOWEA Operator Education Day

November 2010
17 Executive Committee Meeting
18 SWOWEA O&M Seminar/Section Meeting

December 2010
9 Biosolids Workshop
15 Executive Committee Meeting

January 2011
14 NWOWEA Executive Committee Meeting
19 Executive Committee Meeting

Please send all calendar updates to *info@ohiowea.org*. Your event will be noted in the Buckeye Bulletin and on OWEA's online calendar at *www.ohiowea.org*

2010-2011 Executive Committee

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NE Delegate	Ted Baker, Baker and Associates 440.461.4577 *kingsnu@aol.com*

Executive Committee Meeting Dates

Aug 18, 2010 - OWEA Office
Sep 9, 2010 - Olentangy Environmental CC
Nov 17, 2010 - TBD
Dec 15, 2010 - OWEA Office
Jan 19, 2011 - OWEA Office

Check the OWEA website for meeting details.

Committee Chairs

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Dear Friends,

As this is my first President's Message for the Buckeye Bulletin, I wish to publish my inaugural address from June 16, 2010 at the Columbus Renaissance Hotel. It was given to approximately 200 members and guests who attended our banquet. It provides a glimpse of how I wish to lead the Ohio Water Environment Association (OWEA) as President this coming year.

Dale Kocarek
OWEA President

Several of you have asked if I will continue my Kocarek Korner series, which has been one mainstay of the Buckeye Bulletin for the past several years. At the present time, I intend to continue the series. However, in doing that, I will transition my focus more from light commentary of the water world around us to one that deals more directly with practical affairs of OWEA and WEF.

ADDRESS BY THE 85TH PRESIDENT OF THE OHIO WATER ENVIRONMENT ASSOCIATION

"HEROES"

Introduction

It is an honor and privilege to appear before you this evening as the 85th President of the Ohio Water Environment Association (OWEA). For me, this is the fulfillment of a long time dream. I have grown in my 14 years of leadership in this organization and am fortunate to have had some excellent mentors, who helped make this day possible. Many of you are here today.

As I begin this evening, I wish to take a few minutes to thank those who have been especially helpful to me along this journey. First, I wish to thank President Livengood for his service and leadership over the past year and for his career of distinguished service to OWEA. Not only has Mark been a steady and capable leader, but in his service to the organization, he has truly dedicated himself to mastering the mechanics of how OWEA operates.

Second, I wish to thank my employer Stantec—and in particular Matt Tin, Elie Sabbagh, and Roger Jacobsen—for their steadfast support, which has allowed me the privilege of serving as your President. It was Matt, in particular, who encouraged me to become an officer in the Southeast Section in 1996 and supported me as OWEA Delegate, Vice President, and finally President.

Third, I would like to thank our Conference Co-chairs Cindy Jacobsen and Michael Frommer. This has been a splendid conference, and much of the credit should go to them, the committee they led, and Judi Henrich. Unless one has managed a conference, it is hard to imagine the energy, coordination, and attention to detail required to put on a quality conference.

Last but not least, I wish to thank my wife Nancy, for her patience and support to me through my years of service in OWEA. I have been married for 20 years this September. During this time, Nancy has imparted great wisdom to me. One of the things that she taught me is that there are two types of people that we frequently meet as we move through our lives – the "here I am person" and the "there you are person." In my year as President, I will strive to be the latter. I wish to spend part of my year in celebrating – you –our valued WEF members. For it is you who make this organization great!

Role of the OWEA President

If there is one thing that I have learned from my experience on the Executive Committee (EC), it is that the key to successful leadership is not to view oneself as an individual, but as a participant in a continuing caravan of workers—moving through the years—dedicated to the common purpose of building and improving upon the good works accomplished by our predecessors and imparting our own marks.

Each President's term is only one year, so it is necessary that the Executive Committee work together to undertake projects. U.S. President John Fitzgerald Kennedy noted in his Inaugural Address on January 21, 1961 that our work will not be completed in 100 days, nor will it be completed in 1,000 days, but it is important that we begin. It is in this spirit that we do work of this organization. As President Kennedy's presidency was not long enough to complete the important work that was begun during his administration, much of his work was ultimately carried out by his successors. To this end, I am committed to fulfilling the challenge made by President Livengood on March 25, 2010 for OWEA to take steps to become the premier training organization in matters pertaining to wastewater education within the next three years. This road will not be easy, and I do not yet know exactly how yet we will get there, but I am committed to using my term as President to meet this challenge to carry out this promise and to convert it into a lasting legacy.

Objectives for the Coming Year

I have been a WEF member since 1983. I was drawn to this organization by the enthusiasm, passion, warmth, and friendship of our members. To me, OWEA has always been a welcoming organization, which is why I was drawn to it. I believe that these aspects of warmth and hospitality make our organization unique and join us as family.

Let's not be mistaken. OWEA is much more than a social organization. It is better characterized by the hard work and dedication that we share in our common journey of improving the welfare of the human condition by protecting and enhancing our precious water resources for mankind, now and always. It is this sacred duty that binds us together as professionals, family and sojourners in a common journey to protect a resource which is finite on this planet and unique to the universe. We stand with other human health professionals as unsung heroes against pestilence and disease. Few are left alive who remember the times of heavily polluted rivers and the polio scares of late summer, which robbed generations of young men and women of life, health, and vitality. The progress that we have made to defeat this fear and other water borne diseases is something that we must celebrate and never forget.

I devote my term as President to promoting OWEA and encourage all of you to continue your work as active participants in the arena

of human health, education, the promulgation of good regulation, and the protection of our water resources. Especially, I wish to continue to build on the foundation of work by Past Presidents Phil Anderson, Dianne Sumego, and Mark Livengood. Of particular interest to me as your President is the following:

1. In order to respond to rise to the challenge presented to us by President Livengood, I am announcing the establishment of an Ad Hoc Training and Development Committee. This Committee will help identify strengths and weakness, and gaps in training and identify areas where we can do better. I like WEF's message of 'getting back to the basics', which Bill Bertera related again to us at WEFMAX. Accordingly, I would like to ask each Section and Standing Committee to consider putting on one or more presentations that feature the "get back to the basics" theme this coming year.
2. In an effort to build unity within OWEA, I intend to visit each section as many times as I can this year. I will try to attend at least one Section Board meeting and one Section Meeting this year. I have always been impressed and energized by attending section meetings and Section Executive Committee meetings, and feel that my participation in these events will foster a better understanding of what is important to our sections, and how the State and our Sections can work together to create an even stronger organization.
3. In an effort to understand who we are, what our role is in the marketplace, define our opportunities, resources and limitations, and where we wish to go in our industry, I am announcing the formation of an Ad Hoc Strategic Planning Committee. The mission of this Committee will be to take a robust yearlong evaluation of OWEA and present recommendations for OWEA to consider in our May 2011 EC meeting.
4. In an effort to explore means to outreach to the community, I am announcing the formation of the Ad Hoc Publicity Committee. The mission of this Committee will be to explore means and venues to help us promote the good work that we do and show the outside world that OWEA is part of the larger community.
5. I will continue the work begun several years ago by Dianne Sumego on preparing additional Policies and Procedures on OWEA as an active function of the Governance Committee. I feel that the policies and procedures were a resounding success in that they helped standardize standard operating guidelines for the organization. Several that need attention in this year include Awards, Financial Management, Sponsorship, and Succession Planning.
6. I am taking steps to work actively with the Young Professionals Committee this year to help create more substance and excitement for our younger professionals.

The Role of WEF Membership in Professional Development

To promote outreach for the Young Professionals (YPs), OWEA offered the opportunity for YPs to attend a portion of Tuesday at this conference for $25.

One of several things that I have proposed to the Executive Committee is to have the YP Committee functionally take over the duties of the Watershed Committee. In doing this, I felt that coupling together functions of the Watershed Committee, with community service projects, which YPs like to do, should help build and maintain critical mass for committee growth. Ultimately, I hope that this will create important and meaningful work for the Association, which is also personally rewarding and fun. Years from now, I wish for the YPs to look back at this time in their lives with fondness and say that it was worthwhile.

Strategic Planning and Where We Go from Here?

A moment ago, I spoke about strategic planning. Those of you who know me best understand that I am a person of frequent emails and conversations. Next year, I hope to engage many of you on where you would like to see our Member Association be in the future.

Please do not get me wrong. There are many things that OWEA does very well and of which we should be proud. These include section meetings, providing opportunities for participation, workshops, and our annual conference. What I am hoping to achieve is to optimize and focus our energies and resources for the maximum benefit of our members so that we are well positioned to serve the needs of our industry. We are living through a severe economic downturn, the likes of which have not been seen since the Depression, and many are leaving our field due to retirement. I believe that continued success cannot be assumed without making sure that we are headed in the right direction. For us to do the work that I would like, we need to understand that OWEA must also be sustainable and evolve with the times. We must begin by taking a good look in the mirror to understand who we really are. Then and only then can we take steps to build an organization, which is relevant and responsive to the needs of its members and the larger community.

The Strategic Planning Committee will seek to address the following questions:

- Who are our members and what is important to them?
- What are our core strengths and weaknesses?
- Can we improve our alignment and branding with WEF and more effectively leverage their strengths for our mutual gain?

Once we determine those, we will have solid information to base decisions and make choices of where we go from here.

WEF Water Heroes

I am going to close my address this evening by acknowledging our WEF Water Heroes. WEF established this category several years ago to recognize exemplary service, accomplishment, and dedication to those in our ranks who have who have served the organization and their professions through decades of good service. Our Water Heroes serve as our mentors, teachers and inspirational leaders. Those who I am about to mention have been inspirational leaders to me and have helped build the organization that you see today.

continued page 8

It is my pleasure to recognize the following WEF Water Heroes, in our midst who are part of OWEA:

- Gary Johnson, Arcadis
- Kathy Cook, retired from the City of Fairborn
- Bill Hill, retired from the City of Delaware, and now with Cad Concepts
- Keith Riley, Ohio EPA, Northeast District Office

In addition to the Water Heroes, I have been inspired by heroes of U.S. history, and especially U.S. presidents, who have shown courage, dignity, a willingness to stand on principle, to put others first, and be a voice for the common man and woman. One of the best examples of such a leader was Theodore Roosevelt, the last U.S. president of the gilded age, the relentless champion of the regular citizen, the accomplished author, naturalist, and creator of the National Park System.

For you see, I have always been drawn to this former U.S. president as we have several things in common. We were born 100 years apart, are both nearsighted, have the same height and weight, and we were both interested in writing and the sciences.

I am reminded of an excerpt from a speech given by President Roosevelt exactly 100 years ago in 1910, which reminds me of some of the hardships that we have today as we do our important work to protect and preserve clean water for ourselves and future generations in this atmosphere of doing "more with less." I am sure that many of you have heard of this excerpt, which I will read in closing:

"Man in the Arena"

The Honorable Theodore Roosevelt (1858 - 1919)

26th President of the United States of America (1901-1909)

Sorbonne, Paris, April 23, 1910

"It is not the critic who counts, not the man who points out how the strong man stumbled, or where the doer of deeds could have done better. The credit belongs to the man who is actually in the arena; whose face is marred by the dust and sweat and blood; who strives valiantly; who errs and comes short again and again; who knows the great enthusiasm, the great devotions and spends himself in a worthy cause; who at the best, knows in the end the triumph of high achievement, and who, at worst, if he fails, at least fails while daring greatly; so that his place shall never be with the cold and timid souls who know neither victory or defeat."

Let's take solace and comfort that the work that we do is great in the eyes of President Roosevelt. Each battle that we wage—large and small—to honor to ourselves, our communities, our employers, and the world in which we live creates a legacy of excellence and virtue that can never be extinguished.

I want to thank you for joining us and wish you a good evening.

Dale Kocarek
dale.kocarek@stantec.com

OWEA ASSOCIATION NEWS

OWEA Exhibits at Ohio RCAP "Small Towns, BIG Futures" and Ohio Section AWWA Annual Conferene

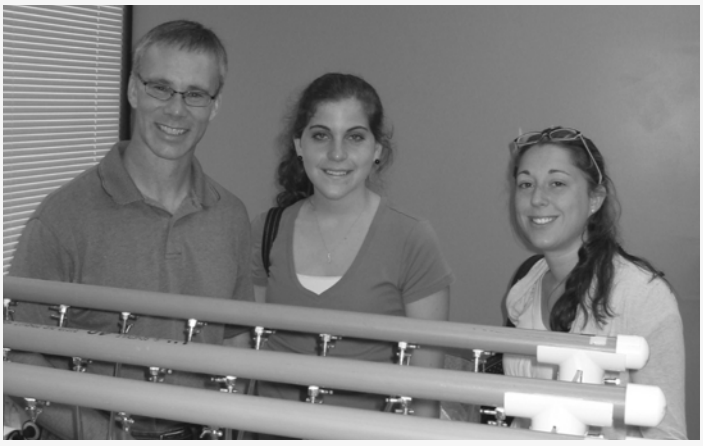
The Ohio Water Environment Association will be sharing information regarding its goal of preserving and enhancing Ohio's water quality environment and the benefits of involvement in the organization. We'll be staffing a booth August 24-25 at Ohio RCAP's "Small Towns, BIG Futures" conference at the Hilton at Easton in Columbus. On September 21, you'll find OWEA at the Ohio Section AWWA Annual Conference at the Hyatt Regency Columbus.

Presentations and Webinar Available

The presentations from the 2010 Collection Systems Workshop and 2010 Annual Conference technical sessions are now available online as PDF files. Part one of a three part webinar series on Asset Management is also available. Visit *www.ohiowea.org* and click on Presentations (left margin list).

OWEA Interns Visit the Great Lakes Environment Center

Interns Julie Steffen and Emily Barbe, along with Executive Administrator Judi Henrich, were treated to a personal tour of the GLEC by Tyler Linton, Principal Research Scientist, on July 13. The Great Lakes Environmental Center (GLEC) is an established national leader in applied environmental sciences, research, development, and compliance assistance with offices in Traverse City, Michigan and Columbus, Ohio.



Tyler Linton, Emily Barbe, and Julie Steffen.

Spring Term intern Julie Steffen extended her internship through the summer at OWEA. Intern Emily Barbe is heading into her junior year at Indiana University Bloomington, studying Communications and Spanish. Emily is spending her summer in Columbus as an intern for OWEA and hopes to someday work for an international not-for-profit organization. Julie and Emily assisted at the 2010 Annual Conference registration desk and had the opportunity to interact with many OWEA members.

Design of Municipal Wastewater Treatment Plants

The "Design of Municipal Wastewater Treatment Plants", a three volume set of WEF Manuals of Practice, is available for reference at the offices of the Ohio Water Environment Association. Please contact *info@ohiowea.org* if you would like to reference these manuals, the 5th edition published in 2010.

WEF DELEGATE REPORT

Steve Morrison, Sr.WEF Delegate

Phil Anderson, Jr.WEF Delegate

Since this will be my last report as WEF Delegate, forgive me for sharing some of my thoughts pertaining on our organization. My 3-year term as WEF Delegate will end at WEFTEC in October of this year. OWEA will continue to be very well represented at the WEF. Phil Anderson will continue as WEF Delegate. In June, the OWEA Executive Committee approved Kim Riddle to take my place as WEF Delegate. Kim will begin her 3-year term in October at WEFTEC. Kim brings a record of extensive experience and service to OWEA and WEF. She is the current President of the Northeast Section, current Chair of the WEF Plant Operations Committee, and has had extensive involvement over many years in Operations Challenge at OWEA and WEF. She will definitely keep OWEA well represented in WEF. I wish her the best of luck in her new role with OWEA and WEF.

In addition to Kim joining the ranks as WEF Delegate, OWEA will have the possibility of another WEF Delegate starting in October at WEFTEC. Dianne Sumego has been nominated by the WEF Board of Trustees to be a WEF Delegate at Large. If approved by the House of Delegates in October, she will begin her 3-year term as Delegate. Dianne is very deserving of this position and will represent OWEA and WEF very well when she is confirmed.

In addition to our WEF Delegates, Debbie Houdeshell represents OWEA by serving in her third year on the WEF Board of Trustees. The WEF BOT is charged with setting operating policy for WEF. Debbie has many years of service to OWEA at the section and state level. She is also a very active member on the Board and represents Ohio very well within WEF. Debbie was very instrumental in the complete reorganization of the House of Delegates several years ago and served as the first Speaker of the House of Delegates. As you can see, OWEA is very well represented at WEF.

Over 33 years ago I attended my first meeting in the Southwest Section and was given a friendly suggestion by my supervisor to participate in a committee. That was probably some of the best advice I have received in my career. I have come to realize over the years how much benefit OWEA and WEF have provided me personally and professionally. That association has also benefited my employers by making me a more knowledgeable and well rounded employee. I would recommend that everyone in the profession become a member of OWEA/WEF and enjoy some of the same experiences that I have.

I have been honored to serve OWEA and WEF over the past years and look forward to continue that service in the future.

Steve Morrison
steve.morrison@woolpert.com

We hope to see YOU in New Orleans at the

WEFTEC 2010 Ohio Mixer

Sunday, October 3, 2010 from 6:00 - 7:30 p.m.
Hilton New Orleans Riverside Salon B, Sections 9 & 12

Sponsorships are available

Contact Dianne Sumego, dianne.sumego@arcadis-us.com, 330.434.1995
or Judi Henrich, judihenrich@ohiowea.org, 614.488.5800

UNDERSTANDING THE DIVERSITY OF OUR PROFESSIONAL COMMUNITY

by Dale E. Kocarek, P.E., BCEE - OWEA President

In my service on the Executive Committee of the Ohio Water Environment Association (OWEA), I have often thought about how one must best define the profile of our "typical member". I had hoped that by the time I became President of OWEA, I would be better positioned to chart a course of direction for our organization so that I could be more responsive to the needs of our members—indeed a noble aspiration.

On one hand, this all sounds so simple. After all, we share a common interest in protecting and enhancing the water resources of Ohio—don't we? So, we are all largely working towards a common purpose. However, this is where I have encountered difficulty. With what I have seen in our sections and at our workshops, conferences, and WEFTEC, I have yet to be able to point to a single person and declare him or her to be our "typical member." This has both positive and negative ramifications. But, in the end, I have come to realize that diversity is one of our core strengths.

Our diversity is a little different than how society defines it in terms of the classical identifiers such as age, gender, race, place of national origin, and ethnic background. For OWEA diversity occurs more in the context of the different occupations, skill sets, education levels, stages of life, and experience that we hold. We have many who hold associate's, bachelor's, master's, and doctorate degrees in engineering, business management, teaching, science, and other fields and work as engineers, managers, administrators, scientists, regulators, teachers, and operators. Many of the more technically savvy operators in our field learned instrumentation and control, electronics, and power distribution in the Air Force or Navy, or in community colleges. Still many others learned on the job.

Another measure of diversity is the level of participation in our organization. Some WEF members participate only on Standing Committees at WEF. On the other hand, some view WEF from the perspective of only their own sections. Yet, we are all members with a common purpose.

As a student of U.S. history, I associate this situation to what the United States faced in the years between the Civil War and the turn of the 20th Century. This was a time in the history of the United States when our country experienced the more profound change from its earliest beginnings until now. While some changes were positive, others were controversial and sad.

The midpoint of this period was about 1885. By that time, the East was fully in the embrace of the Industrial Revolution. City streets in urban upscale New York and Boston were lined by brownstone mansions owned by an educated upper class and horse drawn Baughman carriages served as day to day transportation. New England was dotted by clothing mills, quaint towns, and small farms. Further to the west, Pennsylvania and West Virginia were attracting immigrant workers from Central and Eastern Europe to work in coal mines to feed the new steel industry. Finally, the West was living—for the moment—in an uneasy peace with Native Americans while our government officials were driven by Manifest Destiny.

So, what conclusions can we draw from an era of long ago? I think that there are several relevant conclusions:

- Like the United States, our own organization is changing and we are living in uncertain times. While our members have different needs, we must face the fact that "life is change" and borrow lessons from the book "Who Moved my Cheese?" –which is to evolve and adapt to new conditions or face unpleasant consequences. Our traditional way of educational delivery systems, featuring "classroom only" lectures, must begin to partially give way to new modes of learning such as webinars and "hands on" training, where attendees have the opportunity to feel and touch equipment. Here is a case in point: WEF has 101 pre-recorded webcasts that can be used for distance learning. This is something that we will explore this year in our Training and Development Committee, along with providing additional opportunities for hands on training.
- We must recognize that the value of WEF membership often tends to appeal to a professional operator or engineer who is interested in career enhancement and development, and who derives a sense of pride in being associated with such an esteemed organization as WEF. The benefits of WEF membership follow a person from job to job through life, which is an important concept to understand. WEF membership helps define "who we are" as water quality professionals. WEF has found that those who tend to be solely "job focused" are often less interested in joining professional organizations. While some may eventually wish to join, the majority may not. Yet, all who partake in the work that we do are part of our overall community.
- After attending our most recent WEF Regional Exchange (WEFMAX) meeting in Cleveland on May 6 and 7, 2010 and discussing the challenges of our membership with several on the OWEA Board, I have determined that OWEA really needs to direct its principal focus to the quality of service and promoting WEF, and less energy on solitary efforts to increase membership for reasons stated above.
- I believe that the Ohio Water Environment Association is well positioned to serve our industry. Essentially we have a four pronged approach to serve our members and those in our industry –
  - As a conduit to facilitate involvement in WEF committees
  - Through our Standing and Ad Hoc Committees
  - Through our OWEA Conference and Workshops
  - Through our Sections

On a personal note, I am excited to be the new President of the OWEA. I believe the diversity that I have in my own career positions me well to understand the needs of our members. I am a professional engineer, a wastewater operator, and a member of the American Academy of Environmental Engineers (AAEE). Vocationally, I have worked for the Ohio EPA and currently work

for a consulting firm, Stantec, so I have good insights to key issues such as environmental compliance and how to design facilities which are flexible, adaptable, and operable.

As a young man, I adopted the attitude to learn from the best and brightest in our industry, both in the public and private sectors. These professionals not only taught me important technical information, but also other life skills such as patience, wisdom, working with political officials, and others important to being effective in the work that we do. Some of this learning occurred as a result of my experiences through OWEA meetings and workshops. I can't place a dollar value on the innumerable benefits that I have received due to my 27 years of membership in WEF, as they are both tangible and intangible. But, I can promise you that if you join WEF and seek to participate actively in any way that you can, you will derive professional and personal fulfillment in ways that you had never thought possible.

About the Author:

Dale E. Kocarek is an Associate with Stantec Consulting Services, Inc. in Columbus, Ohio and is the President of OWEA.

Dale is also the Chair of the Government Affairs Committee and he may be reached at Dale.Kocarek@Stantec.com

WELCOME

new members who joined OWEA in April, May, and June.

Justin Angel
David Bauer
Don Bratschie
Joe Craig
John Davis
Andrew Gall
Yuan Gao
Ray Goodman
Edward Greenwood
Hassel Hardin
David Hayson
Xiao Jin
Tim Jones
Janet Kern
Justin Mason
Sierra Mccreary
Michael McFadden
Julia Mueller
Edward Nichols
Jeremy Okuley
Richard Omlor
Jeremy Pijor
Sean Snyder
Laura Tegethoff
Jeff Thompson
Lee Tourek
Patricia Vanah
Paul Vogel
Aaron Zonin

CALL FOR PAPERS

85th Annual OWEA Conference
Kalahari Convention Center - June 21-23, 2001

"Somewhere Between Survival and Sustainability"

Where are you on that spectrum? We'd like to know!

The decisions that operators, engineers, managers and regulators have to make are motivated by a need for preservation (survival) but also a desire to improve the environment. Sometimes, our solutions include a mix of survival and sustainability. In the end, truly "sustainable" options should lead to survival . . . right?

We would welcome papers on any topic, but would like to explore this relationship between survival and sustainability including:

- Green technology (good and bad)
- Infrastructure asset management
- CSO & SSO program changes, developments & lessons learned
- The impact of system upgrades on the communit
- Succession planning & cross training in staffing
- Preventative maintenance
- Watershed impacts of WWTP changes
- Biosolids – reuse at what cost?
- Biogas to electricity – does it pay?
- Spending more to save more (Capital vs. Operations/ Replacement)
- Energy efficiency in design and operations

Submit a one page abstract of your presentation. Include your name, address, daytime phone, and email address. Presentations should be 25 minutes in length (with 5 minute Q&A). We will consider hour long presentations upon request. **Deadline for submission is October 1, 2011.**

Submit to:
Douglas Clark, Program Chair
2011 OWEA Conference
City of Bowling Green WWTP
901 Dunbridge Road
Bowling Green, OH 43402

Tel: 419-354-6275
Fax: 419-354-1521
Email: DClark@bgohio.org

NOTE: OWEA does not offer honorariums, travel, or lodging expenses.

Speaker protocal may be viewed at *www.ohiowea.org/Call for Abstracts*

NE SECTION

Mike Welke, President

Hello, I am Mike Welke, Biosolids Manager for the city of Warren WPC facility. I have worked there for over 22 years and have been involved with WEF and the OWEA for several years. It is my privilege to serve as President of the NE section. This year is going to be exciting thanks to the efforts of the NE executive committee.

First, the section held its annual Bio-Mass-ters Golf Outing on July 16th at Mayfair Country Club. It is one of our social functions but more importantly it is a charity event to help raise money for Water for People and our Scholarship fund. On September 18th, we will have our annual clam bake. Come enjoy the good food and good times at this event and see who will take the coveted cornhole title home with them this year. In November, the section will tour the Massillon facility and have contact hour sessions. In January we will have our operator meeting and in February we will have our industrial waste meeting.

A few of the goals the section has for this year are to reach out to areas of the section that are not active in WEF or the OWEA. We would like to help these areas to see the value of being part of WEF and the OWEA. The NE section will continue to adjust its rules and regulation to follow the rules and regulations of the OWEA. We also will be continuing to improve our web site. Check it out at *www.nesowea.org*. As always we will continue to provide quality contact hours to our members.

I would like to welcome two people to the NE Executive Committee, Ted Baker, who will serve as the NE Section Delegate, and Tom Voldrich, who is coming in as first year Executive Chair. I would also like to thank in advance all of our standing committees for the work they will do this year.

I look forward to seeing everyone at our events this year.

Mike Welke, *mwelke@warren.org*

NW SECTION

Kim Riddell, President

NWOWEA President Kim Riddell holds a Class IV Wastewater Operators license and a Class II Laboratory Analyst license. Kim also holds a Bachelor of Science in Biology from the University of Toledo and a Master's in Organizational Management from Bluffton University. She recently accepted a position as a Sales Associate with Smith Environmental. Kim started her career in wastewater as the laboratory analyst for the City of Van Wert in 1997. She moved on to Allen County as their Laboratory Director in 1999 and then became Chief Plant Operator for the county at their American Bath facility in 2001. She accepted the position of Superintendent of Wastewater for the City of Delphos in August 2002. While at Delphos, Kim worked with her staff, engineers and the Ohio EPA to design and construct a new MBR / ATAD facility which was the largest of its kind when it went online in 2006.

Kim is an active member of OWEA and WEF where she was recently elected as an OWEA WEF Delegate (October 2010). She is currently the Chair of the WEF Plant Operations and Maintenance Committee, a past Chair of the WEF Membrane Technology CoP, and was the Chair of the WEF Membrane Specialty Conference in Atlanta in 2008. Kim is Co-Chair of the OWEA Plant Operations and Maintenance Committee where she coordinates OWEA's Operations Challenge event. She has also been a safety event judge for the WEF Operations Challenge event since 2004. Kim has been a speaker during many training sessions including NWOWEA Section Meetings, OWEA State Conference, OWEA Plant Operations Workshop, WEFTEC Pre-conference workshops and technical sessions and several WEF Residuals and Biosolids Specialty Conferences. Kim is a past recipient of the NWOWEA Kathleen M. Cook Award for Laboratory Analyst of the Year, the OWEA Laboratory Analyst Award, the WEF Laboratory Analyst Excellence Award and the OWEA W.D. Sheets Award. She was also inducted into the OWEA Crystal Crucible Society in 2005. In addition, Kim is a member of the Ohio EPA Operator Certification Advisory Council.

Kim lives in Delphos with her two children, Alex (11) and Emma (8). Kim enjoys her work, camping with her family, cooking for friends, reading and watching Alex play baseball and football.

Kim Riddell, *kim@go-smith.com*

SE SECTION

Steve Elliott, President

SEOWEA Section President Steve Elliott is the Wastewater Superintendent and Chief Operator of the City of Marietta's Wastewater Treatment Plant. He is an Ohio EPA Certified Class IV Wastewater Operator. He is a graduate of Marietta High School and has an Associate of Arts degree from Urbana University. He has attended many OWEA meetings over the years and is also the SEOWEA section Plant Operations Chairman. He has taught the basic wastewater course for the Operator Training Committee of Ohio in the past and attended many technical sessions over the years as well.

He began his career with the City of Marietta in 1988 as the Lab Assistant/Pretreatment Coordinator. In 1990 he was promoted to a Wastewater Treatment Plant Operator and was promoted again in 1999 to the Wastewater Superintendent and Chief Operator of the City's Class IV Wastewater Treatment Plant. His current duties include budget preparation, purchasing, supervision of the plant operations and maintenance, collections system, laboratory and pretreatment program.

He grew up in Marietta and currently resides in the area with his wife, Lorrie. They have five children and two grandchildren. In their spare time they enjoy hobby farming and gardening.

Steve Elliott, *steveelliott@mariettaoh.net*

SW SECTION

Jeff Olsen, President

SWOWEA Section President Jeff Olsen is a Vice President at the engineering consulting firm of HDR Engineering, Inc. and is responsible for its water & wastewater program in Ohio. He has a Bachelor of Science in Civil Engineering from the University of Cincinnati and is a registered Professional Engineer. He credits his co-op experiences while at UC for providing the solid working foundation that he draws upon to this day. In fact, he believes so strongly in co-op that he volunteers to be a guest speaker to the UC program to share his experiences. In addition, when he speaks to high school students, he emphasizes that whatever career path they choose, a program that provides co-op experiences will serve them well, both in determining if the career they have chosen is really what they want to do, as well as gaining a competitive advantage when entering the job market.

Upon graduation, Jeff was provided an opportunity with the Clermont County Water & Sewer District that was too good to pass up. Initially hesitant about working for the public sector, he found Clermont County to be progressive and broke the stereotypical government perception that so many have about government jobs. He started out as a construction coordinator and worked his way up to engineer, and was responsible for development and implementation of their $140 million capital improvement program. He takes pride in the fact that many of the applications and procedures he developed are still used today by the current staff.

He found that working for Clermont County taught him valuable lessons that extend into his personal life. Several worth sharing include:

- Don't buy a home that doesn't have public water and sewer – most people are not aware that the Ohio Revised Code allows a utility to construct the service along your property and then charge you for your "fair share" of the project costs. I have met with countless property owners trying to explain why they have to pay for the improvement.
- Buy a home that is higher than the street – no matter how good the design is, a storm will occur that will cause a home lower than the street to be flooded by water, either runoff or sewer backup.
- Textbook knowledge is not a substitute for hands-on experience - we may not admit it, but we all know people who think they are superior because they have a college degree and other credentials behind their name. Having worked daily with plant operators and others who did not attend college, he very early recognized that just because an individual's circumstances prevented him/her from attending college does not indicate that he/she lacks valuable knowledge and worth to the endeavor at hand. Our profession and this organization have many individuals with valuable insight and perspectives that unfortunately are not fully utilized. Whenever he undertakes a project, he strives to get input from as many individuals as possible that will interact with that project at some point during its duration so as to gain an understanding and appreciation of all aspects of the project.

Having been a member of the organization for many years, when he saw the passion that Sue Kutcher, a former co-worker, had for the organization and the good things this organization strives to achieve, he became more involved, which has led to where he is today.

Jeff grew up on the west side of Cincinnati and has been married to Brenda for 10 years. Their son Jason will soon be turning three and they enjoy spending their free time doing whatever Jason wants to do.

Jeff Olsen, *Jeff Olsen@hdrinc.com*

OWEA OFFERS FREE THREE PART WEBINAR SERIES ON ASSET MANAGEMENT

OWEA is offering a free three part webinar series that will provide helpful information and guidelines on implementing a comprehensive asset management program. The webinar series features three Ohio cities at various stages in the Asset Management process, who will share their experience and lessons learned to date:

Thursday, July 29, 2010 from 12:00 pm to1:00 pm - *(Recorded and available at www.ohiowea.org – Presentations)*
Part 1 - "City of Dayton – What is Asset Management? Can it help us Improve Operations? How do we get started?" presented by Nick Dailey, Engineer (City of Dayton, Department of Water)

Thursday, August 26, 2010 from 12:00 pm to 1:00 pm - Register at *www.ohiowea.org – Featured Events*
Part 2 - "City of Columbus – Where are we in implementing Asset Management? What is the Triple Bottom Line? What results are we starting to see because of Asset Management? What are the next steps?" presented by Kevin Campanella, Assistant Director, Public Utilities at City of Columbus, Ohio.

Thursday, September 30, 2010 from 12:00 pm to1:00 pm - **Save the Date**
Part 3 - "**City of Cincinnati** – What changed after full implementation of Asset Management? Has it been a worthwhile investment? How to we sustain the changes/improvements?"

For more information, contact Doug Clark, Chair - Utility Enhancement Committee/OWEA President Elect - *dclark@bgohio.org*

OHWARN TABLETOP EXERCISE

by Karen Hawkins

The motto of "Utilities Helping Utilities" was put to a practice test as members of OHWARN recently participated in their first tabletop exercise held at the State of Ohio's Emergency Management Agency's offices in Columbus. Representatives from twenty water and wastewater utilities, state regulatory agencies, and industry organizations were in attendance.

The activity served multiple purposes. It brought together members from across the state of Ohio, provided a review and test of the new OHWARN operations manual, and involved participants in a hands-on exercise. The program was facilitated by Brad Armstrong, a consultant with the US Environmental Protection Agency and Ray Riordan, a representative of California WARN. The exercise proved to be very fruitful with a lot of new resources learned, ideas generated, and networking conducted.

OHWARN continues to grow with a current membership of 35 public and private utilities. The newest members welcomed on board in May were the Village of Chagrin Falls, the City of New Carlisle, and the City of Akron. It is hoped that this growth will continue to help facilitate mutual aid between utilities throughout Ohio.

If you have made it this far into the article and still aren't sure what OHWARN is, here's a brief explanation. OHWARN stands for Ohio Water/Wastewater Agency Response Network. It is a free, volunteer driven organization made up of water and wastewater utilities and the agencies/organizations that support them. The goal is to put processes in place to allow for the quick procurement of assistance in emergency situations. While many of you may have handshake agreements in place with your neighboring communities, OHWARN membership plugs you into resources across the state. This can be very useful when an event is regional and your neighbors may be addressing the same types of issues you are.

Interested and want to learn more? Visit the OHWARN website at *www.ohwarn.org*. You will find information there on benefits, how to join and who to contact if you have further questions.

OHWARN The Ohio Water / Wastewater Agency Response Network

YOUNG PROFESSIONALS COMMITTEE

by Dan Martin

What a great OWEA Conference! Special thanks to all those who helped support our YP Conference activities:

- YP Presenters – Kris Ruggles (Strand Assoc.), John Krinks (URS), Sridar Vedachalam (Ohio State), Brandon Fox (Farifield Co. Utilities), and Seth Bradley (Hazen & Sawyer). Excellent job on these interesting presentations.
- SP (Seasoned Professionals) Roundtable Participants – Elizabeth Wick (Ohio EPA), Bart Jones (Strand Assoc.), and Bob Bonnett (Northeast Ohio Regional Sewer District). The pearls of wisdom and experience were appreciated by our large group of attendees who were a mix of YPs and SPs.
- Dale Kocarek – Thanks for supporting the slate of YP presenters and providing input during our committee meeting.

The Young Professionals Committee had a brief meeting during the conference where we outlined events for the upcoming year.

- A YP Summit is planned to occur this fall in Central Ohio. The event will be centered around a "green" activity such as the planting of a rain garden. Participants will learn key aspects of sustainable "green" design while earning contact hour credit as we literally roll up our sleeves and dig in to this seminar. Further updates to come.
- A YP/Operator award at the state level. We were pleased to have the Southwest Section YP/Operator award winner Mike McLaughlin who is an operator for Miamisburg. Our goal is to have one YP/Operator award winner from each section and then have a competition at the 2011 state conference.
- We are still interested to support a YP Operations Challenge team. We envision this will be a team made up of operators from multiple small plants. We already have a couple interested folks from the Northwest section. Will a couple more step up to join them? Let me know, *dmartin@raconsultantsllc.com.*
- Student initiatives: We hope to build off of the great energy coming from Ohio State's Student Chapter. They traveled to Phoenix, Arizona in June to compete in WEF's Wastewater Challenge.

The YP Committee is excited to be taking on watershed activities this year. We had a fruitful discussion with John Aldrich on where we can take this new initiative. Our upcoming YP Summit centered on a green activity will be a great start. We are reaching out to storm water groups to help build connections and look for opportunities to provide value for OWEA. The YP committee is looking at extending a liaison to other committees within OWEA. One idea would be for the YP liaison on each committee to track new technologies or trends for each committee.

Contact your Section YP representative to become more involved in the Young Professionals Committee:

- Southeast Representative
  Brandon Fox
  bfox@co.fairfield.oh.us.
- Southwest Representative
  Dan Martin
  dmartin@raconsultantsllc.com.
- Northwest Representative
  Walter Ariss
  Walter.Ariss@epa.state.oh.us.
- Northeast Representative
  Nick Bucurel
  NBucurel@pirnie.com.
- Ohio State University Student Chapter Representative
  Nick Elmasian
  nelmasian@gmail.com
  Please contact Nick if you or a Student/YP you know would be interested to develop a student chapter at a local university.

Special thanks to all the committee volunteers who make the YP committee vibrant! As always, if you have any suggestions or questions, please contact me:

Dan Martin
513.469.6600
dmartin@raconsultantsllc.com.

Don't Miss Out On Important News
Update Your Membership Profile

Maintain an accurate mail and email address so you receive timely communications from OWEA regarding upcoming events, important news affecting water environment issues, and your copy of the Buckeye Bulletin.

Please check your member profile at: *www.wef.org* by clicking on the Membership link. You can also make changes to your OWEA/WEF membership account by contacting WEF directly at 1.800.666.0206 or by email at *csc@wef.org.*

LAB ANALYST COMMITTEE

by Chairs Eva Hatvani and Nancy Taylor

SAVE the DATE: September 2, 2010

Plant Operations/Lab Analyst Workshop

- The annual lab workshop will be held in conjunction with the Plant Operations Committee.
- Lab Sessions will be on Thursday, September 2.

At the end of the session last year, we asked you for what you would like to hear at our next meeting. Your recommendations were: Proficiency Testing, Common Analyses like BOD, TSS, Ammonia, Microscopic Sludge Identification, Luminescent DO and you really liked the game show format for the Lab Quiz. We will try to accommodate as many of your recommendations as possible.

2010 Crystal Crucible Inductees

Congratulations to the following recipients for induction into the Crystal Crucible Society.

Jerry Wright	City of Dayton
Jim Borton	City of Wooster
Rory Prigge	City of Defiance
Paul Zeier	Retired (City of Columbus)
Michael Maringer	Industrial Fluid Management
Larry Moon	Retired - Honorary *(not pictured)*

Congratulations

to the following certified Wastewater Laboratory Analysts:

Class I	Class II	Class III
Michelle Gilford	Ken Parks	Mark Ciccone
Leroy Huber	Nivia Torres	Charles Plummer
Nichole Schafer	Josh Zwick	Inez Preyor
Johnny Shingleton		
Phillip Tudor		Class IV
Marchall Yarnell		William Collins

2010-2011 Exam Dates

October 22, 2010
Cleveland and Columbus - Location TBD
Application Deadline: September 10, 2010

April 22, 2011
Cleveland and Columbus - Location TBD
Application Deadline: March 18, 2011

1. Lab Certification information is posted on the OWEA website *http://www.ohiowater.org/owea/For_the_Lab/*
2. Applications can be obtained by calling Eva Hatvani at 216.641.6000 or downloaded from the OWEA website.
3. Please see the ABC testing site link for the "Need-to-Know" criteria.
4. Please note new rules for certification section on the Lab Certification web page. The test fee is $95.00.

Reinstatement of Certificate

1. If you did not renew your certification by Dec. 31, 2009, you are no longer certified. To be reinstated, you must provide proof of holding a certificate and submit a fee of $95.00. If you cannot provide proof of certification, you must retake all tests in sequential order.
2. If you have moved, please contact Eva Hatvani at hatvanie@neorsd.org or (216)641-6000, otherwise we have no way of contacting you.

Northeast LAC- Kathy Richards

- **June 4, 2010**
  The NESOWEA Laboratory Analyst Committee hosted a training event covering Dissolved Oxygen Instrumentation & Technologies as presented by Tim Grooms of YSI International. Approximately 30 persons attended this session, which has been approved for 3 contact hours. A huge special thanks to Mike Welke, current President of the Northeast Section, for securing our venue. Perkins Park in Warren is a beautiful location and it was wonderful to spend the time outdoors in the fresh air instead of in a conference room. I would lay odds that this was the first OWEA meeting of any type to be interrupted for a break due to an Ice Cream Truck driving by. Even we white coated geeks like our fudge-sickles!
- **August 20, 2010**
  Our next meeting will be held the afternoon of August 20th at the Ohio State University Agricultural Technical Institute in Wooster. Several speakers will be in attendance to address the topic of E. coli as a pollutant and proper analysis and reporting. We anticipate approval for 2.5 contact hours. For more specific information check out our websites (see below) or contact me via our email (below). I will add you to our email notification list and you will automatically get updates as they become available.
- **October, 2010**
  Tentative plans have us meeting in October in Elyria. Steve, Vicky & Rich are such good hosts, it only seems right to abuse their hospitality. Tentative topics include "In House Training of New Lab Personnel" & an OEPA Division of Surface Water Update. Again, specifics can be found on our websites or via our email notification list.

continued on page 17

We are actively seeking venues for our LAC section meetings! If you are interested in volunteering some space (enough to hold 30-50 people) with minimal technical requirements (we need an electrical source) please get in touch with any of the NES committee members:

Kathy Richards	*KRichards@AkronOhio.gov*
Denise Seman	*DSeman@CityofYoungstownOH.com*
Dale Holmes	*DaleH@MCLW.com*
Lisa Feigle	*LisaF@GCDWR.org*
Amy Starkey	*AJStarkey@Co.Stark.Oh.US*
Trevor Jones	*TJones@DOES.SummitOH.net*

Additional training events will be announced in future Buckeye Bulletin articles, Sparkling Waters newsletters, and online at *www.ohiowea.org* and *www.NESOWEA.org*. While you are visiting these websites, consider responding to the NESOWEA LAC Questionnaire. The information we compile will go a long way towards building a networking database that will enable analysts to better connect with each other and share experiences and support. If you would like to be added to our NES membership directory (now numbering over 200), please send your contact information to me at *NESOWEALAC@Gmail.com*.

Southwest LAC - Roger Rardain and Jim Davis

On 15 April 2010, the SW Section Laboratory Analysis Committee held a meeting at YSI, Inc in Yellow Springs, Ohio. Attendance was record setting, with 59 people from 25 organizations. People from across Ohio attended, including Lancaster, Columbus, Circleville, Van Wert, Cincinnati, and even Northern Kentucky.

Technical sessions included the following presentations:

- Advancements in DO technologies, electrochemistry vs. optical and review new BOD probe. Presented by Tim Grooms, WQS Business Development Manager, YSI Inc.
- Tour of the YSI facilities by YSI personnel.
- How to get the best DO data, calibration, maintenance and troubleshooting your DO Probe. Presented by Tim Grooms, WQS Business Development Manager, YSI Inc.

4.0 contact hours approved, and 38 people applied for contact hours. Lunch was provided by YSI as a buffet from Young's Golden Jersey Inn. Young's ice cream was also available as dessert.

On July 15, 2010 the SW Section Laboratory Analysis Committee held a meeting at the Fairfield Wastewater Treatment Plant. 2.25 contact hours were approved.

The agenda included:

- What is new with NPDES Laboratory Compliance Inspections presented by Bob Ostendorf and Joe Reynolds, Environmental Specialists, and Martyn Burt, Supervisor, OEPA Division of Surface Water
- Question and Answer Session
- Facility/Laboratory Tour of the Fairfield Wastewater Treatment Plant

Fall LAC Meeting
October 21, 2010 - 12 to 4 p.m. – Greene County
The agenda for this meeting is still in the planning stages but will involve the E. coli methods, including the permitting process and transition from fecal coliform testing to E. coli, overview of methods, and a demonstration of the IDEXX Quanti-Tray system.

To inquire about being added to our e-mail list or to get information about attending, hosting, sponsoring, or presenting at a future LAC meeting please contact Roger Rardain or Jim Davis.

Southeast LAC-Diana Liston

On April 15, 2010, the Southeast Section of the Lab Analyst committee held a meeting at the Jackson WWTP in the city of Jackson, OH.

Scott Foster from OEPA held an informative session about lab audits. He covered Chapter 7 of the USEPA inspection manual as well as the OEPA DES forms for lab audits. He discussed the details of the inspection forms which the OEPA will begin using to conduct inspections. We then toured the Jackson Plant Lab with the forms in hand to see how to apply the criteria. (Thanks, Paula, for opening the lab to us.)

A tour of the City of Jackson Class IV Advanced Treatment Plant followed. The plant is divided into two treatment systems. Plant I was built in 1954 then upgraded in 2009 and Plant II was completed in 1984 then upgraded in 2009. The tour included plant's new bio-reactor process.

A fall meeting is in the planning stages.

Northwest LAC-Kevin Hughes

No report

STATE LAC COMMITTEE MEMBERS

State Chairs
Eva Hatvani, 216.641.6000, *hatvanie@neorsd.org*
Nancy Taylor, 740.349.6774 x205, *ntaylor@ci.newark.oh.us*

Northeast Chairs
Denise Seman, 330.742.8820, *dseman@cityofyoungstownoh.com*
Kathy Richards, 330.928.1164, *NESOWEALAC@gmail.com*

Northwest Chair
Kevin Hughes, 419.488.5440, *watertreatment@tiffinohio.gov*

Southwest Chairs
Roger Rardain, 937.754.3075, *roger.rardain@ci.fairborn.oh.us*

Southeast Chair
Diana Liston, 614.864.3370, *dliston@co.fairfield.oh.us*

GOVERNMENT AFFAIRS COMMITTEE

by Dale E. Kocarek, PE, BCEE, Chair/OWEA President

The challenge with the Government Affairs Committee (GAC) is that the GAC is truly the foundation of all committees (like the Spitz is the ancestor of all dogs). There are few "pure" GA topics, unless one wants to get into the details of how various bills in Congress move through Congressional subcommittees as is discussed at WEFTEC. However, we have felt that the details of such a process typically do not interest our members.

The companion committee to GAC is the Utilities Enhancement Committee (UEC) which is led by Doug Clark, the President-Elect of OWEA. This committee was established in 2008 by Dianne Sumego to highlight areas of interest, challenges, and initiatives of our public utilities, which is a principal focus of OWEA. The place where many of the GAC topics are placed into practice is the UEC.

The most recent meeting for the Government Affairs Committee was held on April 16, 2010. During that meeting, the following topics were discussed:

- Review feedback from the workshop that was held on March 11, 2010 at the University Plaza Hotel
- Discuss workshop topics for 2011. Several ideas included:
  - A. Holding a Government 101 course as part of the "get back to the basics" theme to discuss how rule making occurs and how our members can engage in the public input process.
  - B. Have a speaker present a topic from the Utilities Enhancement Committee.
  - C. Have the YPs present an applicable topic.
- Writing/research/outreach for the GAC for articles in the Buckeye Bulletin
- Is our current committee structure effective and how can it be improved?
- Opportunities with the WEF Government Affairs Committee

One of the best opportunities to learn about the development of new clean water legislation is by subscribing to ***This Week in Washington*** through the Water Environment Federation, Alexandria, VA, which is available online. To receive by email, please contact the Editor, Sam Hadeed, at *shadeed@wef.org* or call 703.684.2418 with questions.

In closing, I would encourage all of you to consider joining a committee. The work is rewarding and it gives one an opportunity to meet and share ideas, which may be of mutual benefit to you and your career.

Dale Kocarek
dale.kocarek@stantec.com

OWEA SAFETY AND COLLECTIONS SYSTEM AWARDS

by Ed Nutter, Safety Committee Chair

OWEA SAFETY AWARD

The OWEA Safety Award is presented for having a comprehensive safety program that is actively used in the workplace. This award indicates solid adherence to sound safety practices and winners will be selected from the following categories:

1. 1 - 9 Person Collections
2. 1 - 9 Person Wastewater Treatment Facilities
3. 10 - 20 Persons Collections
4. 10 - 20 Person Wastewater Treatment Facilities
5. Over 20 Person Collection
6. Over 20 Person Wastewater Treatment Facility

OWEA SAFETY CERTIFICATES

This is the basic level of recognition, designed to recognize those organizations that make an effort to develop/improve their safety program. Applicants will be awarded a Safety Certificate to show that they are working to improve safety in their workplace.

THE GEORGE W. BURKE, JR. AWARD - A WEF AWARD

This award was established in 1982 in honor of George W. Burke, Jr. for his many years of service both to the water environment field and the Water Environment Federation as staff manager of technical services. Mr. Burke was instrumental in developing WEF's annual safety survey and assisting in the production of several safety training aids and promotional packets.

The purpose of this award is to encourage an active and effective safety program in municipal and industrial wastewater facilities and to stimulate the collecting and reporting of injury data. The documented and illustrated safety program and safety record of the facility for the preceding calendar year are the primary criteria for the award. In addition, each Member Association is allowed full freedom to establish its own criteria.

The Safety Committee selects this award after review of all award applications submitted to the committee. The criteria established by the committee is as follows:

1. Lowest accident rate among municipal and industrial treatment plants.
2. An established safety program.
3. Submitted a completed awards package.
4. Finalist to be visited by a committee member to verify package.

COLLECTION SYSTEM OF THE YEAR

This award was established in 2002 to recognize the safest collection system in the State of Ohio. The purpose of this award is to encourage an active and effective safety program in a collection system and to stimulate the collecting and reporting of injury data. The documented and illustrated safety program and safety record of the facility for the preceding calendar year are the primary criteria for the award.

Continued on page 19

The Safety Committee will evaluate the submitted awards package and select the recipient of the Award. The criteria established by the committee is as follows:

1. Lowest accident rate among collection systems.
2. An established safety program.
3. Submitted a completed awards package.
4. Finalist to be visited by a committee member to verify package.

The Safety Chair will purchase the awards plaque and the award will be presented at the OWEA annual meeting. The Safety Chair will submit the recipients name to the Awards Committee Chairman.

SOUTHERLY WWTC WINS THE 2009 BURKE AWARD

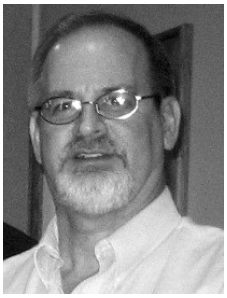
The 2009 George W. Burke Award was presented to the North East Ohio Regional Sewer District Southerly Wastewater Treatment Center at the OWEA Annual Conference. Mark Adryan says that their motto: "Everyone goes home to their family in the same condition they came to work." continues to ensure that a goal of a safe and efficient workplace is met.

The Southerly WWTC is located in the Village of Cuyahoga Heights situated on the southeast side of Cleveland on just over 170 acres of land. Southerly is an advanced biological treatment plant with a 175 MGD two-stage activated treatment. The plant services approximately 601,000 people from 61 suburban communities encompassing approximately 168,000 acres. In 2009 the plant treated 38 billion gallons of wastewater or an average of 104 mgd.

Between the months of April and October employees provided plant tours to special interest groups both locally and from abroad. The facility has hosted a diverse group of people including the American Society of Plumbing Engineers – Cleveland Chapter, Environmental Engineering Class at Case Western Reserve University, and Mayors from South America.

Southerly WWTC employs a dedicated staff of 161 full-time employees, 10 support staff (Security and Stockroom) and 10 part-time student employees during the summer months. The safety committee is comprised of 13 people, 5 operations reps, 4 maintenance reps, 2 engineering reps, 1 security rep, and the committee coordinator. Over the past year the Southerly plant has started construction projects totaling more than $200M. They are currently in the process of constructing three fluidized bed incinerators, replacing 20 of 22 substations, and improving the operation of the Cuyahoga Valley Interceptor process.

With all of the construction the daily operations can become very chaotic. Much coordination is needed to ensure plant operations continue at the high level of efficiency that is expected of the staff. All employees are empowered to stop an unsafe procedure. Managers in the field immediately act upon a reported unsafe condition and ensure corrective action is taken. Unsafe practices by outside agencies are reported to the Safety Coordinator, Engineering Department, and Security personnel for remediation. Training and a buy-in of the importance of safety from the top management on down to new hires is a required part of the success of their safety program.



Ed Nutter
Safety Committee Chair
enutter@newarkohio.net

OWEA's 2010 - 2011 Workshop Schedule

Plant Operations and Laboratory Analysts September 1 - 2, 2010

Biosolids December 9, 2010

Government Affairs March 10, 2011

Collection Systems May 5, 2011

Plant Operations and Laboratory Analysts September 21 - 22, 2011

Biosolids December 8, 2011

Visit *www.ohiowea.org* for more information and registration

PLANT OPERATIONS COMMITTEE

by Jim Borton and Kim Riddell, Chairs

The Plant Operations Committee's primary focus in the past and coming year is the Plant Operation's Workshop held in September and the Ohio Operations Challenge held in May.

This year's Plant Operations/Lab Analyst/Safety Seminar will be held on Wednesday and Thursday, September 1st and 2nd. There are state and nationally recognized experts on agenda again, so look for the flyer in August, and plan on attending or sending your employees to hear the likes of Woodie Murihead, Jamie Gellner, Dan Miklos, Tom Kutcher, Phil Anderson, Elizabeth Wick, and many more! Don't worry, there are plenty of topics for the Operations, Laboratory and/or Safety Professional(s), we didn't skimp on any of them.

For the price and what is included; up to 13 contact hours, two continental breakfasts, two lunches, an excellent dinner, breaks, and a social hour, this seminar continues to be the best bang for the buck for earning your contact hours without breaking the training budget! But don't take the Plant Ops Committee's word for it, come see for yourself and find out what you have been missing! We plan on seeing you there! *(Registration form on page 22)*

The Plant Operations Committee also has the responsibility of coordinating the annual Operations Challenge. It should be noted that this contest does not work without partnership from the Laboratory Analyst, Safety, and Collections System committee members along with many dedicated individuals.

To increase participation in Operations Challenge, last year, and continuing this spring the Plant Operations Committee, in conjunction with and via the support of the Executive Committee, moved the Operations Challenge to May and back to a treatment plant. It was hoped that separating the two events will promote participation in the Challenge by those that have commitments at the State Conference that conflict with supporting a team as well as allowing those cities on tight budgets (all of them?) a way to participate in an economically friendly manner.

On May 18th the Ohio Operations Challenge/Hands-On Operator Education Day was held at the Allen County Sanitary Engineer's Office and Utility Complex outside of Lima. In addition to moving the contest away from the Annual Conference, the Committee added an operator education hands on training aspect, where participants could earn up to 5 contact hours and have some fun doing so without sitting in a classroom all day. In addition, the non-team attendees could take some time watching the competitive Operations Challenge teams and root their favorite team to victory. This format, according to those in attendance, again appeared to be successful in its second year and will be considered again for 2011. In total, 4 competitive teams and 55 individuals registered and participated in the day.

The three Ohio teams were from Bowling Green, Ohio EPA-NWDO, and Wooster. Chicago MSD sent a team to compete as an exhibition team again this year, as they had in 2008 and 2009. At the end of the day, Wooster had won Division I while taking two individual event trophies in Process Control and Laboratory while Bowling Green took the Division II title and the Maintenance event. Chicago, the reigning Division II National Champion team, managed to steal some hardware to take home to Illinois by barely besting the three Ohio teams in the Collections and Safety events. All teams, organizers and judges can agree that it was an excellent opportunity to learn new things, improve teamwork and make some new acquaintances both in and outside of their respective states.

As a committee, we are continuing to challenge treatment plant managers to find a team within their ranks (managers can play too) or combine with another utility and show up in 2011 to compete. The committee is even challenging the OWEA State and Section Executive Committees and other OEPA offices to form teams as has been done in previous years. Existing teams are more than willing to help new teams get started; contact Kim Riddell at *kim@go-smith.com* or Jim Borton at *jborton@woosteroh.com* for a list of team captains nearest you. Remember, participating team members are eligible to earn up to 12 contact hours, and at the going rate, the contact hours are some of the cheapest around when comparing dollars/hour.

Current members of the Plant Operations Committee are:

Jim Borton (Co-Chair)
Kim Riddell (Co-Chair & WEF Operations Cmte. Rep.)

Dave Wilson (SW)
Jeff Bruggeman (NW)
Steve Elliott (SE)
Jim Carrel (NE)
Barb Wagner
Gary Hickman
Tom Kutcher
Nathan Coey
Chris Ingram

Other individuals acting as their respective Committee Chairs might as well be listed as committee members as the partnerships between the committees run deep.

Ed Nutter (Safety Committee)
Eva Hatvani (Laboratory Analyst Committee)
Nancy Taylor (Laboratory Analyst Committee)

Of course we are still looking for more members, so contact one of the section reps or us for more information.

Kim Riddell
kim@go-smith.com
419.234.4507

Jim Borton
jborton@woosteroh.com
330.263.5293

Special thanks to Allen County for hosting the 2010 Operations Challenge and Operator Hands-on Education Day at their excellent facility.

Division I Winners - The Wooster SCRAPPERS

Division II Winners - The Bowling Green Wastewater Rangers

Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

Thank You

2010 Operations Challenge Sponsors

Gold Level

Enviroquip
a division of Eimco Water Technologies

Baker & Associates, Cleveland Ohio

360water

Smith Environmental, Inc.

Silver Level

Hazen and Sawyer
Environmental Engineers & Scientists

Thermal Process Systems

Bronze Plus Level

quasar energy group

Bronze Level

Allied Technical Services, Inc. Pump Rentals Underwater Services

Alloway
Your Resource for Defensible Data

Black & Veatch
Building a world of difference

CT Consultants
engineers | architects | planners

Ohio NWOWEA

Sullivan Environmental Technologies, Inc.

Waterworks Systems

Individual Level

HACH

Earn up to 13 Contact Hours

Sessions - Wednesday, September 1
Converting a Secondary Plant into a BNR Facility with Bio P Removal
Activated Sludge Plant Design, Startup, Operation, Monitoring and Troubleshooting
Water Chemistry and Plant Performance: A Case Study
Use of BioWin for Process Troubleshooting and Design of a Unique Wastewater System
Science of BNR Optimization - Part 1
Science of BNR Optimization - Part 2
Process Control Panel Discussion - Experts Debate Wastewater Concepts
Two Concurrent Sessions - Thursday, September 2
City of Columbus: Public Utilities Safety Observation Pilot Project
How a POTW Conquered Clean Sampling for Trace Level Mercury Using EPA Method 1669 and 1631
Spill Prevention Containment and Countermeasures (SPCC) for WWTPs - *Paul Hadad and Larry Wadsworth, 360water*
Pharmaceuticals and Personal Care Products in Waters of Ohio and the United States
Lift Station Operation, Maintenance and Troubleshooting
Overview of Basic Methods and Analysis Tips
Submersible Pump and Mixer, Operations and Maintenance
The Exception to Playing in the Lab
Difficult Problems Require Logical Solutions - Use of Decisionmaking Matrixes for Complex Issues
Plugging the Brain Drain: Cultivating the Next Generation of Environmentalist
Working Together on a Pretreatment Program Inspection
Meeting the E.Coli Requirement Using mColiBlue24 & Luminescent DO Tecnology

OWEA Refund Policy

- Cancellations within 24 hours of the workshop, or no-shows the day of the workshop will still be billed in full and will NOT receive a refund.
- Any Cancellation 72-24 hours prior to the workshop will receive a 65% refund minus any credit card processing fees.
- Any Cancellation 72 hours or more prior to the workshop will receive a full refund minus any credit card processing fees.

2010 Plant Operations and Laboratory Analysis Workshop

Wednesday & Thursday, September 1 - 2, 2010

Save Time and Postage
Register Online at www.ohiowea.org

If unable to register online,
complete below and mail or fax to OWEA,
or register via telephone by calling 614.488.5800

Workshop Registration Fee		
	OWEA/WEF Member	Nonmember
Full Workshop (9/1 & 2)*	☐ $225	☐ $325
Wednesday, September 1*	☐ $145	☐ $195
Thursday, September 2	☐ $100	☐ $150
Exhibitor (9/1 & 9/2)*	☐ $275	☐ $375
Extra Dinner Ticket	☐ $45	☐ $45
I have read & agree to the OWEA refund policy	☐	
Name:		
Company:		
Address:		
Enter OWEA/WEF #		
Email:		
Phone:		
Method of Payment		
Check #	☐	
P. O. #	☐	
Credit Card:	☐	
If you select credit card, you will be emailed a secure link to enter your credit card payment. Be sure to enter a valid email address or you may call the OWEA office with your credit card number.		
Signature:		

Submit completed registration form to:

Ohio Water Environment Association
1890 Northwest Blvd, Suite 210
Columbus, OH 43212

Phone: 614.488.5800 Fax: 614.488.5801
E-mail: info@ohiowea.org

University Plaza Hotel
and Conference Center

Conveniently located in central Columbus,
west of I-71 and along 315, north of OSU campus.
www.universityplazaosu.com 877.677.5292
The conference rate is $99/night (+ tax).

You will need to mention the "OWEA Specialty Workshop" .

WEF WASTEWATER CHALLENGE – MISSION COMPLETE

by Nick Elmasian, President, WEF Buckeye Student Chapter

(l-r) Mengling Yi Stuckman , Nick Elmasian, Gao Yuan (Clara), and Xiao Jin.

In June, students from The Ohio State University competed in the first annual WEF Wastewater Challenge. Held in Phoenix, Arizona at the beginning of the 2010 WEF Collection Systems Conference, the hands-on competition required teams of students to build a wastewater treatment system from an assortment of household products in an effort to remediate a sanitary sewer overflow (SSO).

Representing Ohio, students from The Ohio State University (members of WEF Buckeye Student Chapter) developed a three-bucket system design to compete in the challenge. Under the leadership of Dr. Zuzana Bohrerova, students Mengling Yi Stuckman, Gao Yuan (Clara), Xiao Jin, and Nick Elmasian were enrolled in an Environmental Engineering Technical Elective CE 694.05 and received college credit for their participation.

The Ohio State team was one of eight teams competing, including college teams from California, Wisconsin and Washington. The Ohio State team managed to do well given this was the first year for the competition. There were a few obstacles the team encountered such as not being able to find all the materials they needed locally, having to purchase a cordless drill on short notice, and having to adapt to changes in the rules at the last minute. The rules specifically stated that all designs must be built from scratch at the competition with no pre-assembly. Additionally the rules stated that no pretreatment was allowed. However, only the Ohio State team and the team from Washington followed the original rules. Rather than disqualify the other six teams, they were allowed to compete without penalty.

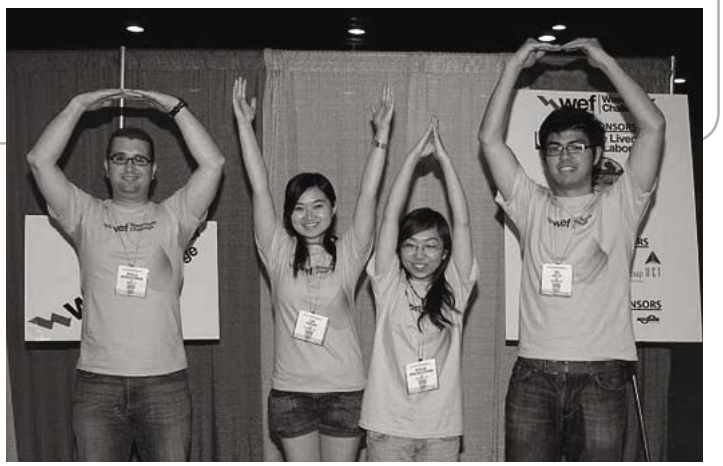
Students were judged on Cost (material and operational), Design, Amount of Water Recovered, Speed and Efficiency, Presentation, Safety and quality of the effluent including Electrical Conductivity, pH, and Turbidity.

Special thanks to Ohio State University Civil and Environmental Engineering Department, OWEA, SEOWEA, and Brown and Caldwell for their financial support! We could not have competed without your help.

The WEF Buckeye Student Chapter will be working together with SEOWEA to hold a joint meeting event in the Fall. Stay tuned for more details.

WEF Buckeye Student Chapter appreciates your financial support. Please consider making a tax-exempt contribution to support the activities of the WEFBSC. For more information, or to provide financial support please contact me.

Nick Elmasian, WEFBSC President
elmasian.1@osu.edu.



WATER FOR PEOPLE

by Keith Riley

Water For People 2010 Fundraising

I want to thank the Annual Conference Co-chairs Cindy Jacobsen and Mike Frommer for their help in planning the Water for People fund raising events during the conference. I also want to thank the following people for donating items for the Banquet prize auction items: Deb Houdeshell, Bill Hyland, Kalahari Resort, Kokosing, Malcolm Pirneri, Maumee Bay Resort, Max & Erma's, Renaissance Columbus, Keith Riley, and URS Corporation. We had lots of help with these events: a big thanks to Kathy McBride, Kris Ruggles, Alicia Adams, Jane and Barb Winkler, OWEA interns Julie Steffen and Emily Barbe, and ticket sellers extraordinaire Ted Baker, John Shrock, and Chris Williams.

Thanks to OWEA's Water For People Guardians:

2010 Fund Raisers:	
SW Section *(in Memory of Danny Smith)*	$150
Northwest Section Event	$144
2010 Conference and Golf Fundraising	$1500
5S Donation	$500
New York WEA	$20
Current Total	**$2314**

Water for People - Great New About Our Work in 2009

Water For People would like to share with you some of the great news about our work in 2009. In 2009, Water For People served 327,391 water and sanitation beneficiaries, an increase of 77% over the 184,705 water and sanitation beneficiaries served in 2008. We have seen significant growth in our established program countries and 2009 also saw the opening of several new country programs. Water For People and partners successfully applied an approach centered on sustainable and innovative solutions, and encouraged the replication of the Water For People model in regions outside of its operation.

Determined Dad Helps Ensure Safe Water for Community

Eileen Lambert, WFP Senior Online Marketing Manager

Three years ago, illness ran rampant in the community of Las Vueltas in Wiwilí, Nicaragua—with no end in sight.

Virgilio Osegueda's 15-year-old daughter was very sick, with fever, headaches, stomach aches, and diarrhea. Not another moment would go by without Virgilio finding a way to protect his family.

"We didn't realize we were drinking poisoned water," he said. "When we learned the cause, it strengthened our resolve to solve the problem and to get good water."

A determined Virgilio and concerned neighbors met with the Powerful Citizen Committee (PCC) that represented their small village. Water flowing downhill from hilltop farms was a common thread in the community's illnesses. The culprit: agriculture-chemical pollution. The PCC met with the Ministry of Health who then worked with the farmers to establish a 50-meter radius around tended farm land and the pipeline that brought water into the village.

The solution worked part of each year, but during rainy season, it didn't matter how far away from the pipeline the animals and crops were kept—the area flooded and the drinking water was again polluted. Every year the village faced the same problem and they needed a better solution. Now the president of the local water board, Virgilio worked with Water For People and partner El Porvenir to develop a gravity-fed water system with chlorination in the storage tank that would support safe water year-round.

To ensure that water was available during both the rainy and dry seasons for many years to come, the community and nonprofit organizations installed micrometers to monitor consumption and designed an affordable fee structure based on usage that collects enough money to repair and replace the system within the community itself.

With a humble smile, Virgilio says his daughter, now 18, is very well, and has a baby of her own. His next mission: to help neighboring community Maleconcito tackle their water issues once and for all, because their water is also coming downstream from the polluted hilltop. As neighbor children play on Virgilio's porch, he smiles, and you know he's confident about their future.

What Works: World Water Corps -- More Than Data and Numbers

Peter Mason, WFP Director of Marketing and Communications

World Water Corps volunteers visit all of our country programs to check on the progress made in the field and determine if the taps, hand pumps, and toilets co-financed by Water For People are functioning as designed. The data and lessons learned from previous work allow the organization to improve, learn, and adapt.

Sometimes there are added benefits as volunteers connect with people. On a recent trip with World Water Corps volunteers Don Holmes and Matt Millis in Bolivia, the two volunteers were eager to return to one of the homes they had already visited. They had met 85-year-olds Don Francisco and Señora Francisca, a married couple who lived in Centro Hoyada outside Tiraque. Holmes and Millis had taken a picture of the couple, printed and framed it, and wanted to give it to them as a gift for their hospitality two days earlier.

Continued on page 25

Sra. Francisca had told them that her backyard shallow well had gone dry and her only option had been to gather water at the irrigation ditch and then more recently load her water jugs in a cab for the two kilometer trip to buy water. She explained that her life changed two years ago when she started to attend a weekly meeting of the water committee in Centro Hoyada. The committee served as a focal point to bring together the community, local government, other development organizations, and the local private sector so that a water system could be installed, operated, and maintained far into the future. Holmes and Millis translated that the decision to help pay for her own new water system was an easy one. She knew that there was no free tap in the offing, but when she saw the new tap in her backyard, she cried, realizing that things were getting better for herself and her community. It took Sra. Francisca, Water For People, her local community, and the government to create this solution.

Holmes and Millis knocked on her door that day to see if the tap was still running and working properly, but the story she told Holmes and Millis, about her life, her family, their challenges, and how water was central, impressed them. She invited both to come in and share a simple meal with her family, which they did. The experience so moved the pair of volunteers that they returned that day with their present.

Sra. Francisca greeted Holmes and Millis with hugs and kisses, chatting with them as friends. She cried and kissed the framed picture of her and her husband and once again opened her home to us all. The World Water Corp's volunteers collected valuable data throughout their two-week trip to Bolivia that will help Water For People improve its work. But in another crucial way, Holmes, Millis, and the World Water Corps connected with people and demonstrated how development can work with respect, care, and compassion, not just data. They were ambassadors in the highest sense of the word. And that works.

(Photos provided by Water for People)

PASSINGS

Douglas L. Wise, an OWEA member for almost 25 years, passed away suddenly, Sunday, June 20, 2010 from injuries sustained from an automobile accident. He'll be remembered as a devoted employee, having worked more than 30 years for Jackson Pike Waste Water Treatment Plant where he began as an operator, and at the time of his death served as Assistant Plant Manager. Doug earned a reputation as a problem solver, always able to see his way through challenges.

ROLL CALL

Dr. Samuel Jeyanayagam, PE, BCEE has joined the firm of CH2M HILL in Columbus, OH as Vice President and Senior Principal Technologist. As a member of the company's Global Technology Team, he will provide technical leadership and direction on wastewater treatment projects nationally and internationally. Dr. Jeyanayagam has 30 years of consulting and academic experience. His areas of expertise include nutrient removal, biosolids processing, and ultraviolet disinfection.

He serves on the Editorial Board of both the Water Environment Research and Water Environment & Technology journals. He is the in-coming Chair of WEF's largest committee, the Municipal Wastewater Treatment Design Committee. Dr. Jeyanayagam received his MS and Ph.D. degrees from Virginia Tech.

Christopher Heltzel has been promoted to Senior Associate of Red Oak Consulting, a division of Malcolm Pirnie, Inc., a leading environmental consulting firm with offices nationwide. Working from the firm's Akron, OH office, Mr. Heltzel specializes in information technology solutions supporting asset management for public utilities.

With more than 20 years of experience, Mr. Heltzel has managed numerous IT projects, including custom and retail software development. In his new position, Mr. Heltzel oversees a staff of information management consultants supporting environmental compliance.

Mr. Heltzel has a bachelor's of science degree in aerospace engineering technology and a master's degree in technology from Kent State University. He is active in the Water Environment Federation and the American Water Works Association.

Jim Pelton has been added to the staff Pelton Environmental Products as a Sales Engineer. Jim graduated from Purdue University in December of 2005 with a Bachelors Degree in Mechanical Engineering and became a certified FE/EIT in October of 2006. Since graduating Jim has been living and working in Chicago, Illinois. He has extensive experience as a Field Engineer and as a Project Engineer for a General Contractor.

Jim's first responsibility will be to open our new Southwest Ohio office in the Cincinnati area. This will allow Pelton Environmental to cover the territory and serve our customers more efficiently.

OWEA Members may submit brief announcements with photo to **info@ohiowea.org** *for publication in the Buckeye Bulletin. Please include your OWEA/WEF Member number. All requests subject to editorial review.*

U.S. EPA PARTNERS WITH WATERISAC TO PROVIDE TRIAL SUBSCRIPTIONS

WaterISAC and the U.S. Environmental Protection Agency (EPA) have collaborated on an agreement that will enhance the security of the nation's water supply by expanding the size and scope of the WaterISAC Pro community. EPA is currently purchasing 12 month, trial subscriptions to Pro for drinking and wastewater utility personnel in addition to state and local government officials involved in water security. "This represents a paramount breakthrough in the public-private partnership between WaterISAC and its government allies," said Michael Arceneaux, WaterISAC's Managing Director.

Trial subscribers will receive unprecedented access to the full array of WaterISAC's capabilities and services including:

- The latest information about critical infrastructure protection;
- Connections to a network of colleagues with shared challenges;
- Intelligence analysts who help interpret and evaluate threats;
- Rapid alerts about emerging risks and;
- Monthly webcasts on current water security topics.

The trial offer represents a unique opportunity to join the WaterISAC community for the first time or upgrade to Pro from a Basic subscription. Current WaterISAC subscribers also have the opportunity to participate in the trial by adding additional subscribers from their team for free!

WaterISAC is a private, not-for-profit organization authorized by U.S. Congress and supported by U.S. Environmental Protection Agency. It was established in 2002 by utilities to provide information necessary to secure water systems and ensure continuous utility operations in the face of all hazards. Through e-mail and a secure Internet portal, WaterISAC provides the water sector with the latest information on Emergency management and response practices, infrastructure protection planning and implementation techniques, cyber security threats and mitigation procedures and practical solutions to water quality issues.

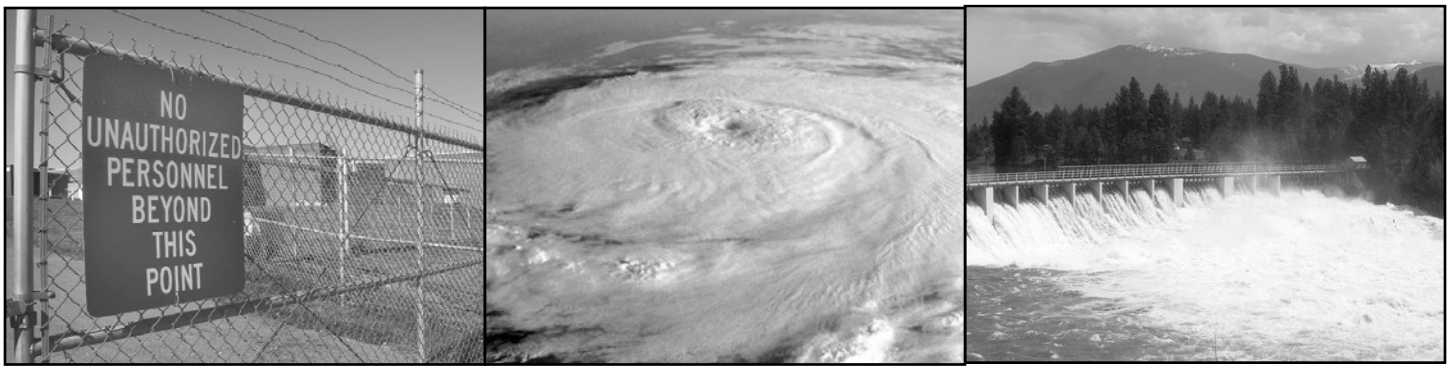
To participate in the trial program and become a WaterISAC Pro subscriber, please go to www.waterisac.org.

Benefits of Water ISAC

- Latest, sensitive information about critial infrastructure protection
- Emergency Management resources
- Intelligence analysts who help interpret and evaluate threats
- Alerts about emerging risks
- Direct access to contaminant databases
- Free monthly webcast on current water security topics

Who Should Subscribe?

- Water Association staff
- Federal and state government staff
- Public health officials
  - Involved in:
  - Emergency management and response
  - Infrastructure protection planning and implementation
  - Information technology security
  - Water quality threats and solutions



We hope to see YOU in New Orleans at the

WEFTEC 2010

Ohio Mixer

Sunday, October 3, 2010
6:00pm – 7:30pm
Hilton New Orleans Riverside
Salon B Sections 9 & 12

Any questions please contact
Dianne Sumego 330.434.1995,
dianne.sumego@arcadis-us.com
or Judi Henrich 614.488.5800,
judihenrich@ohiowea.org

2010 ANNUAL CONFERENCE AND EXPO HIGHLIGHTS

by Cindy Jacobsen, 2010 Conference Co-Chair

The Renaissance Columbus Downtown Hotel served as the venue for Clean Water Columbus - Ohio Water Environment Association's 2010 Annual Conference and Exhibit Expo, held June 15-17. The three-day conference was designed to provide professional development, contact hours, and technical information regarding the preservation and enhancement of our most precious natural resource--WATER. There were 475 people in attendance, including registered attendees, primary exhibitors, additional exhibitor booth attendants, spouse/guest program attendees, award winners, and volunteers. Please visit the 2010 Conference web page for a recap and to view conference photos.

My Co-Chair, Mike Frommer, and I would like to extend a heart-felt thank you to everyone who contributed to making the 2010 Conference a success, especially our dedicated Conference Committee consisting of:

Phil Anderson (Awards)
Sandra Doyle-Ahern (Sponsorship)
Jennifer Emerick (Exhibits)
Mike Frommer (Conference Co-Chair)
Mark Hudak (Signs)
Bill Hyland (Golf Co-Chair)
Cindy Jacobsen (Conference Co-Chair)
Roger Jacobsen (Golf Co-Chair)
Dale Kocarek (Technical Program)
Jennifer Kutcher (Spouse Program)
Kathy McBride (Banquet Raffle)
Marc Morgan (Contact Hours)
Greg Otey (Sponsorship)
Keith Riley (Water for People)
Kris Ruggles (YP/Exhibits)
John Schrock (Banquet Raffle)
Dianne Sumego (Awards)
Mike Welke (Photographer)
Chris Williams (Audio/Visual)
Jane Winkler (Treasurer)
Alicia Adams (Banquet Raffle)
Judi Henrich (Exec. Admin)
Emily Barbe (Intern/Registration)
Julie Steffen (Intern/Registration)

In addition to our Conference Committee, we would like to thank the OWEA Executive Committee, our very generous sponsors, exhibitors, and technical session moderators and monitors. Truly, the success of our Conference was a total team effort.

The Golf Outing, held at Foxfire Golf Club on Monday, June 14, was attended by 144 golfers. Roger Jacobsen and Bill Hyland did an outstanding job in planning an enjoyable event for all. Even with golf event sponsorship being down 70% from 2006, the last time the annual conference was held in Columbus, Roger and Bill creatively planned the outing such that outing proceeds in the amount of $1910 were earmarked for charity and scholarships.

The Awards Breakfast, on Tuesday, June 15, marked the commencement of the 2010 Annual Conference. The Awards Breakfast is OWEA's opportunity to thank and acknowledge those who have devoted their careers to protecting and enhancing our water environment. We would like to extend a special thank you to Mr. Bill Mathews, representing Boy Scout Troop #930, who led us in the Pledge of Allegiance and to Past President Mark Livengood, who presented the flag. Appreciation goes out to Mr. Dan McVay, who provided a thoughtful and meaningful invocation and to Dr. Steve Schulze, Deputy Director of Environmental Services at Montgomery County, OH, who shared a very moving message that encouraged everyone in attendance to "be authentic and build lasting relationships."

Current OWEA President Dale Kocarek planned the Technical Program for the Conference. Keeping with the Conference theme, Clean Water Columbus, an effort was made in two of the technical sessions, "Management" and "Capital Projects and Initiatives", to highlight the impressive accomplishments of the City of Columbus in its efforts to address wet weather challenges mandated under federal consent orders. Dale brought forth a balanced technical program that featured relevant and cutting edge information to our members and conference attendees from speakers of local, state, and national reputation. Given that our members are a diverse audience, OWEA made a concerted effort to present topics that catered to a wide range of interests. Ten sessions, including over 50 presentations, were held between June 15 and July 17:

View all conference photos at www.ohiowea.org

Session Title	Moderator	Monitor
Management	*Pat Gsellman*	*Don Gallimore*
Potpourri (YP presenters)	*Matt Boone*	*Kim Seidelmann*
Wet Weather Issues	*Doug Clark*	*Alicia Adams*
Process Design	*Ted Baker*	*Jim Borton*
Capital Projects and Initiatives	*Dale Kocarek*	*Kathy McBride*
Phosphorus/Long Term Planning	*Tom Kutcher*	*Alicia Adams*
Laboratory	*Eva Hatvani*	*Kathy Cook*
Sustainability	*Steve Morrison*	*Keith Rileuy*
Optimizations	*Jim Borton*	*Mark Livengood*
Regulatory	*John Owen*	*Sheree Gossett-Johnson*

OWEA wishes to thank our Conference speakers, who spent countless hours in preparation and adjusted their schedules to speak at the Conference, as well as our session moderators and monitors who helped maintain the program schedule and administered the dissemination and collection of contact hour forms. Conference presentations are posted at *www.ohiowea.org* under ***Presentations***.

The Tuesday Afternoon Social, sponsored by The Henry P. Thompson Company, marked the close of a successful Exhibitor's Expo. Following the technical sessions and the Afternoon Social, the Woody Hayes Grand Ballroom was transformed into a "Floribbean Island" where we all experienced "Changes in Attitude" as we networked and enjoyed the company of our colleagues and friends.

Jenny Kutcher planned an exciting and much anticipated program for our Conference Spouses and Guests, which included dining, shopping, and enjoyable educational opportunities. Rick Varner and Tom Bulcher planned and hosted a very informative tour of the Marysville Water Reclamation Facility that was enjoyed by approximately 35 attendees. Thank you Jenny, Rick, and Tom!

Wednesday was largely devoted to technical sessions and the annual banquet. Those attending the technical sessions could take advantage of three concurrent sessions, with topics ranging from wet weather issues, process design, capital projects and initiatives, phosphorus and long-term planning initiatives, laboratory, and sustainability. There were two technical sessions on Thursday and the topics included optimizations and regulatory issues.

The 5S Inductee Ceremony was held prior to the Annual Banquet on Wednesday evening. Mark Livengood, 5S Integrator, led the induction ceremony. Congratulations to (l-r) Mike Burgess, Judy Jones, Billy Slaven, Dail Hollopeter; Bruce Wiser, and Jim Hays on their induction to 5S!

Planning for the 2011 Annual Conference has already begun. Conference Co-Chairs, Doug Borkosky and Dave Sprague are already busy at work. Incoming President, Doug Clark, will soon be in the process of reviewing abstracts for the technical sessions. Please see page 11 of this issue of the Buckeye Bulletin for the "Call for Papers".

It is not possible to extend adequate acknowledgement to all who helped Mike and me organize and plan the 2010 Conference. We hope that we provided an opportunity for fellowship, networking and education and that everyone attending enjoyed and benefited from our time together.

Sincerely,
Cindy Jacobsen, *cjacobsen@pirnie.com*

Cindy Jacobsen
2010 Conference Co-Chair

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PORTAGE RIVER WATERSHED

by Katie McKibbon, Ohio EPA, and Elaine Moebius, Toledo Metropolitan Area Council of Governments

Where is the Portage River Watershed?

The Portage River is located in portions of Hancock, Wood, Sandusky, Seneca and Ottawa Counties. Like other watersheds in the region, it has a mix of urban and rural, but is over 80% agricultural land use. Productive lake plain soils and field tiles allowed the land to be farmed after the Great Black Swamp was drained in the mid 1800's. Wetlands located near the mouth of the River at Port Clinton have been largely filled and developed, but there have been recent efforts to restore some of the lost wetlands for wildlife habitat. Towns located in the watershed include: Fostoria, McComb, North Baltimore, Bowling Green, Pemberville, Woodville, Elmore, Oak Harbor and Port Clinton.

Historic Fostoria water tower (out of service)

The Portage is one of a handful of watersheds that drain to the western basin of Lake Erie in Northwest Ohio. There are special concerns with nutrients such as phosphorus and nitrates flowing to Lake Erie causing the recurrence of algal blooms, some of which contain harmful blue green algae. There are ongoing research and restoration projects funded through federal and state agencies dedicated to protecting our lake. Funding from the Great Lakes Restoration Initiative over the next few years will bring much needed clean up and protection dollars to the Western Basin of Lake Erie.

What is the condition of the Portage River Watershed?

Ohio EPA conducted a survey of the chemical, biological and physical health of the river and its tributaries in 2008. The watershed is maintaining goals of the Clean Water Act in 54% of the streams. Complete sampling results are included in a report that can be found on the website at *http://www.epa.ohio.gov/portals/35/documents/PortageLETribsMaumeeTribs2010.pdf* .

The Ohio EPA surveyed 85 stream locations, measuring the chemical water quality and the health of fish and macroinvertebrate populations in the watershed. Over all, Sugar Creek, Middle Branch Portage River, and South Branch Portage River were attaining the state water quality standards, but segments of the mainstem Portage River between Pemberville and Port Clinton, East Branch Portage River, North Branch Portage River, and Rocky Ford Creek were impaired by sources of pollution or land uses that damage stream habitat.

Industrial and municipal treatment plant discharges that do not meet permit requirements are polluting the water, sediment, and fish in some parts of this watershed.

- Combined sewer overflows during rain events, rural communities without sewer systems, and failing home septic systems are overloading streams with bacteria, ammonia and other pollutants.
- Habitat destruction from filling flood plains and channelizing streams, and flow alterations such as dams affect the fish populations and change the flow pattern of the river.
- Excessive nutrients flowing to Lake Erie potentially cause harmful algal blooms. Specifically in the East Branch Portage, high nitrates are a health concern for the drinking water supply in Fostoria.
- Fostoria, McComb, and North Baltimore rely on the river for their drinking water. Reservoirs are used to store water from various streams prior to treatment. Most other communities get water from their municipal water supply and rural residents use private wells.

Potential threats to the health of the Portage River watershed:

2009 Cygnet Oil spill – In February 2009, a pipeline leak at the Cygnet tank farm released over 32,000 gallons of crude oil to the Rocky Ford Creek and traveled 15 miles downstream to Pemberville before it was contained. The initial response involved many agencies and clean up contractors, and Mid-Valley Pipeline continues remediation at the spill site through 2010. Remarkably, no wildlife was damaged and long term effects were minimized.

CAFOs – Five large dairies have received permits to operate in the Portage watershed since 2006. These operations will each house 1200-2200 cows. Though only two facilities are currently operating, there have already been manure spill/runoff incidents impacting North Branch Portage. The Wood County Health Department and Bowling Green State University are monitoring stream water quality near the facilities.

Thermal bank remediation

Portage River catfish

Northwest Ohio typical farmland

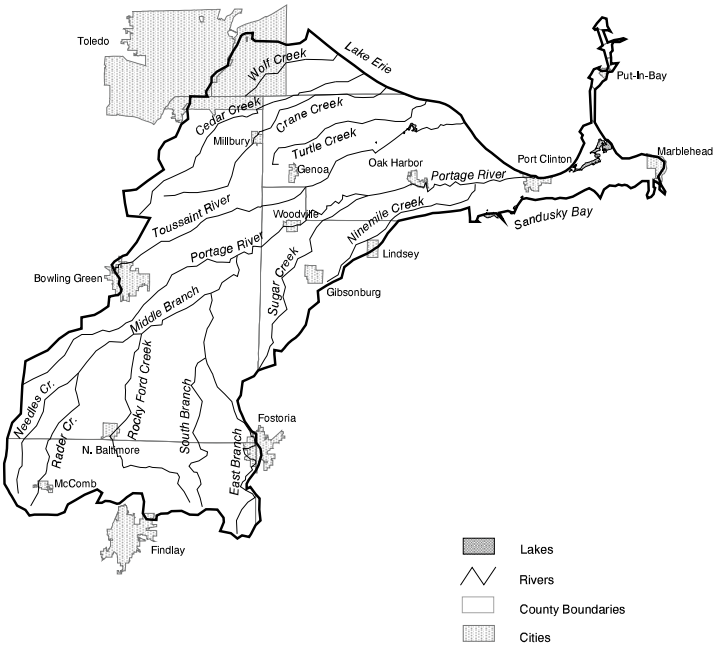
How will water quality get better?

The Portage River is included on Ohio's list of impaired waters. Under the Clean Water Act, a cleanup plan is required. Known as a total maximum daily load (TMDL) report, this plan will calculate how much pollution must be reduced from various sources to meet the Ohio goals for clean water. The TMDL report will provide specific numeric goals for improving stream habitat and reducing pollutants.

Ohio EPA can address some of the problems in the Portage River through regulatory actions such as permits for wastewater and storm water dischargers. Other actions such as committing to enhancing and protecting riparian areas, proper fertilizer management and reduced home sewage system failures will be up to local residents.

The local "stakeholders" in the watershed are invited to participate in the problem solving process through public discussions during late 2010, and ongoing restoration projects that will be guided by the Portage River Basin Council and our watershed coordinator for the Portage River.

For more information contact Katie McKibben, Ohio EPA Northwest District Office at 419-373-3013 *katie.mckibben@epa.state.oh.us* or Elaine Moebius, Toledo Metropolitan Area Council of Governments at 419-241-9155, ext 139 *moebius@tmacog.org*.



Portage River Fast Facts

Portage River is located in northwest Ohio.

Tributaries (5): North Branch, South Branch, East Branch, Middle Branch, and Sugar Creek

Watershed size: 611 sq miles or 371,764 acres

Population: 158,000

Land Use: 81% agriculture, 9.5% urban or residential, 5% forest, 1% pasture and 1.2% each of open land, open water and wetlands

Drinking Water Supply: Fostoria, North Baltimore and McComb draw water from tributaries of the Portage River

Portage River Water Quality Study (see website)

What Can YOU Do to Help the Portage River?

- Become an active member of the Portage River Basin Council
- Maintain your septic system and repair or replace when it fails
- Keep trash, oil, demolition debris, and chemicals/ pesticides out of the floodplain
- Keep lawn and garden fertilizers out of the stream
- Reduce fertilizers applied on lawns and farms to protect local drinking water supplies and prevent algal blooms in Lake Erie
- Practice conservation tillage and plant cover crop on farm fields
- Protect streamside vegetation and trees that protect aquatic fish and bugs and keep runoff out of river
- Plant native species and retain storm water on your property – try a rain garden or rain barrel!

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SUGARCREEK WATER RESOURCE RECLAMATION FACILITY (SCWRRF)

by Rob Smith, P.E. BCEE, James E. Hays, P.E. BCEE, Larry J. Goble, and Ronald S. Volkerding, P.E.

I. INTRODUCTION

The Sugarcreek Water Resource Reclamation Facility (SCWRRF) provides a high level of wastewater treatment for residents of southwestern Greene County, southeastern Montgomery County, and a small portion of northern Warren County. Today SCWRRF is a model facility utilizing state-of-the-art technology to cost-effectively produce a high-quality effluent for discharge into the Little Miami River, a State and National Scenic River. However, not so long ago Sugarcreek was a troubled facility with many operational shortcomings and faced the daunting task of meeting new limits for effluent phosphorus as a result of Ohio EPA's 2002 Total Maximum Daily Load (TMDL) report for the Upper Little Miami River (ULMR) watershed. In response, a General Plan Update followed by a capital improvement project was developed to address four major project drivers:

- Replacement of the existing Pretreatment and Pumping Facility (PTPF) in Bellbrook, Ohio and addressing the associated wet weather capacity issues and odor problems;
- Improvements to the SCWRRF in order to meet compliance milestones included in its NPDES permit;
- Eliminating capacity and operational deficiencies with the biosolids processing equipment and systems;
- Developing a strategy to achieve compliance with the Sugarcreek WRRF's final phosphorus waste load allocation by 2013.

This article describes the events and actions taken to address the project drivers.

History of Collection and Treatment Services

The SCWRRF and PTPF began operation in 1976. The PTPF, located approximately three miles upstream of the plant in the city of Bellbrook, provided preliminary treatment including automatic bar racks, static fine screens, grit separators, and two sets of pumps discharging to SCWRRF through a 36-inch force main. Odors from screenings and grit handling and flooding due to insufficient pumping capacity at peak wet weather flows were a source of problems from early in its existence until it closed in 2008. These problems were a constant source of friction between the County and the surrounding community.

The SCWRRF consisted of basic activated sludge treatment including three rectangular aeration basins and two clarifiers; microstrainers for effluent polishing, and chlorine disinfection. Treated effluent was discharged to the Little Miami River and liquid biosolids were land applied. Treatment capacity was increased to 4.9 mgd as part of a major improvement project in 1987. The project included replacement of secondary treatment with a Schreiber counter-current aeration system and new peripheral-drive secondary clarifiers. The existing aeration tanks were converted to pre-aeration tanks and the existing secondary clarifiers converted to primary clarifiers. Screw pumps were added to lift primary effluent to secondary treatment. The 1987 project would be the last major improvement project for nearly 20 years. In the meantime, the chlorine gas disinfection system was replaced with ultraviolet disinfection (1994) and dewatering centrifuges and lime stabilization were installed (1996) producing cake biosolids for land application. The dewatering facilities at SCWRRF served as a centralized solids handling facility for all the County's treatment plants until a new facility was built at Beavercreek WRRF in 2008.

II. PLANNING

A General Plan was published in 1996, in part to address treatment capacity issues and ongoing problems with the PTPF facility, but the recommendations were not acted on due to budget constraints. Meanwhile, problems persisted including undersized hydraulic

Aerial photograph of SCWRRF after upgrades, 2009

continued on page 44

capacity of facilities for existing flows and projected growth, deteriorating/aging equipment and structures, and high operation and maintenance costs. Despite these conditions, the SCWRRF continued to consistently meet NPDES permit requirements while treating wastewater flow over 50% above design (7.5 mgd daily average wastewater flow in 2003). The last straw was new and more stringent discharge requirements written into the 2003 NPDES permit including a compliance plan for total phosphorus (TP) load reduction from treated effluent. The more stringent NPDES permit combined with the continuing problems at the PTPF resulted in a decision by the Greene County Sanitary Engineering Department (GCSED) to update the 1996 General Plan. GSCED assembled a project team consisting of themselves, SCWRRF operations staff, the Montgomery County Sanitary Engineering Department, and Greene County's consultant Malcolm Pirnie to prepare a General Plan Update in 2005 to plan for capital improvements for pumping and treatment systems at SCWRRF.

A series of workshops was held between project team members to address eight major scope items:

1) Infiltration and Inflow (I/I) Analysis

Substantial infiltration and inflow (I/I) was known to exist in the collection system in the Sugarcreek drainage basin. Thus the major objectives were to identify areas in the Sugarcreek drainage basin that had relatively high I/I and to quantify wet weather flows for use in design of wastewater conveyance and treatment systems. Flow monitoring and collection system modeling facilitated through geographic information systems (GIS) were utilized to come up with the following design storms:

2-year 24-hour peak storm flow of 35 mgd

5-year 24-hour peak storm flow of 50 mgd.

2) Updating Population and Load Projections

A design population projection of 47,699 for the year 2025 was developed, an increase of 12,860 persons over 2000 levels. The sewered population growth was projected to add 2.4 mgd of wastewater based on existing per capita generation rates for a design wastewater flow of 9.9 mgd. Future wastewater concentrations and loads were estimated based on historical sampling data for raw wastewater because no new industries were anticipated. Basis of design wastewater flows and loads are shown in Table 1.

Design Parameter	Value
Average Flow, mgd	9.9
TSS, mg/L	136
BOD, mg/L	105
TKN, mg/L	15.0
NH_3-N, mg/L	8.4
TP, mg/L	2.6

Table 1 – Year 2025 Basis of Design Wastewater Characteristics for SCWRRF

3) Condition Assessment of Existing Facilities

The capacity and operational condition of each major piece of equipment was investigated and documented. Both liquid stream treatment and solids stream facilities lacked sufficient treatment capacity. The main limitation for liquid treatment was the hydraulic capacity of the PTPF and intermediate pumping stations. The main limitation for solids treatment at SCWRRF was the throughput of the dewatering centrifuges which could barely keep up with solids generation operating 22 hours per day, 6 days per week.

The operational condition of the PTPF and biosolids alkaline stabilization systems at the SCWRRF caused significant difficulties. The odors associated with the PTPF and the overflows during peak wet weather events caused a significant negative public perception among the residents of the city of Bellbrook. The facility was staffed 24 hours per day in an effort to help alleviate odor problems and the potential for flooding. At SCWRRF, severe lime dusting associated with deficiencies in the alkaline stabilization system fouled equipment and caused an undesirable work environment.

4) Alternatives to the Existing PTPF

A workshop was held between project team members for the purpose of developing alternatives to the existing PTPF and selecting evaluation criteria. The main goals for a solution were to increase capacity to handle wet weather flows, eliminate the operational problems that plagued the PTPF, and reduce operating costs. Eight alternatives were developed for three operations (pumping, pretreatment, and flow equalization), and three sites (Bellbrook, Intermediate Site outside of Bellbrook, and the SCWRRF). The General Plan Update concluded that the most cost-effective option was to relocate pumping facilities at the Intermediate Site and relocate the screenings and grit handling facilities at the Sugarcreek WRRF site. This would abandon the existing PTPF in Bellbrook.

5) Liquid Treatment Alternatives

A workshop was held between project team members for the purpose of developing liquid treatment alternatives and selecting evaluation criteria. The main goal for a solution was to meet the final NPDES permit limits shown in Table 2 and the allowable effluent TP load limit of 9.3 kg/day, beginning with the 2013 permit. It was also desirable to reuse existing tankage to the maximum practical extent, replace obsolete equipment, and increase automation to make operations more efficient.

Parameter	Units	Winter		Summer	
		Weekly	Monthly	Weekly	Monthly
Flow	mgd	9.9			
TSS	mg/l	31.5	21	24	16
NH_3-N	mg/l	11.25	7.5	1.88	1.25
TP	mg/l	monitor		1.5	1.0
$CBOD_5$	mg/l	26.3	17.5	15	10

Table 2 – NPDES Permit Limits for the Sugarcreek WRRF

The General Plan update considered new aeration tank configurations; however, it was decided to continue to use the existing Schrieber counter-current process and tanks. This was due to staff familiarity with the Schreiber process and the excellent treatment performance the system had provided historically at the plant.

6) Biosolids Handling Alternatives

A workshop was held between project team members for the purpose of developing biosolids handling alternatives and selecting evaluation criteria. The main goals for a solution were to decrease operating costs by reducing operations to 1 or 2 shifts per day and to eliminate the operational problems associated with the existing operations.

Centrifuge dewatering was selected to match dewatering facilities being designed at the County's Beavercreek WRRF. This uniformity in design would allow for better maintenance and cross-training of operations staff.

The decision was also made to abandon lime stabilization/land application and dispose of the dewatered sludge in landfills. This decision would be revisited periodically in the future to see if land application would become more cost-effective.

7) Phosphorus Reduction Alternatives

Due to the very low mass load limit assigned to the SCWRRF by the Ohio EPA's 2002 Total Maximum Daily Load (TMDL) report for the Upper Little Miami River (ULMR), alternative phosphorus removal projects were considered. These alternative projects included flow diversion to Montgomery County Western Regional, effluent limit trading with Montgomery County Eastern Regional, and non-point source reduction. The phosphorus plan that was selected consisted of three parts:

A. Maximize phosphorus removal by operating the Schreiber counter-current system in a biological nutrient removal (BNR) mode. At this point, performance data for BNR systems did not indicate that SCWRRF could meet its 2013 mass load limit by BNR alone on a consistent basis.

B. Develop non-point phosphorus removal projects in the Little Miami River watershed and seek water quality trading credits from the Ohio EPA. This would help achieve the SCWRRF phosphorus limit.

C. If the above tasks were insufficient to meet permit conditions, negotiate with Montgomery County and Ohio EPA to remove phosphorus at the Eastern Regional WRF (effluent limit trading) located upstream in the watershed.

After surveying locations in the Upper Little Miami River watershed, a non-point source project along the North Fork Massies Creek was identified. This site was selected due to its highly modified (dredged condition) and intensive farming adjacent to the banks. The project included installation of filter strips and bank stabilization. A series of projects were implemented using funds from the Water Resource Restoration Sponsor Program (WRRSP), federal Non-Point Source Water 319 grants, and American Recovery and Reinvestment Act (ARRA).

Following submittal and approval of a Water Quality Trading Management Plan application to Ohio EPA, it is estimated the County will be granted a 1.08 kg/day TP credit including 0.88 kg/day for the North Fork Massies Creek Project and 0.20 kg/day for conversion of two County-owned well fields from agricultural to prairie meadow. The TP credit can be applied to SCWRRF effluent TP load to reduce phosphorus reduction requirements at the treatment plant. Effluent trading with Eastern Regional will be reevaluated at a later time after the load reduction from the North Fork Massies non-point source projects have been finalized and the treatment capability of the EBPR system at SCWRRF has accumulated reliable performance data.

8) Affordability Analysis

A major goal for the project was to ensure that the solution developed for SCWRRF was affordable for both Greene County and Montgomery County which share the expenses of constructing, operating, and maintaining the jointly used facilities. As part of the affordability analysis, a financial model of Greene County's Wastewater Utility Enterprise Fund was developed and combined with an existing financial model that was previously developed for Montgomery County's Wastewater Utility Enterprise Fund by Malcolm Pirnie. The affordability analysis concluded that an affordable project was approximately $44M.

After the construction bids were awarded, the project costs came to approximately $42M including construction, engineering/inspection and loan costs.

III. DESIGN

1) Influent Pump Station

The design of the influent pumping station (IPS) met all the planning objectives by eliminating operational deficiencies associated with the Sugarcreek Pretreatment and Pumping Facility (PTPF) which had been a cause of poor relations between Greene County and the City of Bellbrook. From an aesthetic perspective, the new IPS was located at a less conspicuous site, outside of the city of Bellbrook. The existing PTPF in the city of Bellbrook was abandoned and demolished, fulfilling a long standing commitment from the Greene County to the City. From an operational perspective, the firm pumping capacity was increased from 19 mgd up to 35 mgd to meet the peak projected flow rate from a 2-yr. 24-hour storm. Additional pumps can be added in the future to increase firm pumping capacity to 50.1 mgd, the peak projected flow rate for a 5-yr. 24-hour storm, if necessary. Overall, the IPS replaced the three existing pumping systems that were required to pump and treat flow at the SCWRRF. This reduced power costs and created more efficient operations. Preliminary treatment functions including screening and grit removal were relocated to SCWRRF allowing the IPS to be unmanned, reducing labor costs. PLC radio communication was included to allow remote control of the IPS through SCADA. An on-site standby generator was also installed for station reliability.

One design feature of the IPS is that it consists of two sets of wet wells, two sets of pumps and is connected to SCWRRF by two force mains. The dry weather well and pumps are utilized under normal conditions. Three 100 hp, 6,000 gpm Flygt pumps are installed in the dry weather pump station. During wet weather, the wet weather well and pumps are activated greatly increasing pumping capacity. Two 415 hp, 14,800 gpm Flygt pumps are installed in the wet weather pump station. A new 42-inch force main was built to reduce total dynamic head (TDH) and allow smaller horsepower pumps for peak flow conditions. The existing 36-inch force main was left in place for use during lower flow conditions to reduce the potential for septicity and odor problems.

2) Sugarcreek Water Resource Reclamation Facility

The project team for the General Plan Update worked closely together to create a design for the upgraded and expanded SCWRRF that assured compliance with effluent discharge limits, eliminated operational deficiencies, and reduced operating costs. Capacity and operational issues with biosolids handling were addressed by increasing dewatering capacity and demolishing the existing lime stabilization system. A flow diagram for the new SCWRRF is shown in Figure 1 (next page).

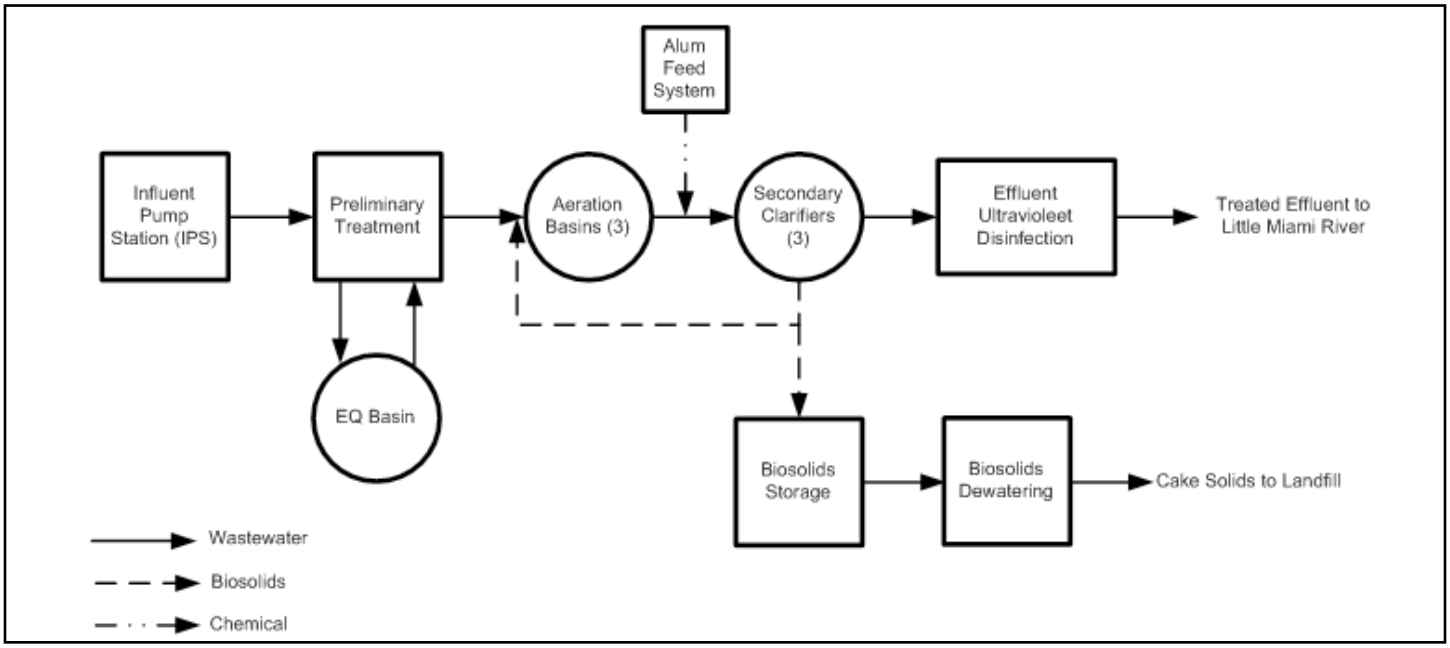

Figure 1 - Greene County Sugarcreek WRRF Flow Diagram

3) Equalization Basin

A 5.1 million gallon equalization basin was included to equalize the peak flow between the 2-year 24-hour design storm (35 mgd) and the plant hydraulic capacity of 24 mgd. The peak plant flow was based on the hydraulic capacity of the conduits and structures in the treatment plant which had a remaining service life of approximately 20 years. Influent is diverted to the Equalization (EQ) Basin after screening when flow exceeds 24 mgd. When wastewater flow subsides, the contents of the EQ basin are pumped to the plant for treatment. A jet mixing system is installed to keep solids suspended. A second 5.1 million gallon basin will be constructed in the future if needed. This will bring the total equalization volume to 10.1 million gallons which is necessary to handle a peak wastewater flow rate of 50.1 MGD for a 5-year, 24-hour design storm.

4) Preliminary Treatment

As part of the 2006 upgrades, a new preliminary treatment building was constructed at the SCWRRF to replace the old facility located at the PTPF in Bellbrook. The new equipment included two WesTech CleanFlo Element continuous belt filter screens with ¼-inch openings, a Lakeside septage/scum screen, and two WesTech vortex grit separators.

5) Secondary Treatment

The secondary treatment component of the SCWRRF upgrade incorporated several innovative aspects:

- Schreiber Continuously Sequencing Reactor (CSR) technology retrofitted into the existing counter-current aeration basins;
- Single-stage, dual point control high efficiency Turblex centrifugal blowers for energy savings;
- Hybrid blower system including two existing constant-speed multi-stage centrifugal blowers for back-up and peak capacity.

Enhanced biological phosphorus removal (EBPR) using the CSR technology was chosen as the primary means of compliance with effluent TP limits because of its lower life-cycle cost compared with chemical phosphorus removal. As a complement to the CSR system, Turblex single-stage centrifugal blowers were chosen to more closely match air demand to air supply. To our knowledge, this is the first time that single-stage variable-output centrifugal blowers have been used with the CSR technology. The CSR system control panel, the blower control panel, and the master control panel work together to cycle the aeration basins through oxic, anoxic, and anaerobic stages by automatically turning blowers on and off based on online measurements of oxidation reduction potential (ORP). Another feature of the system is that the blowers maintain a dissolved oxygen (DO) setpoint by modulating between 45% and 100% of full output based on online measurements of DO. The phosphorus removal system was supplemented with an alum feed system as a back-up in case of an EBPR system upset and for supplemental phosphorus removal to meet very low 2013 mass load limits. The alum feed system consists of two 3,650 gallon polyethylene alum storage tanks and three Moyno progressive cavity metering pumps. Alum is fed into a manhole upstream from the secondary clarifier splitter box to facilitate mixing of the chemical with the mixed liquor.

The secondary treatment upgrade included modification and expansion of the existing aeration tanks and secondary clarifiers. The half-diameter aeration bridges in the existing aeration basins were replaced with full-diameter bridges and a third aeration basin was constructed providing a total aeration basin volume of six million gallons. A third 121-ft. diameter, 18-ft. SWD traveling bridge secondary clarifier was also constructed in addition to the existing two units. The air supply system consists of twenty diffuser units suspended from each bridge.

Process air is provided by four aeration blowers using a hybrid system of single and multi-stage blowers provided by Turblex. The main duty blowers are two 350-hp, 6,000 scfm single stage Turblex blowers. In addition, two multi-stage 400 hp Continental centrifugal blowers are utilized for back-up and standby. All four blowers and controls are located in a new blower building. It was estimated that energy savings could pay for the additional cost of the single stage Turblex blowers in 5 to 7 years.

A new secondary pump station was built to house four 2,800 gpm, 30 hp return activated sludge (RAS) pumps and two 1.0 hp waste activated sludge (WAS) pumps. All six units are Faribanks Morse centrifugal pumps.

6) Biosolids handling

The biosolids handling system consists of aerated sludge holding tanks, pumps, grinders, blowers, a polymer preparation system, and dewatering centrifuges. Waste activated sludge (WAS) is pumped to one of three aerated 150,000 gallon sludge holding tanks. Four 40 hp, 863 scfm Aerzen rotary positive displacement blowers supply air to each tank through 39 coarse bubble diffusers to mix the biosolids and prevent septicity. An additional 798,000 gallons of sludge storage, if needed, is available in the former pre-aeration tanks that are no longer used.

Biosolids are pumped from the sludge holding tanks to the centrifuges by three, 310 gpm, 20 hp Moyno progressive cavity pumps. Two in-line Muffin Monster grinders break up large solids and polymer from the polymer preparation system is injected into the line upstream from the centrifuges. Two 300 gpm, 200 hp Westfalia Separator sludge centrifuges replaced the existing centrifuge units in the Solids Processing Building as part of the 2006 upgrade. The increased capacity of the replacement centrifuges along with the decision to discontinue co-processing Beavercreek WRRF biosolids allowed the dewatering operation to be reduced to one shift per day, greatly reducing manpower requirements at SCWRRF.

In response to changing costs for disposal of biosolids due to increased regulations and rising lime costs, it was decided to abandon the existing lime stabilization/land application process. As part of the 2006 upgrade, dewatered sludge is hauled to local landfills by County staff. As operational data is gathered, the County will revisit the cost-effectiveness of landfill disposal vs. land application.

7) Startup and Performance

The PTPF came online in September 2008, although wastewater flow did not necessitate operating the wet weather pumps until May 2010. The pumping station has operated as designed and flooding and odor problems have been eliminated. The site of the former PTPF has been restored for future reuse for collection of yard waste. Alum feed facilities were utilized at SCWRRF to meet effluent phosphorus discharge limits for summer 2008. The chemical treatment system performed well, producing effluent TP consistently less than 0.5 mg/L (Figure 2).

The EBPR system went online in time for the 2009 summer permit season. The inherently dynamic nature of the CSR process required most of the 2009 season to work out the programming and communication between three control panels that control the blowers and EPBR process. As a result, effluent TP concentrations were higher in 2009 than in 2008 and alum was required to be added towards the end of the season (Figure 3) to meet permit. Based on the lessons from the 2009 season, the performance of the EPBR system for the 2010 season (to date) has been exceptional with an average effluent TP of less than 0.5 mg/L and concentrations as low as 0.13 mg/L. No alum addition has been required.

8) SCADA

One design goal of the 2006 upgrade was to increase automation at the SCWRRF. The utilization of SCADA to continuously monitor treatment processes at the treatment facility and influent pumping station has dramatically reduced staffing requirements and increased process control efficiency.

The plant previously had an antiquated and partially-functional distributed control system (DCS) in place that provided some monitoring and very little control. This was replaced by over twenty programmable controllers (PLCs) including those for specific equipment and those that monitor the process. Nearly one thousand I/O points were picked up by the process PLCs.

Two Human Machine Interface (HMI) SCADA servers and three HMI SCADA workstations were installed. Operators can monitor and control plant processes and the IPS from multiple locations. In the event of trouble, plant staff are alerted via visual indicators (exterior mounted strobe beacon) and via (cell) phone. The greatly improved automation at SCWRRF has allowed better use of existing staff at SCWRRF by reducing the number of shifts from three to one. Greene County has moved its SCWRRF operation from one that required 24/7 365 days per year attention and still had bad relations with its neighbors to an operation that is manned 7 days a week, 8 hours /day with much improved relations with its neighbors.

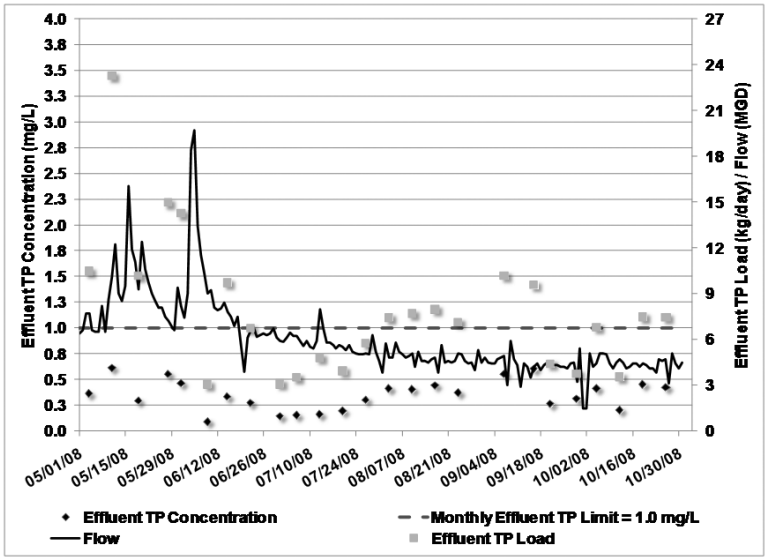

Figure 2 – Summer 2008 SCWRRF Effluent Total Phosphorus

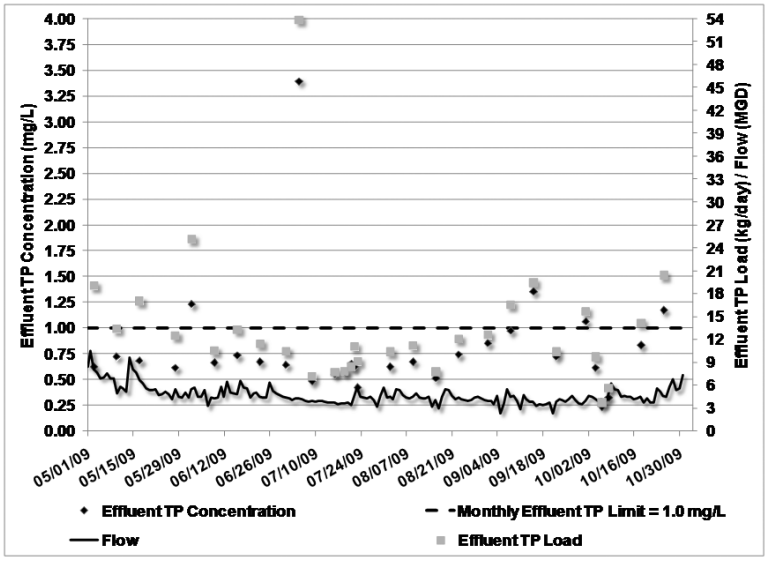

Figure 3 – Summer 2009 SCWRRF Effluent Total Phosphorus

SOLVING INDUSTRIAL WATER RESOURCE MANAGEMENT CHALLENGES IN OHIO WITH MBR TECHNOLOGY

by Ed Greenwood, P.E.

The Challenge

Many industries are under increasing pressure to optimize the treatment and management of water resources. Water stress in many parts of the world is influencing decisions made by both corporate-level environmental policy makers and plant-level management. Many industrial water users are faced with one or more of the following challenges:

- Restrictions on available fresh water supply
- Increasing costs for municipal water and wastewater treatment
- Tighter regulations for wastewater discharge or disposal
- Corporate "green" initiatives to reduce fresh water consumption and wastewater generation
- Plant expansions without available real estate for expanding on-site treatment

Sustainable water management practices are necessary to ensure the environmental compliance and the fiscal success of industry.

The Solution – Membrane Bioreactor Technology

Advanced technology will play an important role in sustainable water management planning for industry. Membrane Bioreactor (MBR) technology has been employed for industrial wastewater treatment applications since the 1970s. As MBR technology matures with a growing list of successful installations, it is apparent that MBR technology is here to stay.

The application of MBR technology for wastewater treatment, water reclamation and water reuse is one of the fastest growing areas in the water industry, both in North America and around the world. In the last two decades the plant size and number of membrane bioreactor systems have grown exponentially. There are now thousands of full scale MBR systems in operation, with some in operation for over 15 years with their original membranes.

Today, in certain regions of the world, MBRs are established as the best available technology to protect and enhance sensitive surface waters or for water reuse. The advantages of MBR technology that make it an attractive alternative to other wastewater treatment processes include:

- A fully automated process that is simple to operate
- A small plant footprint that reduces land acquisition and installation costs
- The ability to retrofit into existing conventional wastewater treatment facilities and expand treatment capacity
- A modular configuration that enables a well-planned facility to be easily expanded in the future by adding membrane modules
- Enhanced process control and reliability. Biosolids are always retained in the process even when unforeseen events cause extreme influent variability and/or biological upset conditions.
- Enhanced control over sludge wasting enables MBR systems to be operated reliably with extended Solids Retention Times thus generating fewer waste solids than conventional processes, reducing thickening, dewatering, and disposal costs
- Exceptional effluent quality that exceeds requirements for direct discharge
- Secondary sedimentation tanks are eliminated, and there is no need for coagulation or flocculation chemicals
- A consistent high quality UF membrane permeate that is always free of suspended material and ideal for reuse directly as cooling tower make-up, irrigation, etc. or as pretreatment for reverse osmosis

It is expected that the demand for MBR systems will continue to increase globally with more than double digit growth annually over the next decade due to increasingly stringent regulations and the growing demand for water reuse.

The evolution and advancement of MBR technology over the past 30 years has resulted in significant reductions in capital and operating costs. These advancements in membrane technology and resulting reductions in cost that have been realized are detailed in other papers (i.e. Buer, Cumin, 2009). For example, the recent development of higher permeability membranes and optimization

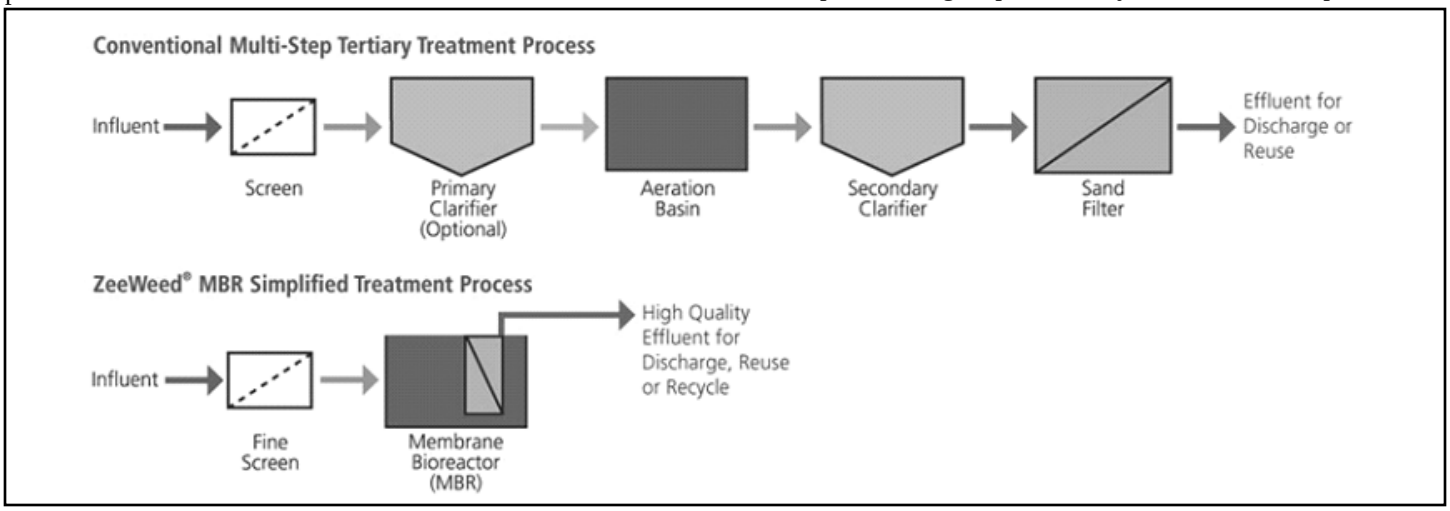

Figure 1: Comparison of Conventional Activated Sludge and MBR Processes

of the membrane cassette design to increase membrane packing density and reduce operating costs have allowed MBR technology to be considered for a growing number of applications. These developments combine to provide increased performance and decreased cost. When these benefits are passed along to the end user MBR is often offers the lowest total installed cost alternative even below that for conventional treatment technologies.

A Description of Membrane Bioreactor Technology

The MBR process is an advancement of the activated sludge process. Membrane filtration replaces secondary clarifiers and tertiary filters for solids liquid separation. With a nominal pore size of 0.04 micron, the ZeeWeed MBR is a physical barrier to any material larger than the pore size, including bacteria, most viruses and all suspended solids. (see Figure 1, page 48)

The biological zones of an MBR system are similar to a conventional activated sludge system with a number of key differences. The process is typically operated at a mixed liquor suspended solids (MLSS) concentration in the range of 8,000 to 12,000 mg/L, which results in a 30 to 60% reduction in the required bioreactor volume compared to a conventional activated sludge system.

Solids-liquid separation is carried out by the membranes, which are immersed directly in the mixed liquor. The membranes are connected to the suction side of a pump and the pump applies a slight vacuum which draws treated water from the mixed liquor through the pores of the membrane, retaining the mixed liquor solids on the outside of the membrane. The pump then discharges the treated water to downstream disinfection and discharge or reuse. Automated membrane cleans using low concentrations of chlorine and citric acid are performed on a regular basis to maintain optimal membrane performance. Figure 2 below depicts the key components and process flow of an MBR system.

Three case studies, a cheese manufacturer, a soft drink syrup production facility, and oil and shortening production facility illustrate applications of the MBR process.

CASE STUDY #1 - CHEESE FACILITY IN OHIO

The Challenge

In 2001, the management of a privately owned cheese manufacturing facility in northern Ohio recognized that advanced treatment methods were required when faced with a need to expand their wastewater treatment capacity and a consent order for violation of their NPDES (National Pollutant Discharge Elimination System) permit.

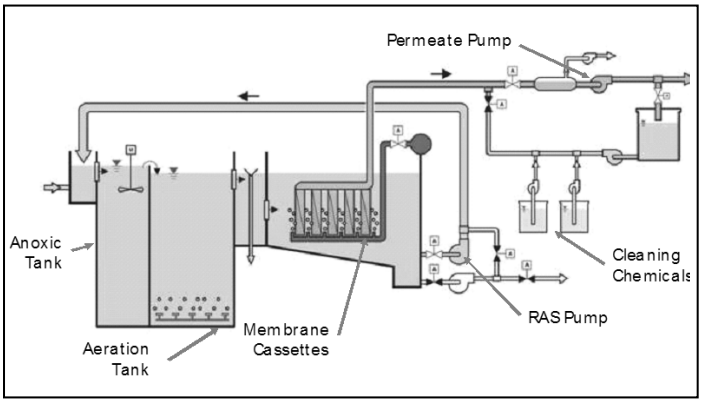

Figure 2: Typical MBR Configuration

The plant was operating a conventional facultative lagoon based system but was finding it increasingly difficult to meet NPDES permit requirements for BOD, TSS and phosphorus. Furthermore, management anticipated that effluent requirements may become even more stringent upon renewal of their permit. In addition to a reliable treated effluent quality, they sought a treatment system that was modular and expandable in the future without increasing the footprint of their existing lagoons. This would allow the facility to increase production capacity without using more of their valuable land.

The designers and operators of the wastewater treatment plant were also challenged with a difficult to treat wastewater. Cheese making wastewater is high in hardness and alkalinity with variable organic loading and complex organics in the form of fats, oils, and greases. These are particularly challenging for any biological treatment system as extended solids retention times are required to ensure biologically degradation.

The Solution

The Cheese Manufacturer needed a robust and reliable wastewater treatment system that would ensure compliance with their permit. In considering their alternatives, the facility contracted Zenon Environmental (now GE Water & Process Technologies) to perform a ZeeWeed MBR pilot under close scrutiny of Ohio EPA to validate the performance.

Upon successful completion of a 15 month pilot Zenon Environmental was awarded a contract to supply a ZeeWeed MBR System to return the plant to permit compliance, expand production, and meet future permit requirements. The installed system is fully automated, and includes ferric chloride addition and automatic soak cleans to regularly clean calcium scaling and organic foulants from the membranes. The design was based on conversion of existing facultative lagoons to completely mixed aerobic bioreactors and included the ability to add a denitrification step in future when effluent nitrate limits are expected to be imposed.

Parameter	Wastewater Influent	ZeeWeed MBR Effluent Quality
Flow (gpd)	240,000	-
BOD5 (mg/L)	6,000	< 5
COD (mg/L)	8,500	< 300
FOG (mg/L)	50 - 400	< 5
TSS (mg/L)	1,250	< 5
TKN (mg/L)	250	< 2 (winter) < 1 (summer)
Phosphorus (mg/L)	90	< 0.5
Bioreactor MLSS (mg/L)	10,000	-
SRT (days)	100	-

Table 1: Cheese Facility Design Basis

An Update

The MBR system was commissioned in November 2003 based on a flow rate of up to 240,000 gpd, however, plant expansions have increased wastewater flow rates over the past seven years. The system now treats up to 300,000 gpd of wastewater.

continued on page 50

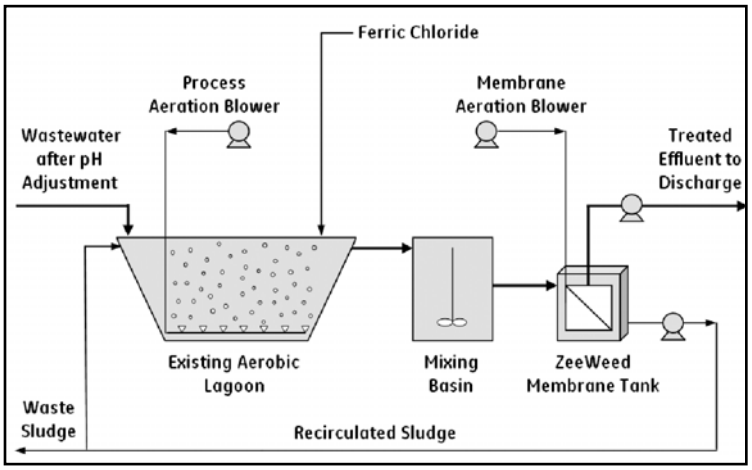

Figure 3: Cheese Facility MBR Process Flow Diagram

In 2006, the membrane system was expanded from 2 cassettes per train to 3 cassettes per train and the majority of the original membranes installed during the plant commissioning period are still meeting the plant's requirements after 7 years of operation..

Maintaining dissolved oxygen levels in the lagoon's aerobic zone is often a challenge for the fine bubble diffuser system due to the high hardness and scaling potential of this wastewater. Despite this and other challenges associated with biological treatment of this wastewater, the operators have done an excellent job recovering from the occasional upset condition and keeping the plant in compliance. The system continues to meet both the plant's wastewater flow requirements and NPDES permit requirements for direct discharge.

Management is anticipating future permit requirements to reduce TDS.

CASE STUDY #2 - SOFT DRINK SYRUP FACILITY IN OHIO

The Challenge

A soft drink syrup production facility located in Columbus, Ohio generates a concentrated wastewater high in organic load and deficient in nutrients. In 2004, rising sewer discharge surcharges from the city drove management to consider on-site treatment.

There were several requirements for the new pretreatment system:

- The treated wastewater must eliminate surcharges and exceed the city's sewer discharge requirements (TSS < 250 mg/L, BOD < 300 mg/L)
- The plant had limited space available for a new wastewater treatment system so the equipment footprint should be minimized
- The system should operate reliably and handle the variations in organic loading without upset, loss of biomass or diminished effluent quality
- The facility was in a residential area so the new wastewater treatment system should blend into the surrounding area and not produce any noise or odors
- The new system should have automated controls to minimize operator requirements

The Solution

The soft drink syrup facility contracted Zenon Environmental (now GE Water & Process Technologies) to conduct a pilot study to evaluate the treatability of the wastewater on-site using the ZeeWeed MBR process. Upon successful completion of the pilot, Zenon Environmental was contracted to supply a turnkey wastewater pretreatment plant based on ZeeWeed MBR technology.

The MBR treats effluent from the existing wastewater neutralization system and consists of an equalization tank to attenuate the variability of organic loading, an aerobic tank for biological removal of soluble organics, and a membrane system for separation of biological solids from treated water.

The wastewater from the facility is concentrated in BOD and phosphorus but deficient in nitrogen. To balance nutrients for the biological process, urea is dosed into the recirculating activated sludge returning to the bioreactor.

To avoid constructing a new building at site and minimize the plant's footprint and construction costs, the equipment was designed and supplied within refurbished shipping containers. This greatly reduced installation costs as the many parts of the system equipment could be completely pre-built prior to shipment with minimal site tie-in points.

Parameter	Wastewater Influent	ZeeWeed MBR Effluent Quality
Flow (gpd)	250,000	-
COD (mg/L)	5,000 – 7,000	< 100
BOD5 (mg/L)	3,000 – 4,000	< 30
TSS (mg/L)	50 – 100	< 5
Bioreactor MLSS (mg/L)	10,000 – 13,000	-
SRT (days)	>17	-

Table 2: Soft Drink Syrup Facility MBR Design Basis

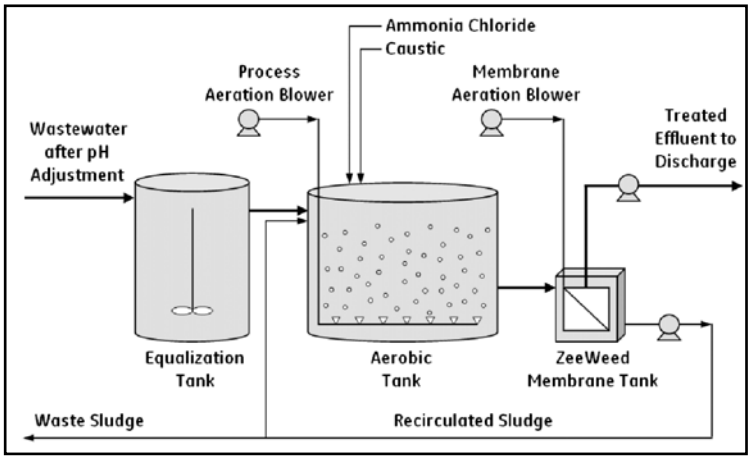

Figure 4: Soft Drink Syrup Facility MBR Process Flow Diagram

An Update

The MBR system was commissioned in late 2005 based on a design flow rate of up to 250,000 gpd and continues to treat up to 250,000 gpd of wastewater. It is estimated that the MBR has saved the facility over $5 million in surcharges since commissioning.

The plant continues to operate with its original set of ZeeWeed membranes. No membranes have been replaced to date despite the fact that the plant is often operated at elevated temperatures (105°F-115F); well above the recommended temperature limits for both the biological reactor and the membranes (the recommended maximum ZeeWeed MBR operating temperature is 104°F).

Providing adequate equalization of the feed wastewater, upstream of the bioreactor, has been an issue for the plant. An equalization tank was included upstream of the bioreactor to minimize swings in pH, temperature, and organic loading, however, an issue with the internal coating of the equalization tank lead to corrosion problems. In 2009, a second equalization tank was installed to provide redundancy for the first tank. The second tank also increased the total equalization volume thus improving the operator's ability to minimize swings in pH, temperature, and organic loading to the bioreactor.

The plant was designed with limited equipment redundancy (i.e. one equalization tank and one bioreactor tank). During periods when mechanical equipment failures prevented the wastewater treatment system from operating, the MBR was bypassed and wastewater was sent directly to the municipal sewer. However, once the equipment failures were corrected, the MBR system returned to normal operation meeting all of the facility's treatment requirements for sewer discharge.

CASE STUDY #3 - OIL AND SHORTENING FACILITY IN OHIO

The Challenge

An oil and shortening production facility in Cincinnati, Ohio that discharged its process wastewater to a local POTW without pretreatment was paying significant load-based surcharges to the regional sewer district per a consent agreement. In 2007, plant management forecast that based on the current production capacity and wastewater loading, the facility was likely to face an annual increase in wastewater surcharges of approximately 12.5% for the next 25 to 30 years as the regional sewer district sought to fund upgrades to their infrastructure. This significant increase in wastewater disposal costs forced the plant to evaluate alternatives, including relocating the production facility to a different site and installing an on-site wastewater pretreatment facility at the present location.

The Solution

Management chose to install a wastewater treatment system at their facility to treat wastewater discharged from the production process. Further, they elected to obtain the necessary NPDES permits to allow them to directly discharge the treated effluent to a nearby creek. This arrangement allows the plant to decouple their production process from the POTW, thus insulating them from any future increases in industrial surcharge rates.

The pretreatment process design consists of dissolved air flotation (DAF) followed by MBR. The facility retained GE Water & Process Technologies to design and supply a ZeeWeed MBR process, complete with the biological treatment equipment. The design basis and treated effluent quality for the MBR is summarized in Table 3 (above right).

The DAF system serves to remove any free oil and grease that may be in the wastewater as well as remove a portion of the TSS. The pretreated wastewater is pumped to the MBR process, which consists of bolted carbon steel biological reactors, carbon steel membrane tanks and skid mounted process equipment.

The industrial wastewater from this facility is unique in that it is deficient in nitrogen but has excess phosphorous that must be removed to < 1 mg/L to satisfy the discharge permit. The biological process is designed to take advantage of the high organic content of the wastewater by employing a configuration that promotes biological phosphorous removal. The biological treatment volume is shared between an anaerobic zone and an aerobic zone, where phosphorous accumulating organisms can be selected for in the anaerobic zone and luxury uptake of phosphorous can occur in the aerobic zone. The biological phosphorous removal process achieves phosphorous removal while saving operating costs associated with metal salt addition and increased waste sludge production. The design includes provision for the addition of a metal salt for chemical phosphorous removal in the event that biological phosphorous removal alone is not able to achieve the stringent effluent requirement. In the biological process, the soluble phosphorous in the raw wastewater is assimilated into the biological solids, where it is discharged from the process in the form of waste activated sludge. Waste solids from the system are dewatered on-site.

Parameter	Wastewater Influent	ZeeWeed MBR Effluent Quality
Flow (gpd)	864,000	-
Future Flow (gpd)	1,440,000	-
COD (mg/L)	800 - 2,000	-
BOD5 (mg/L)	600 - 1,000	< 10
TSS (mg/L)	70 – 200	< 5
TP (mg/L)	30 – 50	< 0.5
FOG (mg/L)	50 – 150	< 10
Temperature (deg F)	70	-
Turbidity (NTU)	-	< 1
Bioreactor MLSS (mg/L)	10,000	-
SRT (days)	20	-

Table 3: Oil and Shortening Facility MBR Design Basis

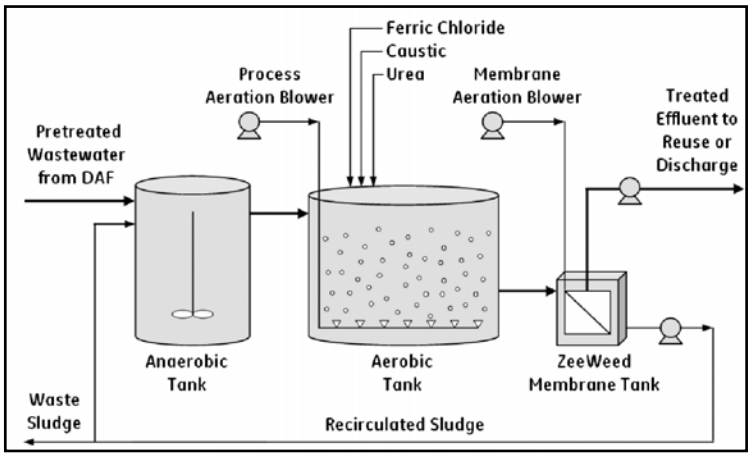

Figure 5: Oil and Shortening Facility MBR Process Flow Diagram

An Update

The wastewater treatment system commissioned in 2009 and the facility no longer pays over strength wastewater surcharges to the municipal sewer. The DAF and MBR systems have allowed the facility to continue profitable production. By installing on-site treatment it is estimated that the facility has saved over $4 million in surcharges since commissioning.

continued on page 52

The MBR effluent quality meets the requirements for discharge to the creek under the NPDES permit with all parameters except for phosphorous. Commissioning of the phosphorus removal systems (biological and chemical) is ongoing. Once completed, the facility plans to discharge wastewater to a nearby creek.

The facility also has plans to reuse wastewater in the future to reduce make up water demands for cooling. Higher oil and grease levels in the plant's wastewater can overwhelm the DAF system at times; however, carryover from the DAF is contained within the MBR system and has little or no effect on the effluent quality from the plant. The ZeeWeed membranes continue to perform reliably.

CONCLUSIONS

Sustainable water and wastewater management will continue to play an important role in the fiscal success of industry. MBR technology, as evidenced by the case studies presented in this article, has enabled industry water managers to not only effectively treat their difficult to treat wastewater on-site and eliminate POTW surcharges but also to institute water reuse strategies that reduce their facilities reliance on fresh water supply. It is expected that the trend in adoption of MBR technology in industrial applications will continue to grow as there is increasing pressure on the costs for municipal wastewater treatment and more industrial users are becoming aware of the benefits of the MBR technology to their particular situation.

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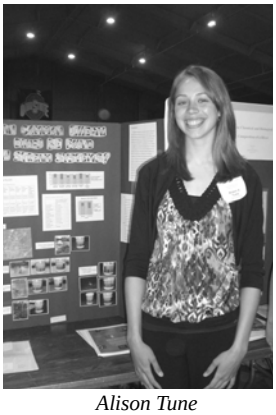
OWEA 2010 OHIO SCIENCE DAY AWARDS

And the winners are:

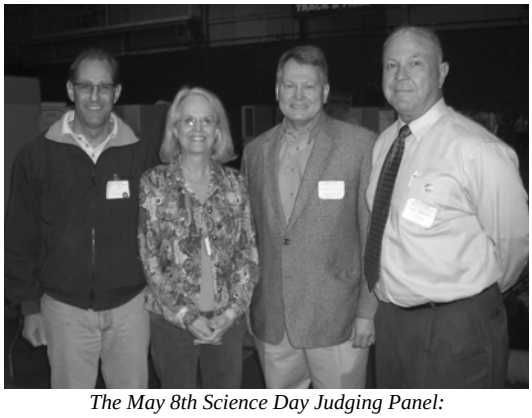
- Alison Tune, Grade 12, Spring High School, Springfield, Ohio
  "Can Drugs Be Found in Stream Systems?"
- Atlantis Drake, Grade 11, David H. Ponitz Technology Center, Dayton, Ohio
  "*Lead Nitrate (Pb NO3)2 Toxicity Effects on Daphnia Magna"* (unavailable for photo - $500 Award)
- Amy Johnson, Grade 10, Bowling Green High School, Bowling Green, Ohio
  "The Ability of Bacteria to Utilize the Phosphonate Compounds PBTC and HEDP as a Source of Phosphorus"
- Courtney Bush, Grade 7, Incarnate Word Academy, Parma Heights, Ohio
  "Are Geese Contributing to the Pollution of Our Waters?"



Alison Tune
$1000 Scholarship Award

Amy Johnson
$300 Science Day Award

Courtney Bush
$200 Science Day Award



The May 8th Science Day Judging Panel:
John Rogers, Judi Henrich, Dale Kocarek, Dave Stewart

THE SIGNIFICANCE OF SIGNIFICANT NONCOMPLIANCE

by Elizabeth Wick, P.E.
Ohio EPA, Division of Surface Water Northwest District Office

Pursuant to the Code of Federal Regulations at 40CFR123.45, Ohio EPA is required to submit a quarterly report to U.S. EPA that identifies the major permitted facilities that are in significant noncompliance. The Quarterly Noncompliance Report (QNCR) summarizes certain types of noncompliance information for all major facilities violating the terms of their National Pollutant Discharge Elimination System (NPDES) permit, enforcement action, or pretreatment program. It is one of the tools used by U.S. EPA to evaluate Ohio's enforcement program. The information appearing on the QNCR includes the parameter violated, the violation date, violation status, and violation status date. Ohio EPA submits compliance data on minor facilities to U.S. EPA on an annual basis. Where does this violation information come from? A facility's self monitoring data as submitted in the monthly Discharge Monitoring Reports (DMR). Therefore, it is important for each entity to submit accurate and representative sample results.

What is Significant Noncompliance?

Reportable noncompliance (RNC) violations consist of effluent limit, compliance schedule, reporting, and enforcement order violations. Significant noncompliance (SNC) is a program definition used to identify those violations that EPA believes should receive priority enforcement attention.

There are six possible ways to be in SNC and listed on the QNCR.

1. **Permit effluent limit violations.** The monthly average DMR data is compared to the monthly average limits in the NPDES permit over a six month period. The six month period consists of the current reporting quarter and the previous reporting quarter. These comparisons are made based on the same parameters and the same outfalls. Both magnitude and frequency of the violations are considered.

   A violation is considered to be significant if it exceeds the product of the permit effluent limit multiplied by its respective Technical Review Criteria (TRC) value for any two months in the six month period. There is a TRC value for each regulatory grouping of pollutants. The TRC value for Group I pollutants (conventional pollutants) is 1.4, while the TRC value for Group II pollutants (generally toxic pollutants) is 1.2. Table III – A2 *(on page 54)* lists the Group I and Group II pollutants. For example, a facility with a CBOD5 monthly average loading limit of 150 lbs/day from outfall 001 would be in SNC when it has measurements greater than or equal to 210 lbs/day. (Permit limit (150) x TRC (1.4) = 210)

   Effluent measurements that exceed the permit limit by any amount for four months of the six month period (same parameter, same outfall) are considered chronic violations and SNC. Chronic violations are based solely on the frequency of the violation.

2. **Compliance Schedule Violations.** Failure to meet compliance schedule milestones for start construction, end construction, attain final compliance, and all pretreatment milestones within 90 days of the schedule date contained in the NPDES permit are considered SNC.

3. **Reporting violations.** Reports that are received 30 or more days after they are due place an entity in SNC. Late DMRs, pretreatment reports, and schedule final reports of compliance are all considered SNC. Reports that are incomplete or deficient 30 days after their due dates are also considered SNC.

4. **Discretionary violations.** In addition to effluent limit, schedule, and reporting violations, there are other violations that can be considered SNC. These violations include those that are of concern to Ohio EPA's director and violations of other narrative requirements of the NPDES permit.

5. **Violations of formal enforcement actions.** Failure to comply with the terms and conditions of an administrative or judicial order, including reporting, compliance schedule, interim effluent limits, or other requirements, are considered SNC.

   The SNC definitions for violations of formal enforcement actions are the same as above for each type of violation, with the following exceptions:

   a. Any required report that is 30 or more days overdue, incomplete, or deficient is SNC;

   b. Failure to achieve any compliance schedule milestone specified in an order is SNC;

   c. Any one violation of any magnitude of an interim 30-day average effluent limit is SNC or any violation of discretionary or narrative requirements in an administrative or judicial order is SNC.

6. **Violations for failure to implement a pretreatment program.** Some POTWs are required to implement pretreatment programs. Failure to implement a required pretreatment program constitutes SNC.

How does this information get to U.S. EPA?

Ohio EPA's computer generates the SNC data. Two to three weeks before the official QNCR is generated, the district staff review the preliminary data and make any corrections to inaccurate violations or enter compliance schedule milestones that have been achieved. Once the information is deemed to be accurate, the data is uploaded to the U.S. EPA computer system.

What does Ohio EPA do with entities on the QNCR?

Once an entity is on the QNCR, the district staff will investigate the reasons for the violations and may refer the entity for escalated enforcement action or work with the facility to return them to compliance. Facilities on the QNCR will appear on U.S. EPA's Watchlist. Once on the Watchlist, an entity may face increased scrutiny from U.S. EPA.

continued on page 54

Where can I find the QNCR?

The QNCR is posted on Ohio EPA's webpage at *www.epa.ohio.gov/dsw/permits/qncr.aspx*. U.S. EPA's website also contains compliance data on permitted majors. Keep in mind that the public can also view these lists which could lead to actions by citizens' groups.

What do I do if I'm heading towards SNC?

If you think that you are going to be in SNC, you should inform your superiors of the consequences and call your district office representative to discuss the steps being taken to return to compliance. Ohio EPA's goal is to address noncompliance before it escalates to SNC.

For more information contact Elizabeth Wick of the Ohio EPA, *Elizabeth.Wick@epa.state.oh.us*

Table III-A2. Technical Review Criteria (TRC)
Pollutants from 40 CFR 123.45

Group I Pollutants (TRC = 1.4)

Oxygen Demand
Biochemical Oxygen Demand
Chemical Oxygen Demand
Total Oxygen Demands
Total Organic Carbon
Other

Solids
Total Suspended Solids (Residues)
Total Dissolved Solids (Residues)
Other

Nutrients
Inorganic Phosphorus Compounds
Inorganic Nitrogen Compounds
Other

Detergents and Oils
MBAS
NTA
Oil and Grease
Other Detergents or Algaecides

Minerals
Calcium
Chloride
Fluoride
Magnesium
Sodium
Potassium
Sulfur
Sulfate
Total Alkalinity
Total Hardness
Other Minerals

Metals
Aluminum
Cobalt
Vanadium
Iron

Group II Pollutants (TRC = 1.2)

Metals (All Forms)
Other metals not specifically listed under group I

Inorganic
Cyanide
Total Residue Chlorine

Organics
All organics are group II except those specifically listed under Group I

Certification Corner

Kathy Cook, Chair

Please review the following information from Ohio EPA.

NPDES Inspections of Waste Water Labs in Ohio

Summary:

The Department of Surface Water (DSW) is introducing a protocol which will enable Compliance Evaluation Inspections (CEIs) to include basic inspections of wastewater plant laboratories sufficient to identify "red flag" issues. These are problems with laboratory practices which call into question the reliability and accuracy of data generated.

The protocol (General Lab criteria or GLC) is targeted at small to medium size waste water treatment plants but can be applied to any lab conducting wastewater analyses for National Pollutant Discharge Elimination System (NPDES) reporting purposes. This process uses a "broad strokes" approach and does not require inspectors to review details of analytical procedures. The intent is to help wastewater labs generate more defensible data. Deficiencies discovered in initial inspections will not generally be treated as violations.

We believe that implementation of this protocol on a full scale should include a widespread education effort. We recognize the majority of wastewater treatment plants have not had their laboratory scrutinized in this detail as part of CEI inspections for years. We also suggest that inspectors provide copies of the General Lab Criteria to the permittee at the time inspections are scheduled.

Protocol details

Parameters included are CBOD/BOD, TSS, pH, NH3-N, fecal coliform, E coli, residual chlorine, DO, and temperature.

Reference materials are also provided for inspectors that include details of approved method numbers and sample collection, preservation and holding times for a wider range of parameters than the above list.

Instructions to the Inspectors

The inspection will follow the amended USEPA CEI form and be documented in the "Laboratory" section.

1. Ask which analyses the WWTP performs on site.
2. Ask if they have standard operating procedures (SOP) for each analysis performed in their lab.
3. If they have SOPs, pick the SOP for one analysis they do, read it through to check if it contains the parts needed. You are not necessarily verifying that what is included is correct in terms of calculations or procedures. The SOP should include a description of the approved method and the Quality Control procedures needed for that analysis.
4. Check the chains of custody for the samples being analyzed for the parameter chosen; look at 3 or 4 days at random.
5. Use the Broad Stroke Lab Criteria checklist (attached) to look at sample handling documentation and all the lab equipment used for the analysis you chose. For example, if you choose TSS then the inspector would look at the

continued on page 55

refrigerator, balance, drying oven, dessicator, and the log books for each. If you choose CBOD you would look at the DO meter, pH meter, incubator, and refrigerator.

6. Check the bench sheets to see if they are following the SOP.
7. If they have no written SOPs then look at sample handling documentation and all the analytical equipment they have, using the General Lab Criteria checklist.

Make sure the Operator of Record understands that their signature on the dmr reports is affirming that the data submitted is "true, accurate and complete."

It is recommended that the first lab inspection at a facility will result in recommendations for corrective actions, giving up to twelve months to complete SOPS for each analysis, arrange for calibrations, and develop a QA manual. The extended period is recommended bearing in mind that for many small facilities the lab analyst is also the operator who has many other jobs for the municipality.

If corrections are not made by the time a follow up visit is made then Notices of Violation or further enforcement may be appropriate.

Please visit

http://www.ohiowea.org/laboratory_analysis_committee.php to view the General Lab Criteria Review Form

or

Contact Kathy Cook
kathy.cook8@gmail.com

Minutes of the 2010 OWEA Annual Business Meeting
The 84th Annual Meeting
The Renaissance, Columbus, Ohio.
June 15, 2010

President Mark Livengood called the meeting to order at 11:02 a.m.

Items for approval were the 2009 annual business meeting minutes. Jane Winkler, Secretary-Treasurer, reported that the minutes were published in the Fall 2009 issue of the Buckeye Bulletin. Copies of the minutes were available. Tom Angelo made a motion to approve the minutes, with a second by Carl Gatton. Motion carried. Jane Winkler, Secretary Treasurer, gave the Treasurer's report. A motion to approve the report, with a date amended, was made by Debbie Houdeshell and seconded by Tom Angelo. The motion passed.

Section reports were given. John Motycka reported for the Northwest section, Mike Welke, representing Bob Hrusovsky gave the Northeast section report: Greg Otey represented the Southeast section, and Carl Gatton presented the Southwest section report. Written reports were submitted for the official minutes. Each outgoing section President was presented a certificate of appreciation for their service by President Livengood.

WEF Board of Trustee member, Judy Jones, offered greetings from WEF. Judy commented on WEF's financial status with the budget in process and the strategic plan being updated. She discussed the process for replacing Executive Director, Bill Berterra.

Standing/Ad hoc committee reports - Committee chairs were permitted to give brief updates on their committee's activities. Written reports were submitted for the minutes.

Items for Voting-
Nominations and elections- Sheree Gossett-Johnson
Mark Livengood presented the following names for the 2010-2011 officer positions: President - Dale Kocarek, President Elect - Doug Clark, Secretary/Treasurer - Jane Winkler, and for Vice President - Tom Angelo. Mark Livengood will serve on the Executive Committee as Past President. Mark Livengood made a motion to accept the nominations as presented, seconded by Debbie Houdeshell. Motion carried.

OWEA had received letters of support from the Northeast Section for the appointment of Ted Baker as the Northeast Delegate and for Tom Angelo to the position of Vice-President.

A moment of silence was held for deceased members.

President Livengood adjourned the meeting at 11:29 a.m.

Submitted by Jane Winkler, Secretary-Treasurer

THE AMERICAN IDLE

by Dan Martin, R. A. Consultants and Kris Ruggles, Strand Associates

A few years ago, I saw an ad along the highway for Cincinnati State University. It said: "Don't be an American Idle." I'm a fan of homonyms. You can burn some time on a long car ride by trying to think of as many homonyms as possible with your companions. Anyway, this is the thrust of my message to those who may read these lines (especially Young Professionals who may be striking out on their careers, but really also to anyone regardless of the vintage of their career). We do best in life when we take ownership of our assets. Homeowners take better care of their yard than renters, public bathrooms never seem as clean as our own bathrooms (even though they might be), and your kids never seem to keep a place as clean as when it becomes their chore to do so. My challenge to you today is to take a few moments to consider how you might take a greater ownership of your career and, if you feel that there aren't many changes in order for you, then consider how you might "pay it forward" by helping a young coworker or colleague improve his or her career.

I'm not a big American Idol fan. The first round makes me chuckle because of all the crazy personalities they find. After the initial round it feels like a drawn out, overly-commercialized affair. There's one phrase I'd like to borrow from the judges though. Throughout the competition, contestants perform "covers" of existing songs and the three judges rate the quality of the performance. Their favorite cover performances hit all the qualities of the original rendition but have elements of the contestants' own style. When this happens, the judges will praise the contestant and tell him/her that he/she "made it their own."

So here we all are on the career highway toward retirement. For some of us our exit is coming up soon; it has been a long trip and it started where the road was a rough horse and buggy trail. Many of us have just gotten on the highway and we're getting up to speed. The highway is busy and overall it looks like more lanes are being added ahead. For some of us there are detours ahead and for others, there are merely lane changes. As you hurtle down this superhighway I encourage you to "make it your own" and along the way make some room for others to change lanes. Let's face it, we're driving ahead and many have come before us, so it can be tempting to forge our journey the way others have or constantly wait for a wide opening to adjust. Using this approach may get you to the final exit, but perhaps not as quickly and maybe in a less fulfilling fashion. There can be serious potholes and traffic snarls ahead. Public and regulatory entities can furlough or layoff because of budget shortfalls. Pensions look to be getting tighter for new employees. In the consulting arena, competition has forced layoffs and sometimes office closures. Mergers and acquisitions can change the chemistry you had with your company. In any career track, departments, working divisions, and supervisors can shift. In this bumpy economy it is increasingly important to make your career your own.

Who are YPs Today?

Approximately 30% of Workforce

Late Gen-Xer's-Born 1975-1981 (Gen-Xer's are classified as 1960-1981)	20%
Millennials-Born 1982-2000	10% Growing!

The next batch of PMs, Superintendants, and Presidents

I have been fortunate in my career because my boss has always seen the value of organizations like WEF and OWEA. When I can, I encourage others to explore professional organizations like WEF and OWEA. This is important for you as a reader because these lines are likely only reaching you because you already have a WEF membership. Please take a moment to think of at least one person you could encourage to explore membership and pay it forward by telling them about this valuable organization. The benefits of WEF/OWEA can scarcely be understated:

- WEF is the forum and OWEA is our local connection to each other as professionals. Our organization is an opportunity to forge a relationship with those we wouldn't have known otherwise primarily through activities on committees but also through interactions at events. The interaction may help you through a technical question at some point in the future, it may help you sell grant funding to a regulatory body, or it may be a foot in the door for a future business opportunity. Those out of work will tell you most job placement occurs because an applicant knows someone within an interviewing organization. Rarely is a job fulfilled simply by responding to an ad in the paper.
- WEF/OWEA activities help us build knowledge in our field and offer contact hours for operator and PE licenses. Presenting your work at a conference is a further opportunity to sell yourself and your employer. These are some of the best ways to build stock in your career.
- WEF is an esteemed organization and the voice for our field. WEF is the forum and representative to help ensure the environment is protected in a manner that is responsible to us and our children.
- OWEA and WEF provide an opportunity for participating in our larger world community through service projects and efforts such as Water For People and others.
- The benefits of WEF membership follow a person from job to job through life. WEF membership helps define "who we are" as water quality professionals.
- Avoid the temptation to be solely "job focused" or have an hourly worker mentality. Those who are enterprising and professionally motivated create opportunities for themselves by managing their own careers.
- Don't allow yourself or your colleagues to fall into the excuse of: "My employer won't pay." An employer offers a job, but every person is in charge of his or her own career. It is not the employer's responsibility. Many younger professionals put their faith and careers entirely in the hands of their employers. They trust that they will be provided with fulfillment choice assignments and advance if they do good work. Occasionally this is true, but it is not often true. Also, we have the present economic situation where companies are fighting for survival and laying off. The idea that WEF membership could add value to my career – independently of an employer – was the

motivating factor for many who have joined the organization. WEF members pay $112 for a full WEF membership, which is very economical. The YP membership is only $59 per year—a bargain of immense proportions.

So after the brief rest stop that this article has provided, I encourage you to seize the opportunity that WEF membership presents.

> As a young man, I adopted the attitude to learn from the best and brightest in our industry - that were both in the public and private sectors. These professionals not only taught me important technical information, but other life skills such as patience, wisdom, working with political officials and others important to being effective in the work that we do. Some of this learning occurred as a result of my experiences through OWEA meetings and workshops. I can't place a dollar value on the innumerable benefits that I received due to my membership in WEF in my 27 years as a member, as they are both tangible and intangible. But, I can promise you that if you join WEF and seek to participate actively in any way that you can, you will derive professional and personal fulfillment in ways that you had never thought possible.
>
> *-Dale Kocarek, OWEA President*

If you are already a WEF member, please explore committee activities. In addition to building working relationships, there is a great sense of fulfillment when committee goals are achieved as a team. Our Students and Young Professionals Committee offers many embellishments such as:

- An opportunity to get to know others in the field. We're all new to the field and meetings can feel awkward when you're the new guy or gal with no one to talk to. Young professionals often have a similar generational reference which makes stepping into our careers together that much easier.
- The YP arena is entirely made up of folks who are new to the field. Most of us have the same basic questions that we may be intimidated to ask in forums with experienced professionals. YP is the place to ask those questions.
- The YP committee tailors its activities to spark an interest in exploring our field. We look for opportunities to see the applications of our methods so that we can better understand why things work the way they do.
- The YP Committee has recently assumed the duties of the Watershed Committee. The addition of functions of the Watershed Committee will help create good synergy for community service projects and other learning initiatives. The bond of our profession is linked to the environment and we have the responsibility to be good stewards for future generations. As an emerging field this will give YP members the opportunity to teach something to our more experienced colleagues.

Beyond YP-focused initiatives, WEF provides opportunities for many levels of involvement. Essentially we have a four pronged approach to serve our members and those in our industry:

- As a conduit to facilitate involvement in WEF committees
- Through our Standing and Ad Hoc Committees
- Through our OWEA Conference and Workshops
- Through our Sections

Beyond WEF motivated efforts, here are some suggestions for making your career your own:

- Don't wait for your company's personnel evaluation to take stock in your career. Set goals for yourself at the start of your career. Don't make them hard and fast laws for your future, but use them as guideposts to chart your course. Forecast one year, five years, ten years and thirty years ahead. Chart your personal goals too. Look at these goals at least yearly and take stock in how they evolve over time.
- Strive to communicate.
- Be a good listener.
- Be open to taking on challenges.
- Diversify your tasks as much as possible.
- Learn from your mistakes.
- Dress for success.
- Prioritize your daily tasks with a rolling to do list.
- Read a book on the science of your area of interest or on self improvement or business strategies.
- Learn the stuff your boss knows and learn the stuff your boss doesn't have time to.

As Baby Boomers move into retirement and the newest batch of employees file in to fill their shoes, outstanding opportunities arise for ambitious young professionals that want to make a difference in the water and wastewater field and in WEF. By becoming proactively engaged in progressive approaches in the Water/Wastewater field, YP's make their careers their own and become beneficial to their organization and the environment. By empowering themselves to become involved in leading progressive approaches to environmental stewardship such as Green initiatives, YPs become leaders and a voice for the next generation of professionals in the WEF world. By joining WEF you have the full confidence that you are a member of the premier water quality organization in the World, and an important part of the world health movement.

Dan Martin
Co-Chair
Young Professional Committee
dmartin@raconsultantsllc.com

Kris Ruggles
Co-Chair
Young Professional Committee
kris.ruggles@strand.com

WEF Membership Application 2010

Ohio Water Environment Association

Personal Information			
Last Name	M.I.	First Name	(Jr., Sr., etc.)
Business Name *(if applicable)*			
Street or P.O. Box ❑ Business Address ❑ Home Address			
City	State	Zip	Country
Home Phone Number		Business Phone Number	
E-mail Address to receive *WEF Highlights Online*		FAX Number	
❑ Please send me information on special offers, discounts, training and educational events, and new product information to enhance my career. ❑ by e-mail / ❑ by fax			
Member Association (MA) Choice** _____			
*** By joining WEF, you also become a member of a local Member Association (MA). Please select the MA you wish to join from the list on the previous page.*			

Employment Information (see back page for codes)			
1. ORG Code:	Other *(please specify):*	**2. JOB Code:**	Other (please specify):
3. Focus Area Codes:		Other *(please specify):*	
Signature *Required for all new memberships*		Date	

Sponsorship Information		
WEF Sponsor Name (optional)	Sponsor I.D. Number	**ACQ. Code for WEF use only** | WEF08

Membership Information			
Membership Categories (select one only)		**Member Benefit Subscription** (select one only)	**Dues**
	❑ **Professional Membership:** Individuals involved in or interested in water quality	❑ *WE&T* (including *Operations Forum*) ✔ *WEF Highlights Online*	$ 112.00
	❑ **Young Professionals Pkg:** New WEF members or formerly WEF Student members with 5 or less years of experience in the industry and less than 35 years of age. This package is available for 3 years.	❑ *WE&T* (including *Operations Forum*) ✔ *WEF Highlights Online*	$ 58.50
	❑ **Professional Wastewater Operations (PWO) Pkg:** Individuals involved in the day-to-day operation of wastewater collection, treatment or laboratory facility, or for facilities with a daily flow of < 1 mgd or 40 L/sec.	❑ *WE&T* (including *Operations Forum*) ❑ *Water Environment Laboratory Solutions* ✔ *WEF Highlights Online*	$ 64.00
	❑ **Academic Pkg:** Instructors/Professors interested in subjects related to water quality.	❑ *WE&T* (including *Operations Forum*) ❑ *Water Environment Research* (Online) ✔ *WEF Highlights Online*	$ 112.00
	❑ **Student Pkg:** Students enrolled for a minimum of six credit hours in an accredited college or university. Must provide written documentation on school letterhead verifying status, signed by an advisor or faculty member	❑ *WE&T* (including *Operations Forum*) ✔ *WEF Highlights Online*	$ 25.00
	❑ **Executive Pkg:** Upper level managers interested in an expanded suite of WEF products/services	✔ *WE&T* (including *Operations Forum*) ✔ *World Water & Environmental Engineering* ✔ *Water Environment Research* (Online) ✔ *Water Environment Regulation Watch* ✔ *Utility Executive* ✔ *Biosolids Technical Bulletin*	$ 322.00
	❑ **Corporate Membership:** ***One person is entitled to receive member benefits.*** Companies engaged in the design, construction, operation or management of water quality systems. **Designate one membership contact.**	✔ *WE&T* (including *Operations Forum*) ✔ *Water Environment Research* (Print) ✔ *Water Environment Regulation Watch** ✔ *WEF Highlights Online*	$ 300.00
Contact WEF for information on Associate Membership and UPP information.			

Dual Member Association Memberships		
Please indicate additional WEF MA(s) you would like to join and include the MA's Dual Membership dues. WEF can track up to three additional associations.	MA 1	$

Additional Subscriptions			
Consider including additional WEF resources in your membership package! Check the appropriate subscription and include the subscription cost in your payment. To subscribe to one of WEF's online technical bulletins, please visit www.wef.org, or call 1-800-666-0206 or 1-703-684-2452. NOTE: Prices listed reflect a substantial member discount!	❑ *WE&T* (including *Operations Forum*)	$ 55.00	$
	❑ *World Water & Environmental Engineering*	$ 75.00	$
	❑ *Water Environment Research Online*	$ 75.00	$
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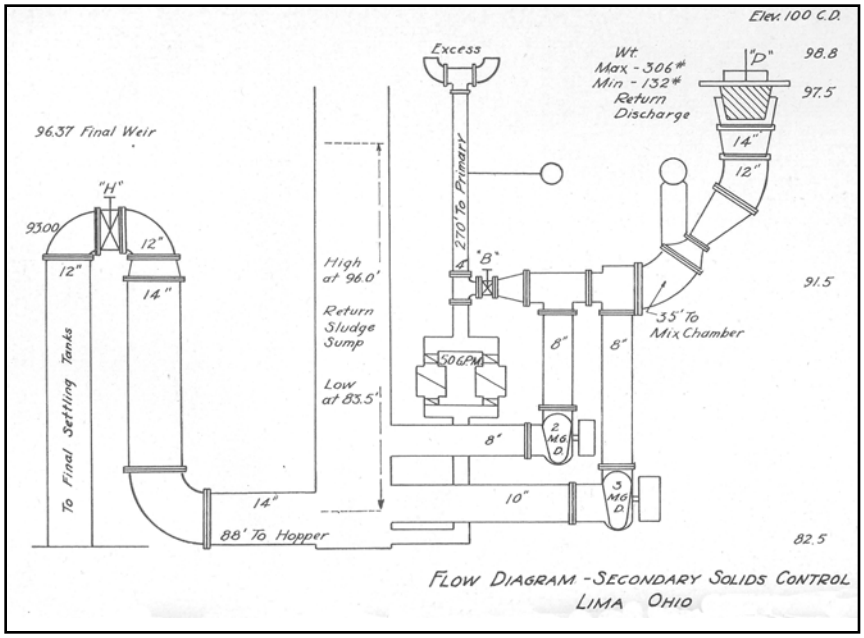
Dues allocated when included in WEF membership fee: WE&T – US $55; Dues allocated when included in PWO membership fee: WE&T – US $42

SEMI-AUTOMATIC CONTROL OF SECONDARY SOLIDS AT THE LIMA ACTIVATED SLUDGE PLANT

by E. E. Smith (1941)

Calculations and various formulae have been customarily used to maintain a degree of constancy in the solids of the activated sludge systems. Now and then certain novel and even patented systems for automatic control have been presented. It appeared to the writer that any system which used past results (as obtained from laboratory determinations) to be applied to new, present, or future conditions was hardly likely to produce uniform or desirable conditions on such an irresponsible or ever-changing thing as sewage. As the real criterion of any sewage treatment based upon settling is settling, then let the settling rate control the process.



Experiences at Lima

The method which has worked remarkably well at Lima since the beginning of 1941 is illustrated by the flow diagram, tabulation and photograph accompanying. A 4-inch valve in the return sludge pump header continuously discharges excess activated sludge to the primary settling tank for removal from the secondary system. The amount of such excess sludge is effected immediately by a back-pressure plug in the discharge of return sludge to the mixed liquor channel and generally by the settling rate of aerated sludge in the final settling tanks through control of the suction lift of the return sludge pump.

Specifically, operating directions call for the individual sludge discharge valves between the final settling tanks and the return sludge sump to be throttled at all times sufficiently only to hold the sludge line in the final settling tanks at the edge of the vertical side-walls, maintaining the three foot cone in the final tanks full of sludge. If the rate of settling increases or conversely, the hourly percentage settling decreases, the more compact sludge will require less volume in the return and excess flows, the opposite conditions obtaining with a slower settling sludge.

Control of Return Sludge

The back-pressure plug in the return sludge discharge, with empirically determined amount of weight will proportion the excess flow according to the rate of return and, indirectly, the sludge settling rate. Operating directions also call for some correction when the solids in the aeration effluent exceed a set figure. Thus, for the summer of 1941, when the solids in the aeration effluent exceed 1,500 parts per million (as determined by Gooch crucible), the 4-inch return sludge bleeder valve was closed and the 50 g.p.m. excess sludge diaphragm pump operated for the three-hour period between 5:00 and 8:00 A.M. the day following that on which the determination of aeration effluent suspended solids was made. This three-hour pumping seemed to be sufficiently in excess of the normal production of secondary solids that no great deviation from the desired amount of solids followed such procedure. The actual deviations were for the month of August; from the observed mean of 1,570 p.p.m., plus 25% and minus 27%; from the desired setting of 1,500 plus 21% and minus 24%, while the observed monthly mean of 1,570 deviated only plus 4.6% from the desired setting.

Advantages of the System

The above results are typical of what may be called semi-automatic control of secondary solids, as the system involves no effort on the part of the superintendent to make any detailed schedule of excess pumping as such. During the earlier part of the year when run-off provided a weaker combined sewage, the setting of 1,000 p.p.m. for aeration effluent was easily obtained by increasing the weights on the return sludge discharge plug. In addition to relieving the operators from the necessity of guessing at the number of hours of excess sludge pumping, this system has the following advantages:

1. Nearly eliminates the operation of the excess sludge pump, with its eight rubber diaphragms and four rubber ball valves, avoiding their maintenance.
2. Greatly reduces power for direct excess sludge pump motor operations (60 hours instead of 341) at 1¢ per KWH, this amounted to $10.58 in August.
3. Has an apparent beneficial effect on primary settling, in that acting as a coagulant, the results from adding continuously small amounts of excess activated sludge are preferable to adding the same volume over shorter periods.

Smith, E. E. "Ohio Conference on Sewage Treatment." Semi-Automatic Control of Secondary Solids At The Lima Activated Sludge Plan 15 (1941): 51-53. Print.

WHAT OPPORTUNITY LOOKS LIKE

by Bill Bertera, WEF Executive Director

The argument for a single voice for water in North America is compelling…and in the eye of some, obvious. What is not so obvious is why achieving such a seemingly simple unanimity of purpose, which is so clearly in the public interest, is still the topic of debate rather than implementation. The answer is uncomfortable because it is simple, plain and unadulterated; it is "self interest".

Self interest in and of itself is not a bad thing. It is anything but. When applied in a broader context of a "public interest", however, the idea of self interest can become disorienting. And that is a shame because there are self interests that are public regarding, that are good self interests, i.e., that are consistent with and supportive of public policies that serve the greater good. For instance, we give up certain privileges or freedoms or short term benefits to have safe streets, or a clean environment, or to have universal public education.

"Giving up"…that is a key phrase and a bit harsh and off-putting. It raises instant defenses and makes it difficult to see beyond the immediate. It causes us to put our personal and short term interests in the fore, to close off discussion. Looked at in another way, "giving up" suggests a hard, accusatory, winners vs. losers edge. It implies loss rather than gain, and while it often suggests special interests rather than public interests, the two are not mutually exclusive.

In the early days of the "one voice for water" conversation, the term was often interpreted solely as a call for a merger between WEF and the American Water Works Association. It is unfortunate that the term acquired that narrow definition, because it was intended then as something much more and has become something much more in the years since.

Michael Read, a former president of WEF and now a public utility manager, first used the term to suggest the need for coming together within the water community and to come together on behalf of a public interest that far transcended the unimportant conflicts between two national organizations. That public interest was defined in terms of a protected environment, a strong program of public health, and a vision of a future that was sustainable. Michael wasn't just talking about WEF and AWWA, nor about the public and private sectors; not urban and rural, not small systems and centralized systems, and not even just drinking water and what we used to call wastewater…but the WHOLE of the water community.

All of this comes to mind yet again as a number of Member Associations, most recently the British Columbia Water and Waste Association, call for increased collaboration within the water community. All speak to the issue of a single voice for water in North America and do so intelligently and cogently. But talking about collaboration in the public interest and doing it are not the same. Achieving it, especially at a national level, will take something more, and so far, we have shied away from that something more because that something more is painful.

To date the water community discussion about creating a single voice for water has been about doing so without anything changing…for us, for our association, company or utility. If there is to be change, it is to take place somewhere else… by someone else…by you, in your association, company or utility…but not me in mine or ours. This is not a recipe for success; it is a recipe for inaction, for doing nothing while pretending to be willing to do anything. It is everyone deciding not to lead.

The water community is more than AWWA and WEF. And while neither organization can single handedly dictate the future, little can change without their support. There is reason to be hopeful. AWWA has a new executive director…a good man with good intentions. By the end of the year WEF will also have a new executive director and the political landscape of the North American water community could change dramatically.

Both AWWA and WEF are member driven organizations, but professional leadership matters and is highly influential in both organizations. And if WEF does as well in choosing its staff leader as has AWWA…this may be what opportunity looks like.

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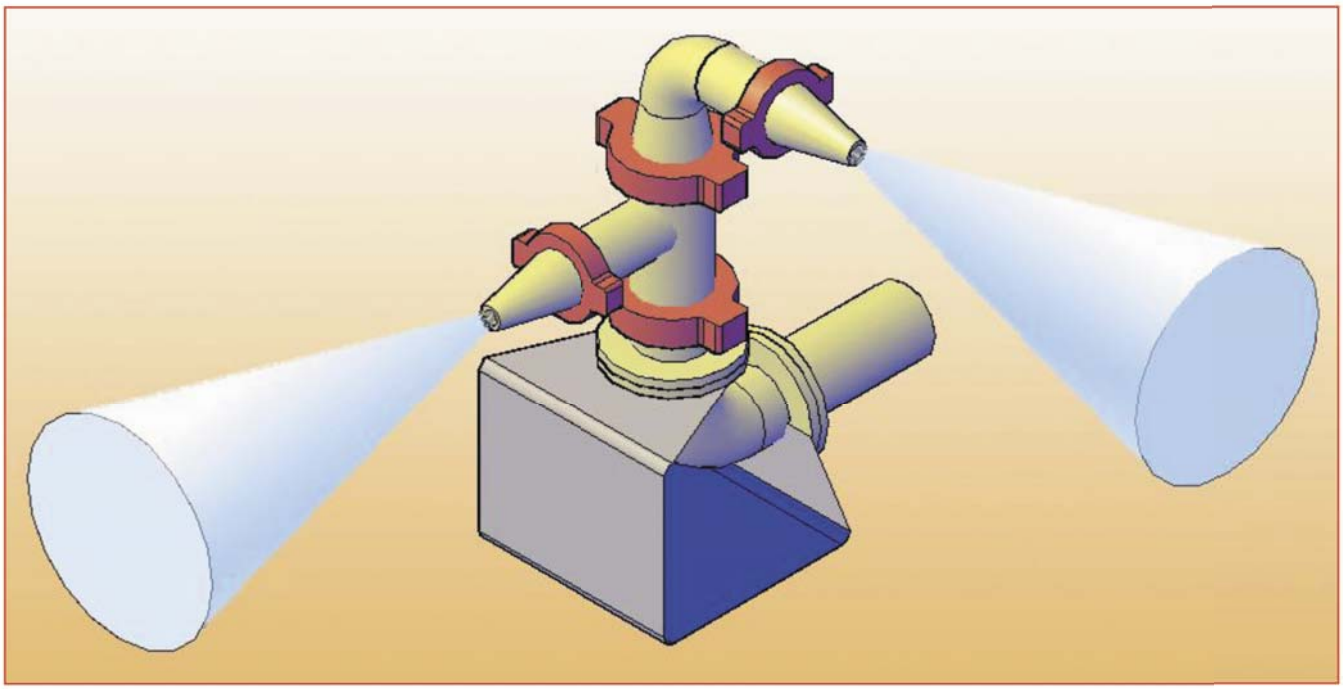

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