

ecoletter

SUMMER 2010 ISSUE



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*A Publication of the
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PRESIDENT'S MESSAGE



CWEA President

—Hiram Tanner

The summer always brings great promise. Utilities are fast preparing and/or defending their budgets, rate increases while dealing with the impact of new legislation and the normal requirements of the NPDES permit. CWEA along with the Chesapeake Section of the AWWA and our cohorts at WWOA are busy planning this year's Tri-Association Conference. Some committees are evaluating the success of recent seminars; the short course and golf outing are taken the attention of others. Still others are looking ahead to the fall. The Stockholm Junior Prize winner has been announced and is preparing to represent us this year in St. Louis. Yes, CWEA members are hard at work to make the lives of the many we serve better.

Living in the Chesapeake Bay Watershed is such a privilege as we all know what a national treasure the Bay is. It is a treasure that is undergoing restoration and our members are leading the way. During the last few months, the politicians were active with their ceremonial pens, crafting new laws and regulations to guide environmental practitioners, farmers, utility operators and code officials in a more comprehensive approach to the restoration process. And in May, the United States Environmental Protection Administration issued a notice that they intend to Initiate Rulemaking to Reduce Harmful Affects of Sanitary Sewer Overflows. All these changes are adding a heavy burden to water/wastewater utilities. They must run current operations, address issues as a result of consent decree, restore/replace aging infrastructure all the while convincing rate payers to give us more of their hard earned dollars for the existing programs.

I believe it is CWEA duty to accept these challenging times and aggressively pursue programs that support compliance with the goals and objectives of the Clean Water Act. Seminars will require the efforts of several committees to effectively disseminate technical, operational and best practices information to the environmental community. I note committees are already tackling issues together planning for example to tackle the stormwater issue in October 2010.

We must remain energized and excited about the future. CWEA WEF Delegates, Officers, Trustees and Committee Chairs do this by representing you at WEF Member Exchange Meetings (WEFMAX) each year. It



WWOA President

—Duane McCoy

Welcome members, the warm fun season of being out doors has just begun when we can enjoy the weather outside but at the same time we have some unfinished business to take care of like our Short Course program. The Short Course, where our members and all professionals can come together and upgrade their license or take a leap into the door of our profession as well as gather professional knowledge that always needs to be brushed up on because of ever growing new technologies. The short course program is geared to help WWOA members so they can be successful—if they have done their homework before they get there which is the hardware before the software of our profession. The program provides a setting where we can brain storm each other in a classroom environment with the instructor and other classmates of different backgrounds.

I also would like to thank the Rural Water Association and MCET for their commitment to help our members obtain needed education. I hope that all our members take advantage of this help and I praise our instructors for their time and commitment to our profession as being branches of tree of knowledge. And we should not forget how the late, great Jake Bair helped us advance in our profession.

Finally, our Tri-conference committee has spent many hours in prepare an interesting program and are ready to kick off our conference, which is Aug 31, 2010 thru Sept 4, 2010. The Tri-conference committee planned and organized this program so it should be a fun and knowledgeable time for everyone at the conference. I would like to congratulate each committee member for the hard work and time they spent in making this possible.

helps us connect with professionals around the country and the world. Most importantly we often find that we do not have to reinvent the wheel or find a partner association to exchange program ideas throughout the year. I expect as the summer ends, we will find that our namesake on the west coast CWEA (California) will share a great deal of ideas with those planning the stormwater seminar.

Everyone have a safe and an enjoyable summer; see you in Ocean City August 31st through September 3rd.

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CALENDAR OF EVENTS Summer–Fall 2010

August 31–September 3
CWEA-WWOA-CSAWWA
Tri-Association Conference
Ocean City Convention Center, Ocean City, MD

October 19
Seminar: Stormwater Issues Around
the Bay—How the Region is Preparing for
the Oncoming Challenges
CWEA Stormwater Committee
Maritime Institute of Technology (MITAGS)
Linthicum, MD

www.wwoa-cwea.org

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TABLE OF CONTENTS

President's Message	3	Oakcrest School STEM Fair	18
Editor's Corner	5	Plant Profile: MD Correctional Institution WWTP	20
Stormwater Committee—Save The Date	8	Book Review	23
Out of the Blue: Upcoming Stormwater Event	9	Utilization of Acoustic Anomaly Detection Technologies	24
The Fundamentals of Asset Management— A Hands-on Approach	12	NASSCO Selects New Executive Director: Ted DeBoda	27
Water Hero: Kishia L. Powell	15	2010 Tri-Association Conference Information.....	30–42
61st Annual Short Courses for Water and Wastewater Operators	16	Tri-Conference Pre-Registration Form	43

EDITOR'S CORNER

Sharing the front page of the Philadelphia Inquirer with President Obama taking responsibility for the worst oil spill in US history, was an all too familiar story about an operator of a WWTP. The chief operator covered up problems at the plant by pencil whipping the results and holding together things with binder twine and chewing gum. Everything was hunky-dory until a state inspector found inoperative equipment and jury rigged bypass piping. One interesting piece of information was the operator only purchased 10% of the needed chlorine reagents for conducting residuals tests over a five year period. Now customers of the 0.2 mgd plant face high bills to pay for needed upgrades and the operator faces 18 years in jail for falsification of records and discharge of raw or improperly treated wastewater.



Things are rough for water plant operators too. Two former Binghamton, NY water plant operators were found guilty of dumping water plant sludge (we can call it that since it better not be biological) into the Susquehanna River on 14 occasions in 2006&2007. Each man will get prison time.



Which brings us to the guy in Culpeper County, Virginia who dumped 300 gallons of used vegetable oil in a groundhog hole on his property. He figured it was ok to do this since he read on the internet that vegetable oil is biodegradable. Gee what isn't eventually? Well the oil found its way into the Hazel River, a tributary of the Rappahannock. The State of Virginia spent almost \$15,000 on the cleanup and wants to back charge the man for their trouble. A reasonable concept, but not according to the Culpeper Star Exponent who pooh-poohed the idea. In this whole story the papers position might be the most troubling. What does that say about a community if the local paper takes a position that they don't think this guy is responsible for his actions in polluting a stream?



When it comes to environmental no-no's, Delaware tells it like it is. On the State website all environmental violations are listed by name, date, location and description of violation. In the last 90 days, here's a sampling of what you'll find: littering, failure to keep septic system in proper working order, working on a septic system without a license, improperly disposing of solid waste, open burning of refuse, discharging untreated wastewater,

allowing a vehicle to idle more than 3 minutes, removing asbestos without a permit, failing to get approval for well drilling, not recording daily flows from a well, pumping material on submerged land without a permit, not keeping a valid log book, not logging and recording maintenance on a system, knowingly failing to treat wastewater in an approved manner, discharging pollutants into surface or groundwater, and altering design capacity of a system without permission. And think about it—that only covers three counties.



Pennsylvania finally woke up when they recently banned harvesting of freshwater mussels due to their declining numbers. This is good news for the Bay since mussels, like oysters, filter water. Already West Virginia, Maryland and New York ban all mussel harvesting. Let's hope Virginia and Delaware join the list. Why are fresh water mussels harvested? Fish bait and using the shells to culture pearls.



Loudon County, Virginia, one of the fastest growing counties in the country, is having some growing pains. They are considering becoming the first county in the watershed to voluntarily adopt the provisions of the 1988 Chesapeake Bay Preservation Act that restricted development in areas near bodies of water. This act only applies to areas with tidal waters and Loudon does not have any. There's a big uproar from some of the citizens. The county says 78% of the stream miles are stressed due to sediment or nitrogen. If the proposed act is adopted, 100 foot stream buffers within Resource Protection Areas will be created and special permission will be required to construct anything in these areas. The county says 8% of the land and 2% of existing structures are in the protection areas. It will be interesting to see if Loudon takes this voluntary step to help a bay that has the highest ratio of land area to water volume on earth. If there was ever a case of what happens on the land effecting water quality, the Bay is it.



Saying it was part of the effort to get more serious about the effort to turn around Bay water quality, EPA went after farms in the Shenandoah Valley and Lancaster County, Pennsylvania for sending too much nitrogen and phosphorus to local streams. In Lancaster County Plain Sect farms were targeted. It looks as though EPA wanted to make a statement.

Continued on page 12

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STORMWATER COMMITTEE SAVE THE DATE!

HOW THE REGION IS PREPARING FOR THE ONCOMING CHALLENGES

Tuesday October 19, 2010

PRELIMINARY AGENDA

8:00–8:15 AM—Welcome & Opening Remarks, Jeff Cantwell, Flow Assessment Services

Opening Panel—Stormwater Issues around the Bay: The View from 8 Miles High

8:15–8:35 AM—Jenn Aiosa, Maryland Senior Scientist, Chesapeake Bay Foundation

8:35–8:55 AM—Jim Edward, Director of EPA's Chesapeake Bay Program

8:55–9:15 AM—Randy Bartlett, Fairfax County

9:15–10:30 AM—AM Break—Networking and Exhibits

Facing the Regulatory Challenge: the Latest Word from the States, the District and the EPA—Moderated by Eric Harold, Malcolm Pirnie

10:30–11:15 AM

Short presentations Speakers: Ken Murin, PA DEP; Elaine Webb, DNREC; Brian Clevenger, MDE; Diane Davis, DDOE; Jenny Molloy, EPA Region III

11:15–11:45 AM—Audience questions, comments & discussion with panel members

11:45–1:15 PM—Networking, Vendor Exhibits and Famous MITAGS Lunch

Paying for Increasingly Complex Stormwa-

ter Programs: Funding Case Studies—Moderated by Beth Forbes, Fairfax County DPWES

1:15–1:45 PM—Funding the MS-4 Permit and Beyond Steve Shofar, Montgomery County, MD Department of Environmental Protection

1:45–2:15 PM—Adopting a stormwater utility fee to fund a local stormwater program Mark Charles, City of Rockville, MD Environmental Management

2:15–2:45 PM—The Impact of Stormwater Regulations on a Small City's Budget Dolores Slatcher, City Manager of Seaford, DE

2:45–3:15 PM—PM Break—Networking, Exhibits and Gift Card Raffle

3:15–3:45 PM—Loudoun County: Using General Fund Dollars for Total Storm System Maintenance Randall Williford, Chief, Loudon County, VA Stormwater Management

3:45–4:15 PM—Sustainable Funding for Baltimore's Surface Water Management Program Kishia L. Powell, P.E. Head, City of Baltimore Bureau of Water and Wastewater

4:15–4:30 PM—Conclusions & Closing Larry Jaworski, Vice-President Black & Veatch Water

4:30 PM—Adjourn

**Location: MITAGS (Maritime Institute of Technology)
Linthicum, MD**

Online registration is available at <http://www.acteva.com/booking.cfm?bevaid=203369>

Out of the Blue: Upcoming Stormwater Event

—By Paul Hlavinka, EIT

The CWEA Stormwater Committee has announced the upcoming (October 19, 2010) seminar “Stormwater Issues around the Bay—How the Region is Preparing for the Oncoming Challenges.”

CWEA members continue to be key players in the improvement of water quality. Ongoing analysis of our watershed’s health indicates that more work is required to make a substantial difference. The recent EPA settlement with the Chesapeake Bay Foundation and strong government action to take the clean up in a new direction are clear signals of upcoming challenges. Regulators are shifting focus to include non-point sources of pollutants. Increasingly stormwater is looked at as the source of a large percentage of pollutants and the subject of rule making. This seminar is a result of the strong interest due to this recent activity.

The session will start with 3 players in storm water. “Opening Panel—Stormwater Issues around the Bay: The View from 8 Miles High.” The citizens demanding improvements in water quality will be represented by the Chesapeake Bay Foundation, the regulators will be represented by EPA’s Chesapeake Bay Program, and an impacted jurisdiction will be represented by Fairfax County.

After this initial discussion, a panel “Facing the Regulatory Challenge: the Latest Word from the States, the District and the EPA” represented by Pennsylvania Department of Environmental Protection’s (PDEP), Delaware Department of Natural Resources and Environmental Control (DNREC), Maryland Department of the Environment (MDE), District Department of the Environment (DDOE) and EPA Region III. This session is meant to allow participants a chance to ask questions and understand the challenges of these groups.

The session will then shift gears and focus on “Paying for Increasingly Complex Stormwater Programs: Funding Case Studies.” Steve Shofar of MD Department of Environmental Protection Montgomery County will present “Funding the MS-4 Permit and Beyond,” Mark Charles of MD Environmental Management City of Rockville will present “Adopting a stormwater utility fee to fund a local stormwater program,” Dolores Slatcher,

the City Manager of Seaford, DE will present “The Impact of Stormwater Regulations on a Small City’s Budget,” Randall Williford of VA Stormwater Management Loudon County will present “Using General Fund Dollars for Total Storm System Maintenance” and Kishia L. Powell, P.E. of City of Baltimore Bureau of Water and Wastewater will present “Sustainable Funding for Baltimore’s Surface Water Management Program.”

In addition to the speakers and presentations, there will be vendors presenting products and services for implementing stormwater control measures. There will be some give aways, and network opportunities. This will be a good session for people interested in understanding the realities of implementing stormwater management. For more information, contact either Jeff Cantwell at jcantwell@flowassessment.com or Paul Hlavinka at phlavinka@gmail.com.



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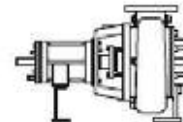
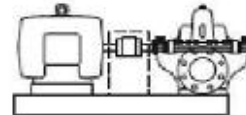
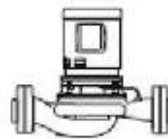
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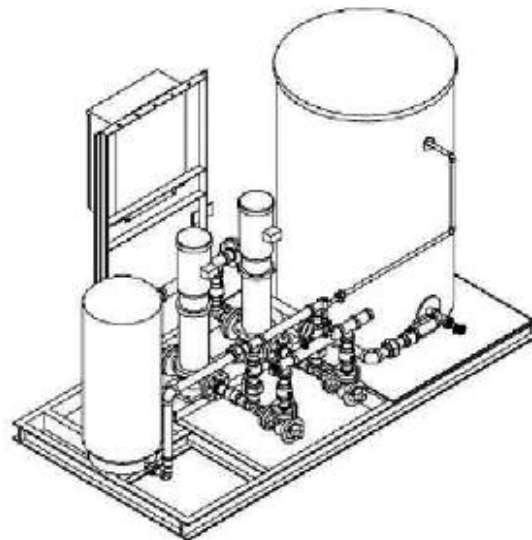
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The Fundamentals of Asset Management—A Hands-on Approach

—By Kraig Moodie, ADS Environmental Services,
CSC Chairperson

The Chesapeake Water Environment Association's Collection Systems Committee (CWEA-CSC) in conjunction with the US EPA hosted a two-day seminar in April at the Maritime Institute of Technology and Graduate Studies (MITAGS) in Linthicum, Maryland. The seminar, entitled "The Fundamentals of Asset Management—A Hands on Approach," emphasized a comprehensive approach to managing capital assets. This particular approach brings "state of the practice" advanced Asset management (AM) concepts, tools and techniques to bear on management for cost effective performance.

The workshop focused on relentlessly providing sustained performance to the customer at the lowest life-cycle cost and at an acceptable level of risk to the organization. Our discussions were centered on five basic questions that need to be addressed by any utility:

1. What is the current state of my assets?
2. What is my required level of service?
3. Which assets are critical to sustained performance?
4. What are my best O&M and CIP strategies?
5. What is my best long term funding strategy?

The two-day training used the narrative entitled "Toms Bad Day—A Step by Step Approach to Discovering and

Applying Asset Management to a Utility Environment" to illustrate how to address the five questions using a 10-step system. The topic was of great interest to senior utility managers, engineers, and public officials throughout the region. Over fifty registered attendees and multiple exhibitors attended the two-day seminar.

The conference was led by Mr. Steve Allbee, USEPA Project Director. Steve is the primary author of the USEPA's "The Clean Water and Drinking Water Infrastructure Gap Analysis." He has over 25 years of experience with the EPA.

Assisting Steve during the two day event was Mr. Duncan Rose, Technical Director and Principal Consultant with GHD and a former City/County Manger. A co-author to WEF's textbook "Managing the Water and Wastewater Utility," Mr. Rose has over 30 years of municipal management experience.

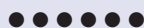
Thanks again to each of the sponsors for making the seminar such a success. Based on the extremely positive feedback from the attendees, the CSC is looking to do a second Asset Management event in the Spring of 2011. This will probably be a one day event that will focus on a specific topic within Asset Management. If you were not able to attend the two day event, or if you are interested in a more focused topic, be on the look out for an event next spring.

If you are interested in becoming a member of the CSC to help with this and other future events, please contact Kraig Moodie at kmoodie@idexcorp.com.

Editor's Corner

Continued from page 5

Our thirst for energy is clashing with our most basic thirst. The laws governing natural gas drilling say hydraulic fracturing, the technique used to unbind gas formations and allow them to flow to a well, is exempt from the Safe Drinking Water Act. Water laced with various compounds that make up the fracturing liquid is for some reason an industry secret. Why does our industry bother with Right To Know if the drillers get a free ride? Hopefully one consequence of the drilling mess in the Gulf of Mexico will be safe drinking water in drilling country.



At the Chesapeake Bay Executive Conference in June, former Mayor of Baltimore and present Gover-

nor of Maryland, Martin O'Malley, announced how \$6 million of Chesapeake and Atlantic Trust Fund will be allocated in the upcoming year. Nearly 40% of the money will be spent in the City of Baltimore with the remaining amount spent in the entire state of Maryland. Just thought you ought to know.



Bernie Fowler held his 23rd annual Patuxent Wade In on June 13th and got to 34 ½ inches before he lost sight of his white sneakers. This was the best reading since 2004 but far short being able to see your feet in five feet of water back during the 1950's. For the first time the wade in was not held on Broomes Island, where Mr. Fowler once operated Bernie's Boats, but just downstream at Calvert County's Jefferson Patterson Park, where future wade ins will be held.



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Water Hero: Kishia L. Powell, P.E.

Former Head, Bureau of Water and Wastewater, City of Baltimore, DPW

Generally, one thinks that being the General Manager or Bureau Head of a Water/Wastewater Utility is an accolade in and of its own; however, CWEA selected this former Bureau Head, Kishia L. Powell, for this quarter's Water Hero. Ms. Powell is shown hard at work after a visual inspection of the 72" Dundalk water main and leading emergency command for a major main break which flooded Downtown Baltimore at Lombard St. She is a great engineer and was a top utility manager.

She was chosen as CWEA's Water hero because she was leading the City of Baltimore through the normal industry mandates and a \$1B consent decree while



Kishia, former Mayor, Fire Chief on site of Lombard St. Water Main Break

but still found the time to lead implementation of the first phase of a Bureau-wide re-organization; development of an outcome based budget, including a rate increase recommendation and briefing strategy, while getting an effective utility management plan underway. Let's not forget preparation for the impact of new State mandates for stormwater which was also under her charge.

It is fair to state that Kishia Powell is a Water Hero.



Dundalk Water Main Restoration—Kishia is on the right in the foreground

rebuilding the Bureau organization. No small task for any utility manager, but it would seem impossible considering the Bureau has 5 senior staff vacancies including:

- * Chief of Engineering;
- * Chief of Construction;
- * Chief of Surface Water Management;
- * Chief of Utility Maintenance; and
- * Chief of Utility Finances.

Ms. Powell juggled her time between her job and covering these vacancies. She was quick to acknowledge that it would've been nearly impossible without the continued support and willingness to do double duty from her remaining division chiefs and the rest of her senior team who had also worked tirelessly to help maintain day to day operations while trusting her vision and efforts to reshape the Bureau.

Most impressively, Ms. Powell commanded more major emergencies in the past year than the Fire Chief,

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Sixty-First Annual Short Courses for Water and Wastewater Operators

June 6th–11th, 2010

Washington College, Chestertown, Maryland

—By Mary Vitale and Angela Ballard-Landers

The sixty-first annual Short Course for Water and Wastewater Operators, jointly sponsored by the Chesapeake Section of the American Water Works Association (CSAWWA), Chesapeake Water Environment Association (CWEA), and Water and Waste Operators Association of Maryland, Delaware, and the District of Columbia (WWOA) was held at the historic Washington College on Maryland's Eastern Shore. Over 170 operators from Maryland, Delaware, and Washington, D.C. attended the short course, which provides training and insight for water and wastewater facility operators to assist in the operation, management, and improvement of their facilities. Participants ranged from new operators to those with over 35 years of experience in the water/wastewater industry.

The short course is offered every year in June, alternating between Mount St. Mary's College and Washington College. Participants can choose to commute to the course each day or stay in the on-campus dormitories. The event kicks off Sunday with Registration and a Meet and Greet. Classes are offered Monday through Thursday, with organized social events in the evenings, and the exam is offered on Friday. Scholarships to the course are available each year through the three sponsoring organizations to assist with registration and housing costs.

Planning for such an event is no small task; the



2010 Water and Wastewater Operators Short Course Committee Members.

Short Course Committee consists of 21 dedicated individuals who work as a team to provide a top notch training program at an affordable cost. Classes are taught by experienced water and waste water professionals. Committee members and instructors are unpaid volunteers, with many coming to the course at their own expense. Leadership for the course is rotated between the three organizations each year, with this year's chairperson being Marshall Phillips from WWOA.

Some participants and committee members have been attending the short course for over 30 years, and express strong testament to the significance of the course. Longtime attendee and committee member, Conrad Shows, volunteers to "help the operators." Eddie Cope and Terry Bradley, employees with Anne Arundel County Department of Public Works and the recipients' of the 2010 Service Award said "dedication and giving back" are the reasons they continue to participate year after year.

Operators who attend the course have a significantly higher passing rate on the Maryland Board of Water and Waste Systems Operators Certification Exams, which is between 32 and 38 percent on average. Traditionally, the overall passing rate of operators who do not attend the course is around 28 percent. Many of the instructors are the same individuals who write the questions for the exam, and therefore can help operators understand and focus on the most important aspects of the test.

The short course is broken down into many different levels and tracks to cater to the wide range of experi-



An Intermediate Water class learns about Chlorine Use and Safe Handling.



Short Course students and instructors.

ences and fields represented at the course. Operators can follow tracks in Water (Introductory, Intermediate, or Advanced), Water Distribution Systems, Introductory/Intermediate Wastewater, Advanced Wastewater, Wastewater Collection Systems, Industrial Waste Treatment, or Treatment Facility Maintenance. In addition, this year the Maryland Board of Waterworks and Waste Systems Operators Superintendent Certification Course was also conducted, which is the first time this has ever been offered at the short course. Classes ranged from basic mathematics to classes such as “Preparing for and responding to a terrorism incident from a Public Works perspective” and “Optimizing the ENR Process.”

In addition to the course’s significance for education, many participants and staff also stress the significance of the course for networking and communication. Operators have the opportunity to associate with those from other regions and plants,

and often take advantage of this to problem-solve and learn from the experiences of others. Operators who are new to the field can make important career connections at the course’s social events. Many of experienced professionals, committee members, and instructors in attendance expressed the value of developing relationships and mentoring others at the course.


Operators are tasked with a huge responsibility of one of nature’s most precious resources and they are entrusted with the health and safety of the public. As the Baby Boomer Generation continues to retire in large numbers, utilities are working vigilantly on ways to attract new operators. E. Lee Haskin and Lawrence Robinson with the Maryland Department of the Environment (MDE), Board of Waterworks and Waste Systems Operators, says “school-aged students are the future of the industry and it’s important to get them involved at an early age.” Both Lee and Lawrence feel that touring a plant or developing vocational programs in high schools geared towards water and waste water are ways to engage students to the industry.

For more information on the annual CSAWWA / CWEA / WWOA Short Course, individuals can visit the




course website at http://www.wwoa-cwea.org/short_course/short_course.html or find more information by contacting any of the three participating organizations.

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Oakcrest School STEM Fair



—By Sharita Lyle, DCWASA

During this year's Prince Georges County, Maryland science fair season, four members of WWOA (Sharita Lyle, Sam El-Amin, Danny Coats and Mike Emery) accepted the invitation from Oakcrest School STEM Fair Coordinator Mrs. Shirley Evbuoma to serve as a Science, Technology, Engineer and Mathematics Fair Judges at the school's fair held on February 10. The volunteer judges had a fun filled day of giving back to the community by encouraging and motivating young scientist in the area of science and engineering.

The top three winners from Oakcrest science fair advanced to participate in the Prince Georges County, Maryland "Kids for Science Fair" in May. These winners were Sheyenne Bonnicks Fryer with "Water Effect on Plants," Shenteia Fryer with "Squeaky Clean or Never Seen," and Celia Jarquin-Tapia with "Solids to Liquid." Nyla Edwards with "Dark vs. Light" was also an Oakcrest winner.

Congratulations to Sheyenne Bonnicks Fryer and Shenteia Fryer who later received honorable mention for their projects entered at the county "Kids for Science Fair."



STEM Fair Coordinator Shirley Evbuoma with winners Shenteia Fryer, Sheyenne Bonnicks Fryer and Celia Jarquin Tapia.



WWOA Judges (S.El-Amin, M.Emery, S.Lyle, D.Coats) with winners Shenteia Fryer, Sheyenne Bonnicks Fryer and Celia Jarquin Tapia.



Sam El-Amin, Mike Emery, Nancy Palmer, Shirley Evbuoma, Sharita Lyle, Danny Coats

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Plant Profile: Maryland Correctional Institution WWTP

—By Chip Wood, P.E., Ecoletter Staff

Situated approximately five miles due south of the City of Hagerstown in Washington County, Maryland Correctional Institution (MCI) was opened in 1942. It is currently considered as a medium security prison for adult males. Actually, the MCI is one component of a complex of several state institutions, including four state prisons, one juvenile detention facility, and a National Guard Armory. So in this respect, the WWTP that serves MCI also serves as a regional plant for the entire state facility complex. Since the late 1970s, Maryland Environmental Service (MES), an independent State agency, has been designated to operate and maintain the plant. O&M for the wastewater collection system that feeds the plant is in the care of various prison staff employees. Drinking water for the regional complex is provided by the City of Hagerstown.

During the 1940s, the original wastewater treatment scheme consisted of septic tanks with overboard discharge. During the early 1970s, the MCI wastewater treatment plant employed a trickling filter system followed by gas chlorination. In 1983, the plant was upgraded to employ a biotower for secondary treatment together with primary and secondary clarification. The 1983 upgrade also added anaerobic digestion and sludge drying beds. In 1995, the plant was upgraded to its current dual-train BNR configuration. The anaerobic digestion and sludge drying beds were abandoned and replaced by lime stabilization and a belt filter press. Two existing primary clarifiers were converted to secondary clarifiers. The BNR process consists of a 4-stage Bardenpho system. Smaller upgrades since 1995 include chemical addition for phosphorus removal, a second belt filter press, and an Eimco ACE system for oxygen control in the Bardenpho aerobic zone. Currently, the plant is undergoing engineering design to upgrade to ENR effluent standards. Improvements will include denitrification filters, UV disinfection, headworks rehabilitation, plant water system upgrade, and clarifier covers.

Total population currently served by the plant ranges from 10,000 to 12,000 people, of which about 8,000 are incarcerated. Design Capacity of the plant is 1.6 mgd and Average Daily Flows are about 1.05 mgd. So how does the influent waste stream from a prison complex differ from and average Maryland community? In one respect, the plant has very little I&I issues, i.e., at most 10 percent of the inflow. In another respect,

because grease traps are employed at all of the state kitchens, the plant receives very little influent grease. In third respect, the plant receives an astonishing quantity and variety of trash, such as sweat shirts, bed sheets, sneaker shoes, chunks of 2 x 4 boards, food wrapper bags, etc. Average raw influent parameters in units of mg/l include: BOD of 355, TSS of 290, Ammonia of 12, Total Phosphorous of 5.8 and Alkalinity of 130.

Plant effluent quality is quite exceptional. NPDES limits for BOD are 30 monthly and 40 weekly. Plant averages 2 to 3. Limits for Total Suspended Solids are 30 and 40, similar to BOD. Plant averages 6 to 8. Limits for total phosphorus are 2 monthly and 3 weekly. Plant averages 0.2. Plant averages 2 to 2.5 for total nitrogen. (All effluent parameters mentioned here are in mg/l units.)

Plant treatment process steps are as follows: Raw influent undergoes bar screening, after which a so called “Muffin Monster” shreds the trash, washes it and ejects it into a bin. The plant must haul about 12 cubic yards of trash out every week. After hydrated lime is added to the liquid effluent for alkalinity control, the flow goes on to an equalization basin. The basin is equipped with four mixers and three variable speed effluent pumps which are actuated by and an air bubbler level control system. The purpose of the variable speed pumps is to provide a constant flowrate to the downstream Bardenpho process. The next step is a splitter box which allocates the flow to the two Bardenpho process trains. First step in the Bardenpho process is an anoxic tank which also receives internal recycle flow (RAS) from the second Bardenpho stage, the BNR reactor. The first stage anoxic tank employs a mechanical mixer to effect a denitrification process.



Anoxic Zone. First stage of Bardenpho process.



Bardenpho Carousel Reactor. Second stage of Bardenpho process. Gravity sludge thickener is shown in left background.

Effluent from the first stage anoxic tank goes into the Bardenpho BNR reactor tank which is a slender rectangular tank with a dividing wall parallel to the long axis of the tank and semi-circular guide vanes at each end of the tank. The Bardenpho tanks are also called “Aeration Carousels.” At the influent end of the tank, a mechanical aerator brings air into the liquid and also imparts a flow current to the tank contents. Thus the tank contents travel in a continual circuitous path as guided by the dividing wall and guide vanes. For oxygen control, the liquid level in the tank is adjustable with an effluent weir and the mixer speed can be adjusted. Thus, the liquid in the Bardenpho reactor under goes aeration treatment in a complete mix process as the liquid stays in the continuous carousel motion around the tank. Effluent from the Bardenpho reactor goes onto the third stage which is an anoxic process. Also, a portion of the effluent is recycled back to the first stage anoxic tank (RAS). The internal Bardenpho recycle flow rate ranges between three and four times the raw influent flow rate. MLSS in the Bardenpho reactor is typically about 3800 in the summer and 5000 in the winter. After the liquid flow enters the third stage, or second anoxic

zone, it is subjected to mechanical mixing and then flows to the fourth stage which is an aeration tank.

Nitrogen removal occurs thru a nitrification-denitrification process. Ammonia in the raw wastewater first passes thru the first anoxic zone and into the aeration carousel where the ammonia is converted first to nitrite and then to nitrate. The internal recycle pumps return a portion of the nitrates back to the first anoxic zones where denitrification occurs. Any nitrates that do not return to the first anoxic zones are later denitrified in the



Chlorine Contact Tank

second anoxic zones (third stage of Bardenpho process.) If any nitrogen gas is remaining, it is stripped out in the fourth stage reaeration zone where fine bubble diffusers are employed. Also, the reaeration process increases the dissolved oxygen in the liquid.

Effluent from the fourth Bardenpho stage is then sent on to a splitter box where the flow is diverted to any combination of one to four secondary clarifiers. However, immediately upstream of the secondary clarifiers, liquid polyaluminum chloride (PAC) is added to the liquid stream to bind the phosphorus to the
Continued on page 22



Second Anoxic Zone, Third stage of Bardenpho process.



Secondary Clarifier, showing covers over weirs for algae control and liquid polyaluminum tank for phosphorus control in background.

Plant Profile

Continued from page 21

biosolids. After secondary clarification, the liquid flows to the chlorine contact tank. Chlorine gas mixed with water is employed for disinfection. Effluent from the chlorine contact tank receives an injection of sulfur dioxide gas mixed with water to provide a dechlorination process. For the final and last step of the liquid



Two Belt Filter Presses



Equalization Basin At Head of Plant

treatment process, the dechlorinated effluent is sent to a cascade aerator and then is sent along for discharge to Antietam Creek. The plant also has a post chlorine contact tank blower to supply diffused air for summer augmentation of dissolved oxygen.

Settled sludge from the secondary clarifiers is sent to a gravity thickener and then on to an aerated holding tank. Production of waste activated sludge (WAS) ranges from 3,500 to 5,000 gallons per day. Overflow from the gravity thickener is diverted to the head of the plant. From the holding tank, the sludge goes on to the two belt filter presses for dewatering. Dewatered sludge comes off the presses at 18 per cent solids. Having excess sludge process capability, the MCI plant accepts sludge from



Biosolids Storage Building. Lime Silo is in Background.

several small treatment plants. Dewatered sludge is mixed with lime in a pug mixer to provide a Class B lime stabilization process. Stabilized sludge (biosolids) is stored in a roofed building where it can be later loaded into trucks for hauling out. Options for receiving the stabilized biosolids include: land applying on the prison farm, land applying at Washington County's landfill, and paying a contractor \$35.00 per ton to haul the biosolids to Virginia for land applying. Last year, approximately 1800 wet tons of biosolids were hauled out at 25 percent solids.

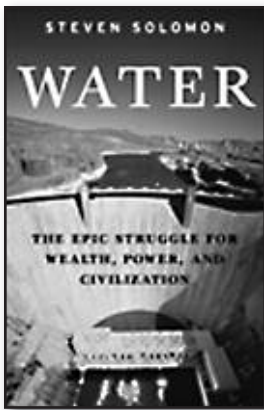
Two laboratories support the plant, one for process control and one for effluent compliance. The compliance lab is State certified and takes in laboratory work from



State Certified Compliance Laboratory

several other plants. The lab is staffed by an employee who reports to the MES regional supervisor. Plant staff includes seven operators and one Superintendent. The plant is staffed for 16 hours per day. Alarm sensors at the plant relay alarm signals to an auto-dialer that calls up the plant operators. An onsite diesel generator provides emergency electrical power when needed.

The author would like to thank Plant Superintendent, Brad Yeakle for his assistance in the preparation of this article. Note: This article had to be submitted to the MCI prison administration for their approval.



Book Review

—By Floyd B. Johnson,
Ecoletter Co-Editor

Imagine trying to write a book with the title “Water.” Where do you start and where do you finish with this enormous subject? Nevertheless, DC based

writer Steven Solomon has written such a book with the subtitle, “The Epic Struggle for Wealth, Power and Civilization.” Can that be a subtitle for anything?

This new book of 500 pages of text, 50 pages of notes and a 13 page bibliography is loaded with information and foresight, making him a sort of Al Gore for water. Starting with how crop irrigation in Egypt, Mesopotamia, the Indus valley and China allowed civilizations to flourish over 5,000 years ago, Mr. Solomon takes you all the way to the present and the future.

A thoughtful history of water, showing how it shaped and defined the world we know, is presented in an enriching manner. Many people are awed by the great pyramids, but Mr. Solomon writing about the 1,100 mile Grand Canal that went into service during the 7th century A.D. in China connecting the Yellow and Yangtze rivers, puts the pyramids in a secondary place. The canal not only helped advance the largest civilization on earth, but this longest manmade waterway is still in use. Three other canals were presented as world changing. The Erie helped hasten the settlement of the American west, the Suez opened up Far East trade and the Panama greatly reduced shipping distances.

You will learn how water was responsible for further advancing civilization with the first mechanical engine when 1st century B.C. Romans developed vertical, geared waterwheels. Even more important was the 18th century invention of the steam engine which greatly increased the use of mechanical power and ushered in the Industrial Revolution. You are hard pressed to identify something that changed life more than the steam engine.

Considerable information is given on dams. The first dams built thousands of years ago provided for irrigation and drinking, then a power function was added when they fed waterwheels. Flood control came next until now dams do all of that and also improve water quality and offer recreation and fishing opportunities. Hoover Dam, completed in 1936 began the modern dam building period. It was more than twice as high as the highest existing dam and produced more hydropower than any other dam. Soon the Columbia River dams (Bonneville and Grand Coulee) produced more power and became important cogs in the war effort. By 1942 (Grand Coulee went into service five days after Pearl Harbor) 92% of the power generated by these two dams went towards World

War 2 related production. By the late 1980’s Columbia River dams produced 40% of all US hydropower. The 40 years ending in 2000 have to be considered the golden era of dam building. World reservoir capacity quadrupled, water stored behind dams became 3-6 times more than total river flow, hydropower doubled and food production increased two and a half fold. China’s Three Gorges Dam is nearing completion and will become the largest dam and hydropower source with a capacity of 22,500 MW (an order of magnitude larger than Hoover Dam). So much water has been redistributed to cause a measurable wobble in the earth’s rotation.

Mr. Solomon shows how the present situation should give us all pause. Twenty percent of the world’s people lack sufficient clean water and 40% lack adequate sanitation. On top of this, one third of the people live in arid lands and half the world’s wetlands have disappeared. Use of fossil water (water drawn from deep aquifers that is non-renewable) has become extensive in the Mid-East and the American West. This unsustainable use will promote political unrest and drive up the market cost of water. Sound familiar? If the 20th century was for oil, then the 21st is for water. Water exporting countries (sound familiar?) will export water in virtual form. Virtual water is the amount of water used to produce something—whether it is food or a product. It’s one thing to be dependent on importing oil, think about having to import food and water.

So what can be done? Plenty according to Mr. Solomon. In arid lands water intensive crops should not be grown. First off do not grow cotton in the desert. The Soviets did and dried up the Aral Sea. How stupid can you be? They got rid of one of the largest inland bodies of water for something you can’t eat. Potatoes, wheat and corn are good crops to grow in dry climates. Rice and soybeans are not. Nor is beef which uses between 15,000 and 70,000 lbs of water to produce a pound of food. By contrast, potatoes only require 500 to 1,500 lbs of water per pound of food. Another area is being more efficient with water use. Micro-irrigation systems employing drip techniques and tiny sprinklers plus leveling of fields to provide better water distribution with automated control of water delivery, has already demonstrated reducing water use 30-70% while increasing yields by half. Industrial water efficiencies will also be needed. In the last 60 years in the US the amount of water to produce a Kwh dropped from 63 gallons to 21. Of course water reuse will become more and more common as the price of water increases. And whatever you do, fix your leaking pipes and channels.

If you get a chance pick up this book and give it a read. It will give an education and prod you into thinking about something very important to all of us.

Utilization of Acoustic Anomaly Detection Technologies for Wastewater Force Main Condition Assessments

—By Travis B. Wagner, P.E., Senior Program Manager, Pure Technologies

BACKGROUND

Evaluation of wastewater collections system performance continues to be a primary focus of wastewater utilities in the United States due to regulatory pressure, public health concerns, and a focus on proper asset management practices. These evaluations have primarily focused on the gravity collection system through capacity and condition assessments resulting in rehabilitation and replacement recommendations. The assessment, rehabilitation, and replacement components provide the utility with the ability to better manage their wastewater water collection system reducing illegal discharges to the environment and protecting public safety. Capacity and condition assessments have become increasingly more effective through advancements in flow metering, hydraulic modeling, and robotic inspection technologies. The technology advancements provide higher quality data allowing for a thorough understanding of a collection system's existing capacity, inflow and infiltration sources, as well as operational and structural defects that can be addressed through rehabilitation and/or replacement action.

INSPECTION TECHNIQUES

Gravity mains are typically assessed in a programmatic approach known as a sanitary sewer evaluation survey (SSES). A SSES typically includes comprehensive flow metering, smoke and dye testing, night flow isolation tests, and closed circuit television (CCTV) inspections. While these methodologies are effective in assessing the gravity system, they do not always transfer easily to the wastewater pressure pipe (force main) system. If a force main can be temporarily take out of service and an entry port opened, an inspection can be conducted in order to determine the condition of the pipeline using techniques including CCTV, SONAR, and/or laser profiling. Wastewater force mains are usually designed with little to no redundancy or internal pipeline access (taps, entry ports, etc.) creating challenges for these traditional gravity main assessment technologies. Therefore, a wastewater force main condition assess-

ment program will usually take a different approach than the SSES protocol outlined above.

In order to conduct a comprehensive force main condition assessment, a wastewater utility may begin by conducting a desktop analysis of the collection system force mains to identify the high risk pipelines based on their likelihood of failure (failure history, age, material, surrounding soils, etc.) and their consequence of failure attributes (flow/capacity, proximity to critical areas, etc.). For force mains that are identified as high risk, a more detail condition assessment through destructive and/or non-destructive testing methodologies. Destructive testing techniques include collection of coupon samples from the pipeline that generally require removing the force main from service and repair of the area removed. The coupon samples may be tested to determine if corrosion sources (internal or external) may be thinning the pipe wall. Non-destructive testing may be used to determine the presence of wall thinning as well through various techniques (i.e. ultrasonic, broadband electromagnetics, etc.) without the need to remove the force main from service or damage the pipe. Unlike a gravity pipeline inspection, traditional destructive and non-destructive testing generally does not include data collection for the entire length of the pipeline as it would not be economically or operationally feasible. Therefore, it is important to locate areas of concern along the force main to initiate further testing. Both internal and external corrosion sources must be identified prior to conducting any wall thickness testing. Above ground investigations such as electromagnetic conductivity surveys, soil resistivity tests, and cell to cell surveys may be conducted to identify any hot spot areas, rectifiers or other sources of stray current. Soil samples can then be collected in areas of concern to determine the corrosivity of the soil surrounding the pipeline. These inspection techniques can be conducted along the length of the pipeline with little to no impact to the operation of the force main or surrounding area. Identification of internal areas of a force main with potential corrosion is far more challenging however as traditional gravity pipeline inspection techniques are often not applicable to in-service pressurized pipelines.

One inspection technique that is capable of identifying both areas of potential internal pipeline corro-

sions as well as leaks is acoustical anomaly detection. Acoustical anomaly detection can identify gas pockets and leaks along a pressurized pipeline by inserting a device capable of recording changes in the background acoustical profile of the force main. Gas pockets in force mains are of significant concern as hydrogen sulfide gas within the wastewater may be converted to sulfuric acid by bacteria in the slime layer on the pipe wall that may cause corrosion and eventual breakdown of the pipe's exposed surface. This is true for several pipe materials with the exception of non-corrosive (i.e. plastic) pipelines. Pipeline leaks are of concern for all pipe materials as they are often found to be the precursor of catastrophic failures. A pipeline failure can begin with weakening of the joint and/or barrel that may include a small leak. As constant use of the force main continues and potential pressure surges occur, the leak may grow further weakening the pipe possibly leading to an eventual failure. Therefore, identification of both gas pockets and/or leaks may eliminate these potential failures.

CONCLUSIONS

Condition assessment of a wastewater force main is often a difficult prospect for many utilities as the

process is significantly more complex than a traditional gravity pipeline assessment program. While desktop studies can identify specific pipelines that are of high risk to the utility, further screening methods are necessary to determine specific lengths of pipe to focus more detailed inspection efforts. This is primarily due to the higher cost and difficulty in inspection of these pressurized pipelines. Additional assessment techniques for a force main included external corrosion studies, wall thickness testing, and internal acoustical anomaly testing. External and internal corrosion studies are capable of assessing most if not all of the pipeline's length. These provide a prescreening method for the more intensive test pitting and wall thickness measurements that are most effective when sections of pipe are preliminarily identified with potential corrosion issues. Utilizing these techniques, a wastewater utility can collect information related major structural defects within the pipeline that may lead to the eventual failure of the force main. This allows a wastewater force main owner to take action in rehabilitation or replacement of the pipeline prior to a failure.

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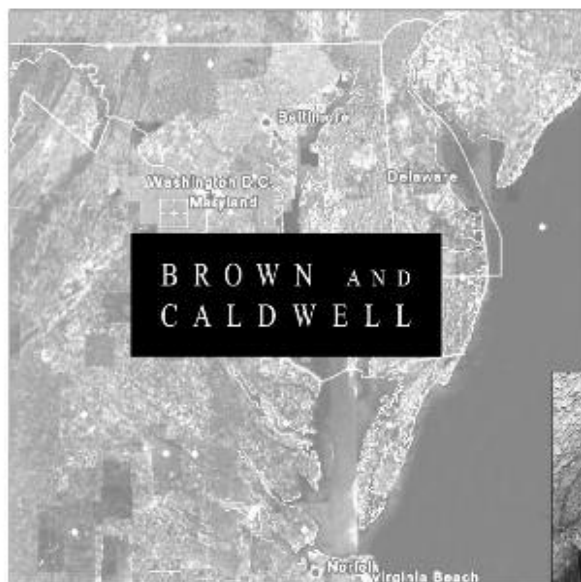
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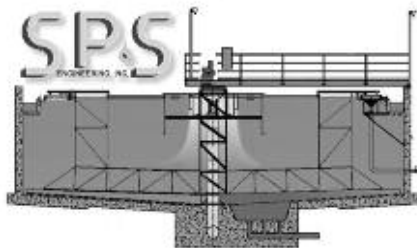
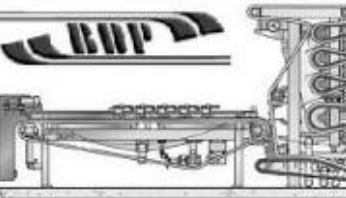
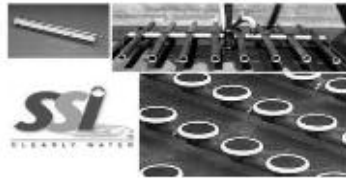


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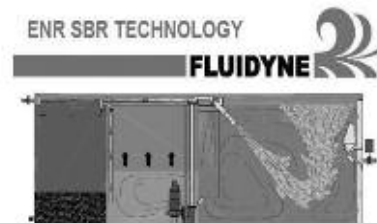
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NASSCO Selects New Executive Director: Ted DeBoda, P.E.



The National Association of Sewer Service Companies (NASSCO) Board of Directors has selected Ted DeBoda, P.E., to succeed Irvin Gemora as Executive Director.

In October of 2009 Mr. Gemora announced his decision to retire effective February, 2011. He purposely

made an early announcement because he knew that it would take considerable time and energy to recruit the best candidate; someone who would uphold and be committed to NASSCO's mission to set industry standards for the rehabilitation of underground pipelines, and to assure the continued acceptance and growth of trenchless technologies.

After a thorough and extensive search, NASSCO's Board appointed Ted DeBoda, P.E., Manager of the URS Corporation's Baltimore Office. URS is a leading provider of engineering, construction and technical services for public agencies and private sector companies around the world. Previously, DeBoda served as a Senior Project Manager for URS in the Delaware Office, and also served 15 years with New Castle County, Delaware's Departments of Public Works and Special Services in both the Engineering and Operations Divisions.

"Accepting the position at NASSCO is a natural progression for me," explained DeBoda. "Becoming NASSCO's Executive Director is the only career opportunity I can think of for which I'd ever leave URS. The Baltimore Office is on solid ground, and the future looks good, but for me the position at NASSCO is the next step in my contribution to helping the industry grow as a whole. I've been in this business my entire life, and I have a passion for the industry and the professionals involved in it. This is the next step for me to personally promote trenchless technologies on a national level, reconnect with

people I've known through the years, meet new industry experts, and work to help us all come together to move our industry forward. It's very exciting to me."

DeBoda is also deeply involved in other industry organizations and causes. He is currently Vice President of CWEA (Chesapeake Water Environment Association) and a past Chair and founding member of the Collection System Committee. He also brings to NASSCO 20 years of leadership experience as an officer in the Army National Guard. "I fully intend to stay involved in leadership positions in WEF and CWEA to help to stay on top of the latest technological and legislative changes in the industry while getting information out to the people who need it," explains DeBoda.

"We are very excited about Ted's appointment," said Gemora. "We know that in order to uphold NASSCO's mission, we must reach out to other organizations, industries, governments, and look at all avenues to promote trenchless technologies. I believe that Ted is just the guy to do that. But beyond that, Ted also has a great combination of contractor, engineer and municipal experience, so I am confident that he will relate very well to NASSCO members."

Gemora's nine-years as NASSCO's Executive Director left a noteworthy legacy of accomplishments which started during a period of significant technological advances and ended with a challenging economic period. One of the most significant accomplishments of NASSCO during Gemora's tenure was in making the Pipeline Assessment Certification Program (PACP) a national standard. This was an important and much needed step for the industry and an excellent launch pad for the development of additional standards and best practices.

DeBoda will officially take the helm as NASSCO's Executive Director in August, 2010; however Mr. Gemora will help bridge the transition by continuing his involvement until February, 2011.

For more information on NASSCO, please visit www.nassco.org.

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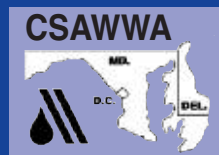


2010 Tri-Association Conference



August 31–September 3, 2010

Roland E. Powell Convention Center • Ocean City, MD



2010 Tri-Association Conference At-A-Glance

TUESDAY, August 31 st	WEDNESDAY, September 1 st		THURSDAY, September 2 nd		FRIDAY, September 3 rd
GOLF AND AWARDS Ocean City Golf Club Berlin, MD 8 AM check-in, 9 AM start	PRESIDENTS'/CHAIRS' BREAKFAST Grand Hotel 7:30 – 9 AM <i>(by invitation)</i>	BREAK/VISIT EXHIBITS Grand Ballroom 10:30 – 11:00	REGISTRATION 2 nd Floor, Top of Stairs 8 AM – 4 PM	WWOA BUSINESS LUNCHEON Rooms 207-208 12:30 – 2:15 PM	REGISTRATION 2 nd Floor, Top of Stairs 8 – 9:30 AM
CLAY TARGET SHOOT Synepuxent Rod & Gun Club Libertytown, MD 10 AM – 12:30 PM	WFP FUN-RUN/WALK Grand Hotel, Boardwalk 7:30 – 9 AM	LUNCH WITH EXHIBITORS Food/Drinks/Door Prizes Grand Ballroom Noon – 1:15 PM	EXHIBITS OPEN Grand Ballroom 8 AM – 12:30 PM	CSAWWA LUNCHEON/ TOWN MEETING Room 217 12:30 – 3 PM	CONTINENTAL BREAKFAST Outside Rooms 201-206 8 AM
EXHIBITOR PACKAGE PICKUP 2 nd Floor, Top of Stairs 10 AM – 3 PM	REGISTRATION 2 nd Floor, Top of Stairway 8:00 AM – 4 PM	TECHNICAL SESSIONS Rooms 201-206 1:30 – 3 PM	CONTINENTAL BREAKFAST Grand Ballroom 8 AM	TECHNICAL SESSIONS Rooms 201-206 2:30 – 4 PM	TECHNICAL SESSIONS Rooms 201, 202, 204, 205, & 206 9:30 – 11:30 AM
EXHIBITOR SETUP Grand Ballroom 10 AM – 5 PM	EXHIBITS OPEN Grand Ballroom 8:00 AM – 6 PM	OPS CHALLENGE (Classrooms/Lab) Room 217 1 PM – 5 PM	TECHNICAL SESSIONS Rooms 201-206 9 – 10:30 AM	TOP OPS Rooms 213 3 – 5:30 PM	ADJOURN/DOOR PRIZE Registration Desk 11:30 AM
PRE-CONFERENCE LUNCHEON Room 212 11:30 AM – 1 PM	CONTINENTAL BREAKFAST Grand Ballroom 8:00 AM	BREAK/VISIT EXHIBITS Grand Ballroom 3 – 3:30 PM	OPS CHALLENGE Loading Dock 9 AM – 5 PM	BREAK/DOOR PRIZE Outside Rooms 201-206 4 – 4:30 PM	CSAWWA BOARD MTG./LUNCHEON Room 210 Noon – 2 PM
REGISTRATION 2 nd Floor, Top of Stairs Noon – 6 PM	BIOSOLIDS BEAUTY CONTEST CWEA Table outside of Grand Ballroom 9 AM – Noon	TECHNICAL SESSIONS Rooms 201-206 3:30 – 5 PM	BREAK/VISIT EXHIBITS Grand Ballroom 10:30 – 11 AM	TECHNICAL SESSIONS Rooms 201-206 4:30 – 5:30 PM	CWEA BOARD MTG./LUNCHEON Room 213 Noon – 2 PM
PRE-CONFERENCE <i>Replacing Our Aging Infrastructure and Extending Its Life</i> Rooms 204-205 1 – 4:30 PM	TECHNICAL SESSIONS Rooms 201-206 9:00 – 11:30 AM	PIPE CUTTING SHOOTOUT Room 208 5 – 6 PM	TECHNICAL SESSIONS Rooms 201-206 11 AM – 12:30 PM	AWARDS CEREMONY Room 217 5:45 PM	WWOA BOARD MTG./LUNCHEON Room 207 Noon – 2 PM
OPENING SESSION Rooms 201/202/203 4:30 – 6:30 PM	WFP SILENT AUCTION Tables outside of Grand Ballroom 10 AM – 4:30 PM	MEET & GREET Grand Ballroom 5 – 6 PM	OPS CHALLENGE LUNCHEON Rear Patio 12:30 – 1:30 PM	AWARDS RECEPTION Ballrooms 2 & 3 Following Awards Ceremony	
EARLY BIRD RECEPTION Grand Ballroom 6 – 8 PM	OPS CHALLENGE ORIENTATION Room 217 10 – 11:30 AM	FUN NIGHT! Seacrets 7 – 11 PM	CWEA BUSINESS LUNCHEON Room 215 12:30 – 2:15 PM	PRESIDENTS'/CHAIRS' RECEPTION Grand Hotel 9 – 11:30 pm <i>(by invitation)</i>	

2010 Tri-Association Conference

The Chesapeake Section, American Water Works Association, the Chesapeake Water Environment Association, and the Water & Waste Operators Association will hold a combined Annual Conference (2010 Tri-Association Conference) and Exhibition at the Roland E. Powell Convention Center in Ocean City, Maryland from August 31 through September 3, 2010. The Conference Committee has planned the Conference program and schedule, as well as negotiated blocks of hotel rooms at conference rates with several local hotels. Please check the Associations' websites (<http://www.csawwa.org> and <http://www.wwoa-cwea.org>) frequently for Conference updates regarding program, hotel accommodations, registration, golf outing, clay target shoot, Water for People Fun Run and other Conference updates.

This will be the largest and best Tri-Association Conference yet! The Tri-Association Conference will be held on the 2nd floor of the Ocean City Convention Center. There will be 137 technical presentations in 6 concurrent sessions and up to 119 exhibitors. The 2010 Tri-Association Conference includes an entire technical track dedicated to 1-hour process presentations where operators can earn up to 8.0 process credits. The full Operator's Challenge Competition is back again this year. Due to its success in 2008, we are again providing a Cyber Café, located in Room 209, which will include several PCs and a printer. No wired connections are available for attendees. The Conference Committee has arranged for free wireless Internet access at the Convention Center for attendees and exhibitors. **The Cyber Café is sponsored by: Malcolm Pirnie and Arcadis.**

The Convention Center is located at 4001 Coastal Highway, between 40th and 41st Streets. There are 1,200 parking spaces at the Convention Center. Anyone with a Tri-Association Conference name badge can ride the Ocean City buses at no charge, so be sure to list spouses, children and other guests on your Registration so that they will receive a free Conference name badge.

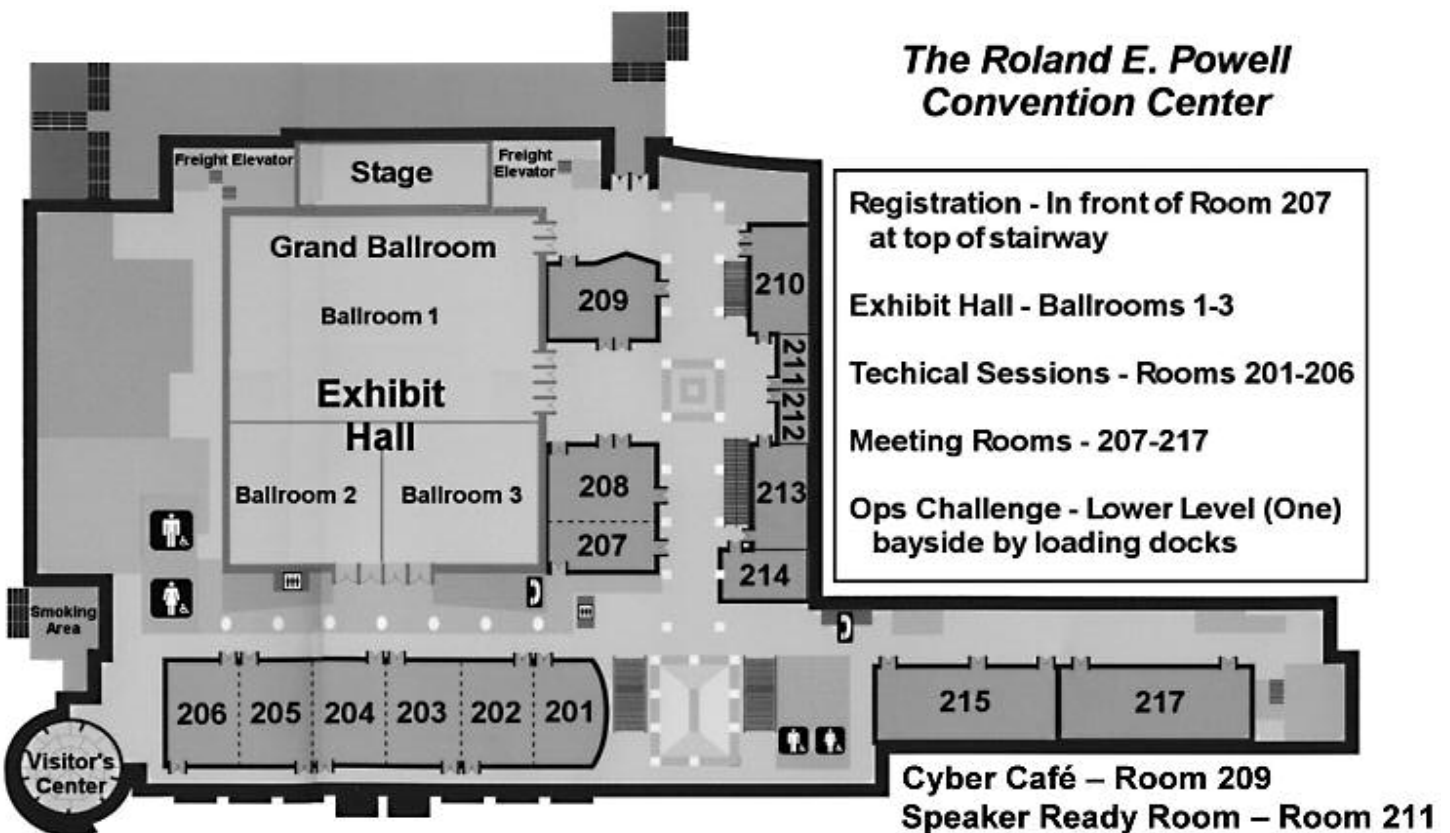
Attention Certified Operators:

Certified Operators who are members of one of the three Associations are eligible for a reduced conference registration rate. Enter your Association member number and certification number on the registration form or when you register online.

The Pre-Conference and technical sessions have been submitted to the Maryland Board of Certification (BOC) for approval. The course number and applicable certification data will be included on the attendance sheets. This year we will be providing a daily sheet that will be used to track your attendance at the sessions. Be sure to get your attendance sheet stamped at the end of each session; this will be the only time to obtain stamps. Additionally, be sure to get your sheet signed at registration prior to leaving the conference. You will not be able to obtain a signature after Friday, September 3, 2010, at noon.

Continued on page 32

The Roland E. Powell Convention Center



Registration:

You can pre-register by mail, fax or online through Acteva. Payment can be made by check or credit card. See the enclosed Tri-Association Conference Pre-Registration Form for all necessary information and conference registration rates. You may also download the Registration Form and find the online registration link at <http://www.csawwa.org> or <http://www.wwoa-cwea.org>. The printed Registration Form is not required when using online registration.

For questions regarding conference registration, please contact:

TRI-ASSOCIATION CONFERENCE

Registrar: Ann Baugher

Phone: 717-637-2741

FAX: 717-634-2740

Email: Registrar2010TriCon@hotmail.com

Conference Registration Hours

Tuesday: Noon - 6:00 pm

Wednesday: 8:00 am - 4:00 pm

Thursday: 8:00 am - 4:00 pm

Friday: 8:00 am - 9:30 am

Location: 2nd Floor at the top of the stairs.

Pre-Registration Deadline:

The pre-registration deadline allows the conference committee to guarantee function headcounts to the Convention Center Caterer and Seacrets. The deadlines are as follows:

- Mail-in or fax-in registration must be completed on or before Aug. 17, 2010

- Online registration must be completed on or before Aug. 27, 2010
- Payment by check must be postmarked by Aug. 17, 2010

NOTE: FUN NIGHT TICKETS MUST BE PURCHASED BY AUG. 31, 2010. NO TICKETS WILL BE SOLD AT THE DOOR AT SEACRETS.

Refunds:

For pre-registrations, a full refund, less a 20% administrative fee, will be made only if requested in writing, by email or by fax, prior to August 17, 2010. After that date, there can be no refunds because conference expenses will have been incurred. Refund requests should be sent to Ms. Ann Baugher. (Phone: 717-637-2741, FAX: 717-634-2740, Email: Registrar2010TriCon@hotmail.com)

Conference Hotel & Reservations:

The Grand Hotel at 21st Street and the Boardwalk has been selected as the Conference Hotel. Two Invitation Only events (Chairs/Presidents Breakfast, Wednesday at 7:30 am, and Chairs/Presidents Reception, Thursday at 9 pm) will be held at the Grand Hotel. Conference Rates at the Grand Hotel are valid Sunday, August 29 through Saturday, September 4 (Sunday checkout) and are \$139/night to \$179/night. Please call the hotel directly, referencing that you are with the "Tri-Association Conference."

Rooms are limited, so please make your reservations early!

GRAND HOTEL

2100 N. Baltimore Ave., Ocean City, MD 21842

410-289-6191 or 800-447-6779

Website: <http://www.GrandHotelOceanCity.com>

HOTEL INFORMATION

The Conference Committee has negotiated blocks of rooms at 16 Ocean City Hotels for the 2010 Tri-Association Conference. Conference rates are available Monday, August 30 through Thursday, September 2, 2010 (Friday checkout). **Room blocks at each hotel are limited and most room blocks close July 31, 2010, so make your reservations early to get your choice of hotel.** In some cases, rooms may be available at less than the Conference rate. To obtain the Conference rate, you must call the hotel directly and ask for the "Tri-Association Conference" rate. Many of the hotels have offered reduced rates before and/or after the Conference; details are available under Hotel Information on the Conference website. To get to the conference website go to: <http://www.wwoa-cwea.org> and select the link for 2010 Tri-Association Conference on the rotating banner.

Hotel & Location	Approx. Miles to Convention Center	Room Type*	Conference Rates	Room Block Held Until	Hotel Phone Numbers & Website
Castle in the Sand Hotel 37th St. & Oceanfront	0.3 mi.	E	\$99 - \$190	7/31/10	410-289-6846, 800-552-SAND www.castleintheland.com
Princess Bayside 48th Street & Bayside	0.5 mi.	H,E	\$89 - \$125	7/31/10	410-723-2900, 800-854-9785 www.princessbayside.com
Hilton Suites Oceanfront 32nd Street & Oceanfront	0.7 mi.	S	\$329	7/31/10	410-289-6444, 866-729-3200 www.oceancityhilton.com
Best Western Ocean City Hotel & Suites 55th & Coastal Highway	0.9 mi.	H S	\$89.95 \$99.95	7/31/10	443-664-4001, 866-664-4004 www.bestwesternocsuites.com
Quality Inn Oceanfront 54th & Oceanfront	1.0 mi.	H	\$129	7/31/10	410-524-7200, 800-837-3586 www.ocmdhotels.com/qioceanfront
Sea Bay Hotel 61st Street & Coastal Highway - Bayside	1.0 mi.	H	\$69.95	7/31/10	410-524-6100, 800-888-2229 www.seabayhotel.com
Flagship Oceanfront Hotel 26th Street & Boardwalk	1.1 mi.	E,S	\$84	7/31/10	410-289-3384, 800-837-3585 http://www.ocmdhotels.com/flagshipof

HOTEL INFORMATION (cont'd)

Hotel & Location	Approx. Miles to Convention Center	Room Type*	Conference Rates	Room Block Held Until	Hotel Phone Numbers & Website
Grand Hotel** 21st Street & Boardwalk	1.4 mi.	S	\$139 - \$179	7/30/10	410-289-6191, 800-447-6779 www.grandhoteloceancity.com
Holiday Inn Oceanfront Hotel 67th Street & Oceanfront	1.6 mi.	E	\$139	7/31/10	410-524-1600, 800-837-3588 www.holidayinnoceanfront.com
Quality Inn Boardwalk 17th Street & Boardwalk	1.7 mi.	H	\$159	7/31/10	410-289-4401, 800-837-3584 www.ocmdhotels.com/qiboardwalk
Holiday Inn Hotel & Suites 17th Street & Boardwalk	1.7 mi.	S	\$279	7/31/10	410-289-7263, 866-627-8483 www.ocsuites.com
Sleep Inn and Suites 11 North Baltimore Ave	2.8 mi.	H	\$92.44	6/30/10	(443) 664-4020 www.sleepinn.com
Princess Royale 91st Street & Oceanfront	3.0 mi.	S	\$149	7/31/10	410-524-7777, 800-4-ROYALE www.princessroyale.com
Clarion Resort Fontainebleau Hotel 101st Street & Oceanfront	3.4 mi.	H C	\$165 - 195 \$200 - 325 (3-night minimum)	7/31/10	410-524-3535, 800-638-2100 www.clarionoc.com
Comfort Inn Gold Coast 112th Street & Coastal Highway	4.1 mi.	E	\$69	7/29/10	410-524-3000 www.comfortgoldcoast.com
Fenwick Inn 138th Street & Coastal Highway	5.5 mi.	H	\$59	7/31/10	410-250-1100, 800-492-1873 www.fenwickinn.com

* H=Hotel; E=Efficiency; S=Suite; C=Condo/Cabana

** Conference Hotel

2010 Tri-Association Conference Schedule

TUESDAY, AUGUST 31ST, 2010

8:00 am check-in **Tri-Association Conference Golf Outing and Awards**

(9:00 am start) *(Cost is \$100 per golfer or \$360 for a foursome. Go to <http://www.wwoa-cwea.org> to register online.)*

Proceeds from the golf outing this year at the Ocean City Golf Club in nearby Berlin, Maryland will benefit Water for People. For more information, see page 2 of the inserted registration instructions or contact Ron Tatariw at 703-716-0770, or by email at rtatariw@tatariw.com.

10:00 am **Tri-Association Conference Clay Target Shoot and Awards**

(Cost is \$40 per shooter. Go to <http://www.wwoa-cwea.org> to register online.)

The Clay Target Shoot will be held at the Synepuxent Rod and Gun Club in Libertytown. For more information, see page 2 of the inserted registration instructions or contact Jane Bayer at 410-649-4007, or by email at Jane_Bayer@URSCorp.com.

10:00 am–3:00 pm **Exhibitor Package Pickup** on 2nd floor of the Convention Center, at the top of the stairs.

10:00 am–5:00 pm **Exhibitor Set-Up**

11:30 am–1:00 pm **Pre-Conference Luncheon**, *by invitation only*, Room 212

Noon–6:00 pm **Registration open** on the 2nd floor of the Convention Center, at the top of the stairs.

1:00 pm–4:30 pm **Pre-Conference Session** in Rooms 204–205
Topic: Replacing Our Aging Infrastructure and Extending Its Life

Our 2010 Pre-Conference focuses on our aging infrastructure, specifically what we are doing to replace it and how we can extend the life of what we have. This year's Pre-Conference features two separate panels of recognized experts who will discuss these issues from various viewpoints. The first panel will discuss the replacement of our aging infrastructure. Panelists include representatives from water and wastewater utilities, as well as a leading legal expert who will inform the audience of the changing regulatory climate and how to help avoid enforcement aimed at our communities.

The second panel will focus on extending the life of our infrastructure. Our first two speakers are corrosion experts who will discuss projects that successfully combat odor and corrosion. The final speaker will discuss how a local utility was able to identify a company responsible for a discharge that damaged the sewers, and held them accountable for replacement of the damaged infrastructure through enforcement of its pre-treatment regulations.

Between the two panels' presentations, several vendors will have a few minutes to introduce new products that can help in preserving industry assets.

Speakers include:

- Jimmie Jenkins, CH2M Hill
- Charles Kiely, AGM, DC Water
- David Haines, National Association of Corrosion Engineers
- Lisa Ochsenhirt, AquaLaw
- Andrew Rupperecht, Premier Chemicals
- David Scott, City of Baltimore

Continued on page 34

4:30 pm–6:00 pm **Opening Session** in Rooms 201, 202, & 203
Opening Remarks: Angela Borders, CSAWWA Chair
 Duane McCoy, WWOA President
 Hiram Tanner, CWEA President
Keynote Speaker: TBD
 6:00 pm -8:00 pm **Early Bird Reception** in Grand Ballroom of the Convention Center, **sponsored by Savin Engineers, P.C. and RJN Group**

Come get warmed up for the conference by enjoying lite fare and drinks amid our valued exhibitors. Take advantage of the opportunity to meet and greet with the exhibitors! Exhibitors are the lifelines of our conferences and our Associations, so make sure you visit as many as you can! Fantastic prizes will be raffled off. You must be present to win. Sodas, beer and wine are complimentary. **Cash bar for liquor available.**

WEDNESDAY, SEPTEMBER 1ST, 2010

7:30 am–9:00 am **Past Presidents/Chairs Breakfast**
 All former/present CSAWWA Chairs, and CWEA & WWOA Presidents are invited to a complimentary breakfast at the Grand Hotel. *(By invitation only.)*
 7:30 am–9:00 am **Water For People Fun-Run/Walk** on the boardwalk at the Grand Hotel

.....
“Water for People” Silent Auction



Silent Auction
Wednesday, September 1st
1:00 pm–4:30 pm
Located at the Convention Center
outside the Grand Ballroom.

Throughout the day, you can also bid on (and possibly win!) items to brighten your day! All proceeds benefit Water For People.

Contact Michael Peterson at 301.362.5286 or michael.c.peterson@aecom.com to make a donation to the Silent Auction.

.....
 8:00 am–4:00 pm **Registration open** on the 2nd floor of the Convention Center, at the top of the stairway
 8:00 am–6:00 pm **Exhibits open** in the Grand Ballroom of the Convention Center
 8:00 am **Continental Breakfast** in the Grand Ballroom, **sponsored by Microbac**
 8:30 am–9:15 am **Moderator and Room Monitors Meeting**, Room 212
 9:00 am–Noon **Biosolids Beauty Contest** at the CWEA Table in the Lobby outside the Grand Ballroom

- Why: The lack of objectionable odor is the key to Biosolids product quality.
- Where: Class B Biosolids samples are to be brought to the CWEA Table in the Lobby outside the Grand Ballroom on Wednesday, September 1st, by 9:00 am.
- Who: You may enter this event if your Plant produces a Class B Biosolids product in the Maryland, Delaware, or District of Columbia region.

- What: Bring a Biosolids sample (12–40% solids) from your Plant(s) and see how your Biosolids "stack up" against other Plants' Biosolids. Please bring your 250 ml sample in a small, disposable container with screw-off top.
- How: Biosolids samples will be peer reviewed for odor, appearance, texture, talent, swimsuit, congeniality, and taste (*just kidding!*). Winners to be announced at the Awards Ceremony on Thursday, September 2, 2010.
- Questions: Contact Pete Thomson at 301-921-8239 or by email at Thomson.PJ@BV.com

9:00 am–10:30 am **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206
 10:00 am–11:00 am **Operators Challenge Orientation** in Room 217
 10:30 am–11:00 am **Visit Exhibits/Break/Door Prize** in the Grand Ballroom, **sponsored by GHD Stearns and Wheler**
 11:00 am–11:30 am **Operators Challenge Process Control Test** in Room 217
 11:00 am–Noon **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206
 Noon–1:15 pm **Lunch with Exhibitors.** Come to the Exhibit Hall (Grand Ballroom) to visit with the Exhibitors. Enjoy a free lunch and the opportunity to win some *spectacular* door prizes! You must be present to win. **Sponsored by Brown and Caldwell**
 1:00 pm–4:30 pm **Water For People Silent Auction** outside the Grand Ballroom. **Sponsored by JMT**
 1:00 pm–5:00 pm **Operators Challenge: Classroom/Lab** in Room 217
 1:30 pm–3:00 pm **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206
 3:00 pm–3:30 pm **Visit Exhibits/Break/Door Prize** in the Grand Ballroom, **sponsored by Gannett Fleming**
 3:30 pm–5:00 pm **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206
 5:00 pm–6:00 pm **Meet & Greet** in the Grand Ballroom at the Convention Center, **sponsored by Black & Veatch, and Hazen and Sawyer**
 Take a break before Fun Night and visit more exhibitors! Sodas, beer and wine are complimentary. **Cash liquor bar available.**

5:00 pm–6:00 pm **Operators Challenge Pipe Cutting Shootout** at the Loading Dock

.....
Fun Night Social Event
"Dinner and Beach Party"

Wednesday, September 1st, 2010, 7–11 pm

Enjoy a buffet dinner and an evening on the beach at Seacrets in Ocean City. Appetizers and a full buffet dinner will be served from 7:00 to 8:30 pm. Each person will receive two drink tickets, but the bars will be open all four hours. Remember to bring your name badge to use on the Ocean City buses for a ride back to your hotel at no charge.

Note: Seacrets tickets must be purchased by Tuesday, August 31, 2010. No individual tickets will be sold at the door.

Sponsored by:

Sherwood-Logan and Associates, Inc., RK&K, O'Brien & Gere, and Gannett Fleming

WEDNESDAY—TECHNICAL SESSIONS:

Room 201

- 9:00 am ***Are you Telling the Truth? Confirming and Contradicting Common Collection System Generalizations***
Paul Sayan* – EA Engineering
Alejandro Galvis-Sterling – URS Corporation
* psayan@eaest.com
- 9:30 am ***Large Diameter Sewer Inspection Finds More than Expected***
Jeff Graham* and Jeff Griffiths – Hydromax USA
* jeff.graham@hydromaxusa.com
- 10:00 am ***How to Cross a River? HDD Alignments and Other Unique Challenges***
Steven Schulz, P. Andrew Cooper, and Monika Blassino* – Whitman, Requardt & Associates, LLP
* mbllassino@wrallp.com
- 11:00 am ***New Castle County's Clearwater Disconnection Pilot Program***
Tony Dill*, Bryan Lennon, and Katie Mechler – Malcolm Pirnie, Inc.
Dave Hofer – New Castle County, Delaware
* adill@pirnie.com
- 11:30 am ***Sanitation District No. 1 Implements Innovative and Aggressive Continuous Sewer System Assessment Program***
Eric Dymond* – Hazen and Sawyer
* edymond@hazenandsawyer.com
- 1:30 pm ***Sewer Rehab versus Bigger Trunklines***
Jim Shelton* – Malcolm Pirnie, Inc.
* jshelton@pirnie.com
- 2:00 pm ***Maintaining Quality in PACP Inspection***
Ted DeBoda* – NASSCO
Alejandro Galvis-Sterling – URS Corporation
* director@nassco.org
- 2:30 pm ***Sampling, Cleaning and Disposal of Accumulated Debris in the 35 MG Shockoe Combined Sewer Overflow Retention Basin***
Robert M. Gore*, P.E. and George L. Guhse – Greeley and Hansen
* rgore@greeley-hanson.com
- 3:30 pm ***Collection System Diagnostics: Prescriptions for a Healthy, Vital Wastewater Infrastructure***
Phil Hannan* and Teresa Di Genova – Black & Veatch
* hannanpm@bv.com
- 4:00 pm ***Alleviating Chronic Pump Clogging Problems at WSSC-Little Seneca WWPS***
Sam Amad*, Carl Huddleson, Brent Fisher, Mike Crowe, Charlie Rupprech, and Gary Grey – WSSC
* oamad@wsscwater.com
- 4:30 pm ***Investigating Performance Problems in a 25-Year-Old Sewage Pump Station and Force Main***
Derek Morin*, Dave Berry, and Paul Tomaskovic – Johnson, Mirmiran, & Thompson
* dmorin@jmt.com

Room 202

- 9:00 am ***Large Diameter Water Main Removal for the Baltimore Water System***
David Smith* – Rummel, Klepper & Kahl Engineers, LLP
* dsmith@rkk.com

- 9:30 am ***Back in the Same Old Trench***
Lisa Franke* – Johnson, Mirmiran, & Thompson
* lfranke@jmt.com
- 10:00 am ***Non-Revenue Water Loss Mitigation***
Jeff Rice* – Pressure Pipe Inspection Company
* Jeffrey.Rice@ppic.com
- 11:00 am ***Turning GIS Data into GIS Information — What You Don't Know Can Hurt You***
Dave Lewis*, Cliff Wilson, and Ryan McKeon – Wachs Water Services
* npraner@wachsws.com



Leslie Samel

Member, 2009–2010 WEF Board of Trustees

Leslie Samel is a member of the 2009-2010 Board of Trustees for the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Virginia.

She is currently Client Service Manager and Principal at Camp Dresser & McKee (CDM) in Jacksonville, Fla. In that role, Leslie oversees and manages upgrade and expansion projects for water and wastewater treatment facilities in the southeastern United States. Prior to her current position, Leslie worked as a part-time wastewater compliance inspector/engineer with the Florida Department of Environmental Protection (FDEP).

Leslie has been a WEF member since 1999 and past Chair of the Students and Young Professionals Committee (S&YP). She was instrumental in growing and building the S&YP membership through the successful implementation of the WEF Student Design Competition, annual YP Summit, and providing input to the YP membership rate structure. Leslie was part of the inaugural Student Design Competition representing the University of Florida in 2000 and has since helped organize this event at WEFTEC each year. Leslie also served on the House of Delegates as a Delegate-at-Large. In addition, Leslie has served on the Program Committee's Utility Management Symposium.

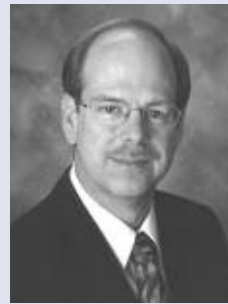
Leslie has also been an active member of the FWEA Chairing the Seminars Committee and for NC AWWA-WEA and has served as Chair and Vice Chair of the Students and Young Professionals Committee, Entertainment Chair of the Local Arrangements Committee for the NC AWWA-WEA Annual Conference, Vice-Chair of the Communications Task Force, and committee member on the Long Range Planning and Public Education Committees.

A 2005 recipient of WEF's Outstanding Young Professional Award, Leslie received a B.S. in Environmental Engineering and a Masters of Engineering in Environmental Engineering from the University of Florida in Gainesville. She is a certified Professional Engineer in North Carolina, Florida and Georgia.

Continued on page 36

WEDNESDAY—TECHNICAL SESSIONS (cont'd)

- 11:30 am **Raising and Lowering of Elevated Water Tanks**
Jeremy R. Dixon* – Phoenix Fabricators & Erectors, Inc.
* jeremy.dixon@phoenixtank.com
 - 1:30 pm **Electrical Safety in Water Industry**
Steve Palac and Dan Dragan* – Greeley and Hansen
* ddragan@greeley-hansen.com
 - 2:00 pm **Stormwater Update: Recent Regulatory Developments and Opportunities for a Green Solution**
Paul Calamita and Cabell Vest* – AquaLaw
* Lisa@aqualaw.com
 - 2:30 pm **The Science of Mixing Water Storage Tanks**
Michael Duer* – Red Valve Co., Inc.
* mduer@tideflex.com
 - 3:30 pm **Easy, Low-Cost Ways to Extend the Life of Your Tanks**
Christine Gunsaulus* – Mumford-Bjorkman Associates, Inc.
* christine@inbatanks.com
 - 4:00 pm **Keeping Water Quality from Tanking: How Inspecting Tanks Improves Service Life**
Neal Stubblefield*, Charles Barnes, Thomas Miller, and Wayne Price – Jordon, Jones & Goulding
* neal.stubblefield@jig.com
 - 4:30 pm **Cutting Edge Technology: Charleston Water — Water Main Pipe Replacement**
Gary Freeman*, P.E. – ARCADIS, Inc.
Chad Hendrix – Charleston Water System
Gary Sheppard – Underground Solutions
* gary.freeman@arcadus-us.com
- Room 203**
- 9:00 am **Constructing NYC's Water Treatment Facilities — A CM Perspective**
Mark Hanson and Dinesh Patel – Malcolm Pirnie, Inc.
* mhanson@pirnie.com
 - 9:30 am **UV Advanced Oxidation Treatment of Drinking and Reuse Water: Overview and Opportunities**
Erik Rosenfeldt*, P.E. – University of Massachusetts
* rosenfel@ecs.umass.edu
 - 10:00 am **Got Gravel? An Analysis of Filter Underdrains**
Aaron W. Duke*, P.E., BCEE – Hazen and Sawyer
* aduke@hazenandsawyer.com
 - 11:00 am **Evaluating and Designing GAC Treatment Systems for Stage 2 Compliance**
Kirk Nowack* – Malcolm Pirnie, Inc.
* konowack@pirnie.com
 - 11:30 am **Minimizing Water Quality Impacts when Switching From Gaseous Chlorine to Liquid Sodium Hypochlorite**
Amos Au* – Greeley and Hansen
* kau@greeley-hansen.com
 - 1:30 pm **From Gas to Liquid: Issues with Chlorine Gas Disinfection, Reasons to Make the Switch to Hypochlorite and Lessons Learned during Projects**
Korkud Egrican*, P.E., and Mark J. Notheis, P.E. – CH2M Hill
* korkud.egrican@ch2m.com



James ("Jim") Chaffee

Vice-President (2011–2013) American Water Works Association

Jim is currently director of the North American water market segment for the global engineering and consulting organization AECOM. He has worked on a broad range of projects involving water supply, treatment,

environmental issues, infrastructure needs and utility management. A registered professional engineer in six states and board-certified by the American Academy of Environmental Engineers, Chaffee has developed expertise in water quality, treatment and regulation over his 32-year career with AECOM.

In the Wisconsin Section, Chaffee has most recently served as the Section Director. He has also been Section chair, chair of the Research, Conference Planning, Education, Awards, and Fuller committees and a member of numerous other committees.

In recent years, Chaffee has served on the AWWA Water Resource Protection subcommittee, and given presentations at AWWA conferences. He is a past chapter president of the National Society of Professional Engineers and chair of the Water/Wastewater Committee of the Wisconsin Association of Consulting Engineers.

He has been presented with the Wisconsin Section's Leon A. Smith Award (for distinguished service), George Warren Fuller Award, Earth Tech's President's Bronze Award (for best paper) and the Project of the Year Award from the American Public Works Association.

Jim and his wife Janet live in Waupaca, Wisconsin.

- 2:00 pm **Transitioning the Corbalis Water Treatment Plant's Control System**
Joshua Gelman*, P.E. and Eric Silverman – CDM
Diana McCormick*, P.E. - Fairfax Water
* gelmanjl@cdm.com
- 2:30 pm **Chloramination — Pros and Cons**
George Budd* and Joseph Goodwill – Black & Veatch
* buddg@bv.com
- 3:30 pm **Risk of NDMA and Nitrosamines Contamination and Treatment Solutions**
Brock Emerson*, P.E., and Ed Snyder*, P.E. – CH2M Hill
* brock.emerson@ch2m.com
- 4:00 pm **Membrane Microfiltration of a Well Supply Under the Influence of Surface Water**
Paul Deardorff* – Johnson, Mirmiran, & Thompson
Todd Hoffman – Freeburg Municipal Authority
* pdeardorf@jmt.com

WEDNESDAY—TECHNICAL SESSIONS (cont'd)

4:30 pm **All Cracked Up: A Case History of the Structural Assessment of Aging Concrete Process Tanks at the Chapel Hill WTP**

John Cannon*, Scott Crosswell, Sean Anderson and Thor Young – Stearns & Wheler GHD

Hank Selke, and Frank Collins – City of Aberdeen

* john.cannon@ghd.com

Room 204

9:00 am **21st Century Sustainability Metrics: Assessing the Environmental Impacts of Wastewater Treatment**

Leah Teuber, Katya Bilyk*, P.E., Joyeeta Banerjee, P.E., Joe Rohrbacher, P.E., Brian Henn, and Sandeep Mehrotra, P.E. – Hazen and Sawyer

* kbilyk@hazenandsawyer.com

9:30 am **Environmental and Economic Benefits of Reusing Treated Wastewater Effluent for Agriculture Irrigation**

John Stullken*, Brad Hice and Thor Young – Stearns & Wheler GHD

Dennis Hasson, Steve Molginicki, and Will Hinz – Whitman, Requardt & Associates

Heather Sheridan, and Mike Izzo – Sussex County

* John.Stullken@ghd.com

10:00 am **Sludge to Energy: The Biosolids Processing Approach for the WWRWRF**

Peter Schuler*, P.E., Jeff Adkins, P.E., and Bo Vestergaard-Hansen, P.E. – Brown & Caldwell

Jamie Revels, P.E. – Town of Cary

* pschuler@brwnncald.com

11:00 am **Pilot-Scale Evaluation of MBR-HiPOx (Advanced Oxidation) for Trace Contaminant Destruction in a Water Reuse System**

Benjamin D. Stanford*, Aleksey N. Pisarenko, and Shane A. Snyder – Hazen and Sawyer

* bstanford@hazenandsawyer.com

11:30 am **Wastewater Treatment Begins with the Flush: The Need to Find A Better Way to Manage Fats, Oil & Grease (FOG)**

Hiram Tanner* – DC WATER

* htanner@dcwasa.com

1:30 pm **More Capacity, Same Footprint: Modifications to the Secondary Clarifiers at the Patapsco WWTP to Meet ENR Program Goals**

Ben Assavakarint* and Paul Deardorff – Johnson, Mirmiran, & Thompson

Gurminder Singh - City of Balitmore

* bena@jmt.com

2:00 pm **Optimization of Bardenpho Process to Achieve LOT at WSSC/Damascus WWTP**

Sam Amad*, Sharon DeLacey, Tom Harshman, Wade Ellis, and Paul Brennan – WSSC

* oamad@wsscwater.com

2:30 pm **Retrofit of Aging Wastewater Facility to Achieve Enhanced Nutrient Removal**

Christopher Curran*, P.E., and Mark Prouty, P.E. – URS Corporation

* chris_curran@urscorp.com

3:30 pm **Planning for Success — Solving Two Problems at Once**
Joseph Husband* – Malcolm Pirnie

* jhusband@pirnie.com

4:00 pm **Grit Happens — You Don't Know What You're Missing**

Adam Neumeyer* and Pat Herrick* – Hydro International

* pherrick@eutek.com

4:30 pm **Blower Selection Using Life — Cycle Cost Analysis Achieves High Power Cost Savings**

William M'Coy*, P.E. – HDR Engineering, Inc.

* William.M'Coy@hrdinc.com

Room 205

9:00 am **The Chesapeake Bay TMDL — A Model for EPA's New Accountability Framework**

Jane McDonough*, P.E. – AECOM

* jane.mcdonough@aecom.com

9:30 am **Utilizing U.S. EPA Tools and Resources to Enhance Water Sector Resiliency**

Nushat Thomas*, MS, RS – U.S. Environmental Protection Agency

* thomas.nushat@epa.gov

10:00 am **GIS Technology-Getting GIS Data in the Hands of Operations and Management Staff**

Jayson Brennen* – CDM

* brennenjd@cdm.com

11:00 am **Promoting Sustainability Using the Effective Utility Management Attributes**

Jim Newton*, P.E. – Kent County Dept. of Public Works

* James.Newton@co.kent.de.us

11:30 am **Are Current Regulatory Policies Discouraging Proven State-of-the-Art Wet Weather Treatment Strategies and Technologies?**

Lawrence P. Jaworski*, P.E., and James D. Fitzpatrick, P.E. – Black & Veatch

* jaworskil@bv.com

1:30 pm **The Bay TMDL is Finally Here: What it Means for Bay Watershed Communities**

Paul Calamita and Lisa Ochsenhirt* – AquaLaw

* lisa@aqualaw.com

2:00 pm **How A Legal Loophole Could Change the Chemical Makeup of Your Utility**

David Haas*, P.E., John McLaughline*, P.E., and R. Scott Smith, P.E. – Jordon, Jones & Goulding

* david.haas@jgg.com and John.McLaughline@jgg.com

2:30 pm **Protecting Your Water Supply and Your Bottom-Line: Shifting Treatment Costs From Ratepayers to Polluters**

Alexander Leff* – Sher Leff, LLP

* alef@sherleff.com

3:30 pm **Data Aquisition during Construction — As-builts in a Paperless and Trenchless World**

Jason Nelson* – Malcolm Pirnie, Inc.

* jnelson@pirnie.com

4:00 pm **Hey GenYers, I've got your Trophy Right Here: Communicating and Succeeding Across Generational Tendencies**

Rick Thoesen – City of Fairfax

Bob Beringer* – Johnson, Mirmiran & Thompson

* bberinger@jmt.com

Continued on page 38

WEDNESDAY—TECHNICAL SESSIONS (cont'd)

4:30 pm **Balancing Competing Uses for Comprehensive Regional Water Supply Plan**
 Thomas Dumm*, P.E., George Rest, P.E., Doug Murphy, Joe Bishop and Brian McCrodden, P.E. – O'Brien & Gere
 * dummte@obg.com

Room 206

9:00 am **Solving the Many Variables in a Digester Gas Cogeneration System**
 Scott A. Hardy* – Hazen and Sawyer
 * shardy@hazenandsawyer.com

11:00 am **Impact of Thermal Hydrolysis Solids Pretreatment on Sidestream Treatment Process Selection at the DC WATER Blue Plains AWTP**
 Bryce Figdore* – AECOM
 * bryce.figdore@aecom.com

1:30 pm **Cost Effective Implementation of UV-Peroxide for Geosmin and MIB Removal**
 John Civardi* - Hatch Mott MacDonald
 Marc Lucca and Curt Steff – Aqua
 * john.civardi@hatchmott.com

3:30 pm **Selection of the Enhanced Nitrogen Removal Process Alternative for the Blue Plains Advanced Wastewater Treatment Facility**
 Beverly Stinson*, Grant Davies, Marl Laquidara, Jeff Reade, and Sandeep Sathyamoorthy – AECOM
 Walt Bailey, Sudhir Murthy, Salil Kharkar, Martin Sultan, John Carr, and Rouben Der Minassian – DC WATER
 * beverley.stinson@aecom.com

THURSDAY, SEPTEMBER 2ND, 2010

8:00 am–4:00 pm **Registration open** on the 2nd Floor of the Convention Center, at the top of the stairway

8:00 am–12:30 pm **Exhibits open** in the Grand Ballroom of the Convention Center

8:00 am **Continental Breakfast** in the Grand Ballroom, **sponsored by GHD Stearns & Wheler.**

9:00 am–10:30 am **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206

10:00 am–5:00 pm **Operators Challenge** at the Convention Center Loading Dock, **sponsored by ADS Environmental Services, AquaLaw, RJN Group, Pasaro Engineering LLC, Sherwood-Logan & Associates Inc., URS, and WR&A.**

10:30 am–11:00 am Visit Exhibits/Break/Door Prize in the Grand Ballroom, **sponsored by DYK Incorporated.**

11:00 am–12:30 pm **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206

12:30 pm–1:30 pm **Operators Challenge Luncheon** at Convention Center Rear Patio

12:30 pm–2:15 pm **CWEA Business Lunch** in Room 215
 Vote for 2010–2011 Officers. **Sponsored by CDM.**

12:30 pm–2:15 pm **WVOA Business Lunch** in Room 207–208



Operations Challenge in Ocean City—Operation OC²

The CWEA Collection Systems Committee (CSC) will be hosting the 3rd annual Operation OC² invitational competition at this year's annual conference in Ocean City August 30th through September 3rd, 2010. Teams from around the country will compete in five events—Pump Maintenance, Collections systems, Laboratory, Safety and Process Control—on Wednesday September 1st and Thursday September 2nd to see who will take home the coveted putter crab trophy! Last year's overall event winner, Terminal Velocity (City of Virginia Beach, Virginia), will be returning to defend their title, along with home town favorites DCWASA Centrifugal Force.

In addition to the team competitions, we will have the crowd favorite "Pipe Cutting Shootout" on Wednesday September 1st at 5:00pm on the convention center loading dock. This competition will be open to both men and women, as in past years. We look forward to seeing all of you there. . . If anyone is interested in helping with this event please contact Kraig Moodie at kmoodie@idexcorp.com.

12:30 pm–3:00 pm **CSAWWA Business Lunch & Town Hall Meeting** in Room 217
 Vote for 2010-2011 Officers; listing of proposed CSAWWA Officers is on page 29 of this brochure. **Sponsored by Wachs Water Services.**

2:30 pm–4:00 pm **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206

3:00 pm–5:30 pm **Top Ops Competition** preliminaries and finals in Room 213, **sponsored by MD Environmental Service and Greeley and Hansen.**

Top Ops is a Jeopardy-style competition where teams of operators square-off against each other, answering questions pertaining to all aspects of water treatment. Quick thinking and comprehensive knowledge of technical, regulatory and customer service aspects of water are the keys to victory. The winning team receives prizes as well as the right to represent the Chesapeake Section at the National AWWA Conference Top Ops Competition in Washington, D.C. in June 2011. The larger the crowd, the bigger the excitement, so please include this in your list of "must-see" events!

THURSDAY—SEPTEMBER 2, 2010 (cont'd)

- 4:00 pm–4:30 pm **Break/Door Prize** in lobby outside Technical Session Rooms, *sponsored by Greeley and Hansen.*
- 4:30 pm–5:30 pm **Technical Sessions** in Rooms 201, 202, 203, 204, 205 and 206
- 5:45 pm **Awards Ceremony** in Room 217
Awards Reception follows in Grand Ballrooms 2 & 3, *sponsored by PBS&J and Hazen and Sawyer.*
Meet and congratulate award winners while enjoying hot and cold hors d'oeuvres. Sodas, beer and wine are complimentary. **Cash liquor bar available.**
- 9:00 pm–11:30 pm **Chair/Presidents' Reception** at the Grand Hotel (*by invitation only*)

THURSDAY—TECHNICAL SESSIONS:

Room 201

- 9:00 am **Application of the Baltimore City-Wide Model of the Wastewater Collection and Transmission System to Develop an Optimized Wet Weather Management Plan**
Jeffrey S. Pelletier* and Harshad Shetye - CDM
Wazir Qadri – City of Baltimore
* pelletierjs@cdm.com
- 9:30 am **Analysis of Alternatives to Eliminate SSOs in Baltimore's Outfall Sewershed Collection System and Sensitivity Study**
Akshay Kumar*, P.E., David Perry, P.E., Andy Lukas, P.E., and Paresh Sanghavi, P.E. – Brown and Caldwell
Wazir Qadri, P.E. – City of Baltimore
* akumar@brwnncald.com
- 10:00 am **Unique Challenges Ahead: Deep Pumping Stations for CSO Tunnel Systems**
David Nitz, P.E.* – ARCADIS
* david.nitz@arcadis-us.com
- 11:00 am **Developing Standard Force Main Assessment Criteria**
Paul Sayan* – EA Engineering
Tom Kiefer – Baltimore County DPW
* psayan@eaest.com
- 11:30 am **Cleaning of Large Diameter Pipe — The Lower Jones Falls Interceptor**
Timothy Wolfe* and Carlos Espinosa – KCI Technologies
Wazir Qadri, P.E. – City of Baltimore
* Timothy.Wolfe@kci.com
- Noon **Little Patuxent Parallel Interceptor Sewer; Construction Challenges in the Environmentally Sensitive Areas**
Monika Blassino* and P. Andrew Cooper – Whitman, Requardt & Associates
* mbllassino@wrallp.com
- 2:30 pm **Utilizing Ground Penetrating Radar for Detecting Voids behind Buried Pipes and Liner**
Ahmad Habibian* – Black & Veatch
* habibiana@bv.com

- 3:00 pm **Get the Air Out and Replace Those Pumps — Eliminating Operational Issues with a Large Wastewater Pumping Station**
Lars Peterson*, P.E., and Herbert Lew, P.E. – Whitman, Requardt & Associates
Steven Schulz, P.E. – HCW&S
* lpeterson@wrallp.com
- 3:30 pm **A Tale of Two Interceptors**
Pedro Ramirez*, Tracy Fee, and Celina Perez – URS Corporation
* pedro_ramirez@urscorp.com
- 4:30 pm **Swiss Army Knife: Multiple Condition Assessment Tools for Sewage Force Mains**
Neal Stubblefield*, J. Gillespie, G. Shaw, C. White, and R. Morrison – Jordon, Jones & Goulding
* neal.stubblefield@jjg.com
- 5:00 pm **The Parable of the Pine Tree and the Oak — Balancing Sewer System Topology With I&I Program Objectives**
Beth E. Kilbourne*, L. Burton Curry, and Julie Trick – Johnson, Mirmiran & Thompson
* bkilbourne@jmt.com

Room 202

- 9:00 am **Water Distribution System Valve Operability Keys to Success in Your System**
Dave Lewis*, Cliff Wilson, and Paul Schumi – Wachs Water Services
* npraner@wachsws.com
- 9:30 am **Emergency Inspection and Repair of 72-inch Herring Run/Under Harbor Transmission Main, Baltimore City**
Graeme C. Lake*, P.E. – Patton Harris Rust & Associates
* graeme@phra.com
- 10:00 am **Cross-Connection Control**
Barry Walter* – Hydro Design, Inc.
* bwalter@hydrodesignsinc.com
- 11:00 am **Uninterruptable Power Supply Ensures 100% UV System Operability**
Carol Cullop* – ActivePower, Inc.
Robert Kershner – Kershner Environmental
* ccullop@activepower.com
- 11:30 am **What You Can't See Might Hurt You: Benefits of Underwater Inspection**
Michael Catts* and Christine Gunsauillus – Mumford-Bjorkam Associates
* mike@mbatanks.com
- Noon **Breathing New Life into Old Water Pipelines: A Renewal Case Study in Charleston, SC**
Tim Ball* and Bill Young, P.E. – Jordon, Jones & Gouldings
* tim.ball@jjg.com
- 2:30 pm **Types of Water Tank Evaluations Drained...Dive...ROV — What's the Right Choice for YOU?**
Nicole Clarke* – Tank Industry Consultants
* Clarke@TankIndustry.com
- 3:00 pm **Protecting Your Assets... A Tank Owner's Guide to Avoidable Safety Issues during a Water Tank Repairing Project**
Nicole Clarke – Tank Industry Consultants
* Clarke@TankIndustry.com

Continued on page 40

THURSDAY—TECHNICAL SESSIONS (cont'd)

3:30 pm **High Impact Development Effects Ground Water Quantity and Quality in the Carbonate Rock of Western Maryland**

J. Scott Shipe* – J. Scott & Associates, Inc.
* jssh2o@aol.com

4:30 pm **How Do I Get There From Here? A Roadmap to a Greenhouse Gas Inventory for your Plant or Utility**

Mathew Roder*, J. Mark Robinson, and John Willis – Brown and Caldwell
DuWayne Potter – St. Mary's Metropolitan Commission
* mroder@brwnald.com

5:00 pm **Livestock Waste Nutrient Management by Recovery of Saleable and Reusable Products**

John McArdle*, Paul Usinowicz, and Bruce Monzyk – Battelle
* mcardlej@battelle.org

Room 203

9:00 am **Airing it Out: Design Considerations for UV Disinfection Installations**

Aaron W. Duke*, P.E., BCEE – Hazen and Sawyer
* aduke@hazenandsawyer.com

9:30 am **Upgrade and Expansion of the New Design Road Water Treatment Plant**

August Koloras* – Rummel, Klepper, & Kahl
Aaron W. Duke, P.E., BCEE – Hazen and Sawyer
Michael G. Marschner, and Kevin L. Demosky – Frederick County
* akoloras@rkk.com

10:00 am **Sustainable & Unsustainable Consequences of Development by NGO's in the Dominican Republic**

Melissa Gagnier* – Black & Veatch
* gagnierma@bv.com

11:00 am **Non-Treatment Drinking Water Strategies to Reduce Arsenic Rule Compliance Costs**

Michael K. Oppelt* and Rip Copithorn - Stearns & Wheeler GHD
Mark Williams – Earthdata, Inc.
Scott DeLude – Town of Oxford
* Michael.Oppelt@ghd.com

11:30 am **Maximizing Water Resources: A 99% Efficient Membrane Treatment System**

Paul Delphos*, Pete Baskette, and Charlotte Katzenmover – Black & Veatch
* DelphosP@bv.com

Noon **Municipal Cooperation for a Joint Solids Handling Facility at Havre de Grace, Maryland**

Earl Swartzendruber* – Whitman, Requardt & Associates
David Pergrin – Harford County DPW
* earls@wrallp.com

2:30 pm **Start-Up of Ultraviolet Disinfection at Maryland's Largest Water Treatment Plant**

Brian Balchunas*, P.E. – PBS&J
Joe Johnson – WSSC
* bmbalchunas@pbsj.com

3:00 pm **Design Consideration and Process Alternatives for Testing Endocrine Disrupting Compounds**

Korkud Egrican*, P.E., and Glenn M. Palen, P.E. – CH2M Hill
* korkud.egrican@ch2m.com

3:30 pm **Surface Water Intakes: Appropriation through Construction**

Del Becker* – Rummel, Klepper & Kahl
* dbecker@rkk.com

4:30 pm **BIM for Water Treatment Design**

Michael A. Polito*, Jr., P.E. – Hatch Mott MacDonald
* michael.polito@hatchmott.com

5:00 pm **Optimizing a Hybrid Ozone System for the Fairfax Water 225-MGD Water Treatment Plant**

Tung T. Nguyen* - CDM
Douglas K. Grimes – Fairfax Water
* nguyentt@cdm.com

Room 204

9:00 am **Cold Weather Design and Operational Considerations for Deep-bed Denitrification Filters to Achieve Limit-of-Technology for Nutrient Removal**

P. Struck*, J. Emerson, and D. Nixson – Whitman, Requardt, & Associates, LLP

B. Stinson, D. Neupane and M. Peric – AECOM

E. Pepprah – CCJM

G. Singh – City of Baltimore

* pstruck@wrallp.com

9:30 am **Start-Up and Optimization of the Talbot County Region II WWTP ENR Facility in St. Michaels, MD**

Kelly Duffy*, P.E., Robert Andryszak, P.E., and John R. Allen, III – Rummel, Klepper & Kahl (RK&K)
* kduffy@rkk.com

10:00 am **Universal SBR Concept for Sidestream Nitrogen Removal at ASA**

Paula Sanjines*, Savita Schlesinger, Gerardo Castaneda, and Glen Daigger – CH2M Hill
Maureen O'Shaughnessy and Cindy Galloway - ASA
* paula.sanjines@ch2m.com

11:00 am **Implementation of Enhanced Nutrient Removal at the City of Cumberland WWTP**

Jeff Thompson*, P.E. and Dale Emerson, P.E. – Whitman Requardt & Associates

John DiFonzo, P.E. – City of Cumberland

* jthompson@wrallp.com

11:30 am **Can We Operate Deep Bed Denitrification Filters with Limited Phosphorus?**

D. Neupane*, M. Peric, B. Stinson, A. Omari, and D. Nixson – AECOM

P. Struck – Whitman, Requardt & Associates, LLP

E. Pepprah - CCJM

G. Singh – City of Baltimore

* dilli.neupane@aecom.com

Noon **Biological Process Modeling Investigation of Nitrification and Denitrification Kinetics During Cold Weather**

Karthik R. Manchala* – PBS&J
* kmanchala@pbsj.com

THURSDAY—TECHNICAL SESSIONS (cont'd)

- 2:30 pm **Application of Overflow Bending Weirs at the Wilmington Wastewater Treatment Plant**
Sean Duffy – City of Wilmington
Ray Hyland and Nishant Shah* – Greeley and Hansen LLC
* nrshah@greeley-hansen.com
- 3:00 pm **FOG and Scum on the Run: Receiving, Heating, Mixing and Digester Feeding**
John McGettigan, Ray Schulte*, Rusty Schroedel, Misrak Shierow, and Mike Gallagher – KCI Technologies
Gurminder Singh – City of Baltimore
* ray.schulte@kci.com
- 3:30 pm **Observation of Self Regulation of Biofilm Thickness in Denitrifying MMBR**
Marija Peric*, Beverly Stinson and Dilli Neupane - AECOM
Arbina Shrestha, Ruman Riffat, and Rouben Der Minassian - Georgetown University
Sudhir Murthy – DC WATER
* marija.peric@aecom.com
- 4:30 pm **Innovative, Non-Biological Nutrient Removal and Recovery Technology**
Edward Weinberg* and Priya Heerwani – O'Brien & Gere Engineers
* weinberg@obg.com
- 5:00 pm **A Recession Special: Green Energy From Plant Effluent**
Wayne Barr, Steve Cawthron and Jimit Modi* – Black & Veatch
* modiJN@bv.com

Room 205

- 9:00 am **Cm-At-Risk Experience on Two Major Water and Wastewater Treatment Plant Upgrade Projects**
Stephen DeSesa*, PMP, and Brian Balchunas, P.E., BCEE – PBS&J
Mike Vitagliano – WSSC
Dan Ward – Howard County DPW
* sdesesa@pbsj.com
- 9:30 am **Proactive Asset Management and CIP Prioritization Aids Financial Decision-Making in Difficult Times**
Mike Matichich* – CH2M Hill
* mike.matichich@ch2m.com
- 10:00 am **Cost Reduction Strategies, Opportunities and Technology Improvements for Remote Station Monitoring**
Tom Traumann*, Thomas Bledsoe and Ed Harrison – M. Davis & Sons, Inc.
* Tom.Traumann@mdavisinc.com
- 11:00 am **"I Can't Talk to You:" When Frontline Staff Become Media Targets**
Terry Cole* – Jordon, Jones & Goulding
* terry.cole@jgg.com
- 11:30 am **Low Impact Development Retrofit at D.C. WASA Facilities**
Moshin Siddique - DC WATER
Anthony Lanfik* - Greeley & Hansen
James Gittens– DHA
* alanfik@dcwasa.com
- Noon **From Information Overload to Easy Access**
Rosemary Harmon* – Jordon, Jones & Goulding
* rosemary.harmon@jgg.com

- 2:30 pm **Sustainability Starts with the Master Plan**
Pam Kenel*, Leah Gaffney, and Phil Hannan – Black & Veatch
* kenelpp@bv.com
- 3:00 pm **Asset Management for Small Communities**
Tim Tabor* – Stearns Wheeler GHD
* tim.tabor@ghd.com
- 3:30 pm **The Challenges of Sewer and Watermain Replacement in Environmentally Sensitive Areas**
Christopher L. Overcash*, P.E., Dr. Steven Law, P.E., and Timothy W. Wolfe, P.E. – KCI Technologies
* covercash@kci.com
- 4:30 pm **Cost Risk Analysis — A Risk Management Process to Improve Cost Estimates with Capital Budget Plan**
Christopher Behr, LEED AP, and Bhaumike Hotha*, P.E., MBA – HDR Engineering, Inc.
* Bhaumik.Hotha@hdrinc.com
- 5:00 pm **Bridging the Gap between Cost and Value – Two Key Steps to Translate Your Needs into Means**
Bill Ziebertz and Eric Hancock* – Jordon, Jones & Goulding
* eric.hancock@jgg.com

Room 206

- 9:00 am **Expanding the World's Largest Thermal Hydrolysis Facility**
Peter Loomis*, P.E. – CDM
* loomisp@cdm.com
- 11:00 am **Wastewater Treatment (or Innovative Treatment Technologies)**
William Meinert*, Frank DeOrio, and Gary Richman – O'Brien & Gere Engineers
* meinerwj@obg.com
- 2:30 pm **The Train is Coming, Biofuels and the WW Industry**
Bob Wimmer*, P.E. – Black & Veatch
* wimmweb@bv.com
- 4:30 pm **Wastewater Treatment Facility Expansion Using Tubular Membrane Process – Millsboro, Delaware**
Steven Lewandowski* – CABE Associates, Inc.
* shl@cabe.com

FRIDAY, SEPTEMBER 3RD, 2010

- 8:00 am–9:30 am **Registration open** on the 2nd Floor of the Convention Center, at the top of the stairway
- 8:30 am **Continental Breakfast** outside Technical Session Rooms, **sponsored by PBS&J.**
- 9:30 am–11:30 am **Technical Sessions** in Rooms 201, 202, 203, 204, 205, and 206
- 11:30 am **Conference adjourns/Final Door Prize** at the Registration Desk on the 2nd Floor of the Convention Center, at the top of the stairway
- Noon – 2:00 pm **CSAWWA Lunch Board Meeting** in Room 210
- Noon – 2:00 pm **CWEA Lunch Board Meeting** in Room 213
- Noon – 2:00 pm **WVOA Lunch Board Meeting** in Room 207

Continued on page 42

FRIDAY—TECHNICAL SESSIONS:

Room 201

- 9:30 am **Cost-Effective Diversion Structure Improvements for CSO Control in New York City**
Tim Groninger*, Peter Young, Keith Mahoney, and Dorothy Chao – Hazen and Sawyer
* tgroninger@hazenandsawyer.com
- 10:00 am **Sewers Under Buildings — Staying Ahead of Danger**
Getachew Melsew* and Michael Thorstenson – DC WATER
* Gmelsew@dcwasa.com
- 10:30 am **Old Pipe/Renewal Pipe — How New Technology Enhanced the Rehabilitation of a One Hundred and Forty Year Old Sewer**
Eric Dymond* – Hazen and Sawyer
* edymond@hazenandsawyer.com
- 11:00 am **DC WATER Potomac Interceptor Long Term Odor Abatement Project: Permitting Trials & Triumphs**
Barry Lucas* – DC WATER
Jim Sillers – Greeley and Hansen
* Blucas@dcwasa.com

Room 202

- 9:30 am **A Study of Denitrification Kinetics of Methanol Utilizing Organisms at Wastewater Treatment Plant in the Chesapeake Bay Watershed**
Rekha Hareendran* and Nazia Salam – George Washington University
* rekharish@gmail.com
- 10:00 am **Modeling the Partitioning of Contaminants of Emerging Concern to Natural Dissolved Organic Matter**
Undine Kipka – University of Delaware
* undine@UDel.Edu
- 10:30 am **Pope Branch — A Comprehensive Restoration Approach**
Barry Lucas*, Peter Hill and Michael Thorstenson – DC WATER
* Blucas@dcwasa.com
- 11:00 am **Storm Sewer Infrastructure Planning with Climate Change Risk: A Case Study from Alexandria, Virginia**
Laurens van der Tak*, Lee Traynham, Cheri Salas, Tara Ajello, and Craig Perl – CH2M Hill
* Laurens.vandertak@ch2m.com

Room 204

- 9:30 am **Embedding Sustainability into a Wastewater Treatment Plant Upgrade**
Scott Weikert* – CH2M HILL
Jeffrey DuVal and Karen Pallansch – ASA
* scott.weikert@ch2m.com
- 10:00 am **Fine Bubble Isn't Always Better — Evaluating Upgrades to the Secondary Treatment Plant Aeration System at Blue Plains AWTP**
Peter J. H. Thomson*, Christine deBarbadillo, and Nick Pasarello – Black & Veatch
Salil Kharkar and Sudhir Murthy - DC WATER
* ThomsonPJ@bv.com

- 10:30 am **Preliminary Findings on Polymer Study at Primary, Secondary, and Nitrification Clarification Process**
L. Xiao*, D. Neupane, B. Stinson – AECOM
A. Cassel – PEER Consultants
J. Fang – Delon Hampton & Associates
A. Tesfaye – DC WATER
* laurel.xiao@aecom.com
- 11:00 am **Algae Control Methods Compared: The Importance of Successful Algae Control for Facilities with UV Disinfection**
Shawna Gill* – GillTrading.com, Inc.
* shawnagill@gilltrading.com

Room 205

- 9:30 am **3D/4D Object Oriented Design — Benefits to Owners, Designers and Contractors and Why You Should Use this Powerful Tool**
Michael M. Garcia*, P.E., BCEE, William C. Nelson, P.E., Raymond P. Kearney, and Luis G. Rosas – CDM
* garciamm@cdm.com
- 10:00 am **Emergency Equipment Selection and Preparation**
Ed Dunn* – Precision Systems
* edunn@precision-systems.com
- 10:30 am **Creating a Wastewater Master Plan**
Gary A. Moore, Sr. *, P.E. and Walter S. Mahoney – The Louis Berger Group
* gmoore@louisberger.com
- 11:00 am **How Widely Distributed SCADA Benefited by Use of Managed Broadband**
Paul Hlavinka* – Hughes Network Systems
Doug Dietrich – Awua Pennsylvania
* Paul.Hlavinka@Hughes.com

Room 206

- 9:30 am **Pilot Investigations of Nitrogen Removal using Hybrid Technologies**
Mervyn Bowen* and Amit Kaldate, Ph.D. – Infilco Degremont, Inc.
* mervyn.bowen@infilcodegremont.com
- 10:30 am **Interpretation of Thermal Effluent Discharge Criteria-Hampstead Wastewater Treatment Plant Alternate Effluent Development Process: A Case Study (30-min)**
Jim Slater*, Bill Rue and Jonathon Yost – KCI Technologies and EA Engineering, Science and Technology
* east610@comcast.net
- 11:00 am **Are Your Mixers Thoroughly Mixing? (30-min)**
Sonia M. Oton*, Srinivas D. Gidugu, Janice R. Carroll, Paul D. Saurer – Hazen & Sawyer
Dr. John Fillos and Krish Ramalingam – City College of New York
Salil M. Kharkar and Rouben Der Minassian – DC WATER
Matthew S. Osit, Daniel A. Solimando, and Allen Deur – NYC Department of Environmental Protection
* soton@hazenandsawyer.com

CWEA Members

Please contact TPittman@wef.org to update your contact information, especially e-mail addresses (request from the CWEA administrator).

CONFERENCE PRE-REGISTRATION FORM

2010 WWOA/CSAWWA/CWEA TRI-ASSOCIATION CONFERENCE

August 31 – September 3, 2010 — Roland E. Powell Convention Center, Ocean City, MD

Please complete one form per attendee (not required if on-line registration).

- Association Member:** Enter membership numbers for all Associations you belong to:
 CSAWWA _____ CWEA _____ WWOA _____
- Certified Operator:** Number: _____ State: _____
- Non-Member**
- Full-Time Student,** not employed in the Water/Wastewater Industry. Name of School: _____

Individual Registration: Circle <u>only one</u> of the following options:					
	Member	Member, Certified Operator	Non- Member	Full-Time Student	Total Due: Individual Registration
Full Conference – Complete Package	\$230	\$200	\$275	NA	\$
Full Conference – No Ticketed Events	\$190	\$155	\$230	\$25	
One-Day Registration - Wednesday	\$110	\$85	\$135	\$15	
One-Day Registration - Thursday	\$110	\$85	\$135	\$15	
One-Day Registration - Friday	\$40	\$25	\$50	\$10	

Full Conference - Complete Package: Includes Pre-Conference, Technical Sessions, Exhibit Hall, Social Events, 1 Ticket to Wednesday Night Dinner @ Seacrets, & select 1 Ticket to your choice of Association Business Luncheon/Meeting: CSAWWA CWEA WWOA

Full Conference - No Ticketed Events: Includes Pre-Conference, Technical Sessions, Exhibit Hall & non-ticketed Social Events. *No tickets included to Wednesday Night Dinner @ Seacrets or Association Business Luncheon/Meetings.*

One-Day Registration: (Wednesday or Thursday) Includes Technical Sessions, Exhibit Hall and non-ticketed Social Events that day.

One-Day Registration: (Friday) Includes Technical Sessions and non-ticketed Social Events that day.

Ticketed Events: Additional Tickets	# Tickets	Subtotal	
Wednesday Night Dinner at Seacrets: \$50		\$	\$
Business Luncheon/Meeting: \$25 Check One: <input type="checkbox"/> CSAWWA <input type="checkbox"/> CWEA <input type="checkbox"/> WWOA		\$	
Total Due: Additional Tickets			

Sports	Include names of Golfers in your group (full or partial foursomes) or single	Subtotal	
Golf: \$100 per golfer or \$360 for a foursome		\$	\$
Clay Target Shoot: Shooters @ \$40 per shooter		\$	
WFP Fun Run: Runners @ \$25 per runner		\$	
Total Due: Sports			

CONFERENCE REGISTRATION TOTAL	Total from above selections	\$
\$30 Late Fee (After Tuesday August 17, 2010)		\$
TOTAL PAYMENT DUE		\$

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For pre-registrations, a full refund, less a 20% administrative fee, will be made only if requested *in writing, by email or fax*, on or before Tuesday August 17, 2010. For questions regarding conference registration please contact: Ann Baugher at: Email: Registrar2010TriCon@hotmail.com (preferred) Phone: 717.637.2741 Fax: 717.634.2740

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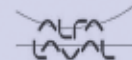
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