

FALL 2015

GO with THE FLOW

THE OFFICIAL PUBLICATION OF THE ATLANTIC CANADA WATER AND WASTEWATER ASSOCIATION

2015 ACWWA Annual Conference MAKING WAVES

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INSIDE:

- Fuller Award Winner Jamie Hannam
- ACWWA Fall Course Schedule



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Low pressure - The backbone of many processes

There are tens of thousands of low-pressure blowers in operation in Canada only and in a multitude of different processes such as pneumatic transport aeration basins or lagoons. Often critical to the operation of the plant, they generally operate continuously 24/7, 365 days a year; blowers are generally the highest energy consumer in all the equipment operating in a plant.

Did you know that energy consumption accounts for over 80% of operating costs of a blower or 40 to 60 percent of the total energy bill of a factory?

Reducing energy consumption, optimizing processes and minimizing its environmental impact while ensuring profitability illustrates the ongoing challenges faced by today's industries. Selecting the right blower technology will have a direct impact on its success and will be vital to ensure its economic survival.



Low pressure blowers: Air supply in evolution

Blower technologies dedicated to low pressure - small flow applications (300 to 5000 m³ / h) have changed very little over the past 50 years. This market traditionally covered by noisy and inefficient bi or tri-lobed blowers was the perfect opportunity for manufacturers to achieve significant improvements hence the introduction of internal compression instead of external compression blowers.

The Low Pressure Screw Blower

Although the rotary screw compressor technology has been successfully used since the early 40s on air or gases processes (*pressure exceeding 25 psi (g)*), the low pressure screw blower (4-17 psi (g)) is a relatively new technology for the North American industry especially in water and wastewater applications.

Introduced to the market in the late 2000s by Atlas Copco, the low-pressure

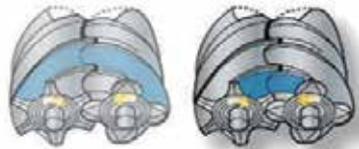
screw blower is often unfairly compared to its predecessor; the lobe blower despite the fact that it differs from the latter almost in its entirety.



The screw blower combines high efficiency comparable to adiabatic compression blowers such as the turbo or multi-stage with the simplicity and robustness of the positive displacement blowers.

State-of-the-art in compression

Unlike lobe blowers, the screw blower uses an internal adiabatic compression technology to reduce the volume during compression. As per illustrated below, the rotors form, during rotation, a cavity created by the two screw profiles and the casing which gradually decrease the air volume until it reaches the discharge port.



This application of thermodynamics principals to positive displacement has generated significant benefits most importantly measurable gains in energy efficiency, reliability and longevity.

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This document is printed on paper certified to the standards of the Forest Stewardship Council® (FSC®).



Magazine publishing contract renewed

Welcome to the fall edition of *Go With the Flow*. I hope everyone had a great summer, and had a chance to enjoy some vacation time. As we leave the summer season behind and look ahead to the fall, we are getting close to the ACWWA Annual Conference in St. John's, NL. I look forward to seeing you in St. John's for what promises to be a quality conference filled with the latest educational opportunities, technical tours, operator competitions, and networking events. Combine the top-quality conference programming with the warm hospitality and beautiful scenery only found in St. John's, and the ingredients are all there for a fantastic ACWWA Annual Conference.

At the Board level, in addition to ACWWA's ongoing commitment to providing members with the most

"In our ever-evolving industry, technology and regulations change rapidly, and it is critical we invest in our employees' ongoing education requirements"

current and relevant educational and training opportunities, our focus has been on the renewal of our Strategic Plan. While we have faced some challenges, the work to renew the plan continues, and I expect that this work will be completed by the end of year. We continue to work closely with our two parent organizations to ensure that ACWWA retains its strong support of the visions of both AWWA and WEF, and believe that the renewed ACWWA Strategic Plan will enhance our long-term relationships with both organizations.

I am also very pleased to report that your Board recently approved a renewal of the magazine publishing contract with our publisher, Kelman & Associates. I think it is fair to say that the first three years of this publishing arrangement have produced an enhanced magazine product for the benefit of our members. It has also transitioned the magazine from what was once a cost to the Association to one that is now producing modest incomes for ACWWA, with room to grow. This is great news, as a non-profit organization, to realize revenue streams beyond membership dues in order to be able to continue to invest in member benefits, not least of which is a quality education program.

The ACWWA fall education program has already been rolled out, and I encourage all members to take advantage of this important

training. Courses covering a wide variety of topics are scheduled in locales throughout our region this fall. Please check our website for details of the offerings this fall, and plan to attend (or send employees to attend). In our ever-evolving industry, technology and regulations change rapidly, and it is critical we invest in our employees' ongoing education requirements in order that they may stay current and provide top-quality service to water and wastewater customers.

I mentioned at the outset that our ACWWA Annual Conference is fast approaching. The conference is also where my term as ACWWA Board Chair expires. It has been my privilege to work on your behalf with a talented and motivated Board and Executive Director, and my observation is that to a person, all of the volunteers take their responsibilities seriously, and do their best for our members day in and day out. Thank you for the opportunity to serve, and I wish our incoming Chair, John Eisnor of Halifax Water, nothing but the best as he assumes his leadership position with ACWWA. We will be in good hands with John, and I know he will do a great job leading our Association over the next year.

I hope you enjoy this edition of *Go With the Flow*. If you have any comments, questions, or concerns about any ACWWA matter, please contact me at scott.grasman@fredericton.ca.

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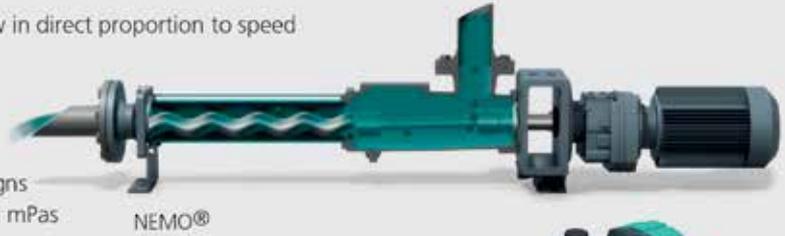
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Networking and professional development opportunities

Welcome to the Fall 2015 edition of the ACWWA's *Go With the Flow* magazine. This excellent publication continues to help connect you with the Atlantic Canada water and wastewater industry and your peers. Enjoy the read.

The annual AWWA Annual Conference and Exhibition was held in Anaheim in June. All reports are that the event was a success and the Atlantic Canadian attendees represented us well. Unfortunately, I was unable to attend due to a labour disruption at our utility. However, the October Regional Meeting of Section Officers and the January AWWA Winter Board meetings will provide excellent venues to keep ACWWA engaged at the national level.

The final plans are in place for our showcase event,

“One of the hallmarks of ACWWA is the wide variety of quality industry-specific training courses that we provide... we have 14 separate courses lined up for the fall of 2015, covering many topics and delivered at several locations.”

the **Annual ACWWA Conference** in St. John's, NL. Great news – the **ABEA Trade Show** is already sold out, ensuring an excellent vendor/equipment supplier representation. Registration is open – sign up and join us in St. John's for an outstanding technical and networking opportunity.

With the end of summer and staff coming off vacation it is once again time to focus on professional development. One of the hallmarks of ACWWA is the wide variety of quality industry-specific **training courses** that we provide. As highlighted on the ACWWA website, we have 14 separate courses lined up for the fall of 2015, covering many topics and delivered at several locations. These programs continue to receive positive feedback from members. Check them out and sign up!

To improve the planning for future training programs, please communicate your training needs to the ACWWA office or through the training survey on our website. We want to hear from you so that we can tailor the training content, format, and locations to best meet the member's needs.

With this edition, my next one nugget of awesome 'member benefit' to highlight is access to our **webinar series**. ACWWA has recently partnered with the Illinois Section of AWWA to provide archived webinars. We have access to more than 170 wide-ranging topics which, for a modest \$25 fee, provide excellent on-site training 24/7. Please take a look and try a few of these out with your staff, and give us some feedback along the way.

I remain committed to representing our needs at the AWWA level. Please send me your comments or questions to Jamie.hannam@halifaxwater.ca.

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Brewing byproduct benefits

In the last couple of publications, I have tried to inform the WEF members and general public of useable bits and pieces on the WEF website. In this issue, I am giving you an interesting reprint of an article posted on the WEFCOM site. Nitrate is a concern for everyone so this is an interesting read.

As far as Atlantic Canada WEF activities, I will be attending WEFTEC in Chicago in late September and certainly encourage anyone who can attend to do so. It is likely the best trade show/conference you will ever attend. I will be meeting with the WEF House of Delegates while there and our WEF Canadian Affairs

“Nitrate is a concern for everyone so this is an interesting read.”

Council, and will update you on anything new in the next issue of the magazine.

I continue to encourage WEF membership; the resources are unending and you will find tons of useful material on the WEF website. Once you become a member, you can get a password to go deeper into the website where there is all kinds of helpful information for operators and municipalities. For now, I hope you enjoy the following article. ☺

A bubbly solution

The City of Boulder, Colo., tests using beer byproduct to help reduce nitrogen

When the City of Boulder, Colo., decided to find ways to further reduce nitrogen runoff from its water resource recovery facility (WRRF), it discovered that the answer lay in one of the least likely substances: beer. Or, more specifically, the answer lay in weak wort – a sugary, liquid byproduct of the brewing process.

Being proactive

“For years, staff at the city’s wastewater treatment facility has been evaluating ways to reduce nitrate–nitrogen levels in the wastewater without using additional chemicals,” said Cole Sigmon, wastewater process-optimization specialist at the City of Boulder.



The City of Boulder, Colo.’s water resource recovery facility estimates that it will need the equivalent of about 7,949 L (2,100 gal) of weak wort per day, which Avery’s new brewery will be able to supply. Photo courtesy of Avery Brewing Co. (Boulder).



Avery Brewing’s new tap room and restaurant has 60 taps with 30 different beers on draft. Photo courtesy of The Brewtopography Project.

“Nitrogen removal helps provide additional protection for aquatic wildlife and downstream water users.”



Avery Brewing has opened a new highly efficient, state-of-the-art brewhouse. Photo courtesy of Avery Brewing Co.

Sigmon said the city has monitored and reduced its nitrate–nitrogen levels since 2007. The city took a proactive step to remove approximately 50% of nitrogen from Boulder’s wastewater discharges before any mandated nutrient-control requirements, such as State Regulation 85, took effect. Nitrogen removal helps provide additional protection for aquatic wildlife and downstream water users. These proactive measures also have helped keep the city from violating any permit requirements for 2.5 years, Sigmon said.

The city now wants to use weak wort to help remove even more nutrients.

Exploring options

As part of its research into ways to further reduce nitrate–nitrogen levels, city staff “explored local waste sources that might provide biodegradable carbon, such as tofu, whey, and pharmaceutical cell media,” Sigmon said.

In 2012, city staff tested samples of Avery Brewing Co.’s (Boulder, Colo.) weak wort, Sigmon said. Based on laboratory-scale experiments, the city determined this byproduct includes the high levels of biodegradable carbon needed to help feed the microorganisms that break down and reduce nitrogen compounds in wastewater, he explained.



Avery Brewing’s lab tests beers 20 times from grain to glass. Microbiologists and chemists use lab equipment to determine the cell count, cell size, viability, and vitality of the brewer’s yeast and measure the color, bitterness, and diacetyl of beer to maintain high quality and consistency. Photo courtesy of Avery Brewing Co.

In early 2014, city staff worked with Avery brewers to transport more than 45,000 L (12,000 gal) of the weak wort to the WRRF for larger-scale testing. The testing was funded by a \$1 million Colorado Department of Public Health and Environment grant to improve nitrogen reduction. The larger-scale tests successfully removed additional nitrate–nitrogen from the wastewater.

Using weak wort to remove nitrate–nitrogen from the community’s wastewater is the most sustainable and cost-effective solution that city staff has identified, Sigmon said. “Using the weak wort twice a week, with daily savings of \$500, would result in an estimated annual savings of \$52,000,” he said.

Since late 2014, city staff and Avery Brewing representatives have participated in a series of informal, verbal discussions about possible future collaboration. They have discussed the potential for contract liquid haulers to transport liquid weak wort in 22,700 L (6,000 gal) loads from Avery’s new brewery in Gunbarrel, Colo., to the Boulder WRRF, located less than 4.8 km (3 mi) away. City staff then could use the brewing byproducts to treat wastewater, instead of buying and using additional chemicals. ☺



CWWA – Working for you at the national level

There have been exciting developments this year as the value of working on national initiatives is resulting in positive outcomes.

CWWA and the Canadian sections of AWWA conducted a national survey of utility leaders in Canada to ask what they perceived as the most important challenges they face when it comes to infrastructure renewal. The stated intent of the survey was to gain a better understanding of the opportunities and barriers in Canada towards helping local governments, First Nations, and utilities ensure adequate funding is in place to operate, maintain, upgrade, and replace water and wastewater infrastructure. Approximately 400 responded, with almost a 50/50 response outcome from communities with populations of fewer than 10,000 and those with more than 10,000. The main concerns expressed by the Canadian utility leaders from the survey are summarized below:

- Lack of confidence in the reliability of cost information and funding
- Unpredictability of federal and provincial grant programs
- Lack of sufficient reserves in their communities
- Natural disasters
- New regulations

As for a Canada-wide initiative, the overwhelming message expressed in the survey was for action towards “*Educating the decision-makers and the public.*”

I am pleased to report that CWWA has two collaborative projects currently underway to support the need for educating elected officials and advancing public awareness of the importance of water and wastewater infrastructure.

CWWA collaborated with Water Canada to develop the 2015 Public Attitudes Project, which has just been released this past June. The goal of the project is to provide a framework to help influence or change public attitude, with a focus of educating and messaging that stresses the importance of infrastructure and needs. I encourage all water and wastewater professionals in Atlantic Canada to view the report and hope it will be useful in the development of your water and wastewater challenges. The report can be viewed at www.cwwa.ca.

A working group with reps from all the Canadian AWWA and WEF sections has been established to develop tools and resources that utilities can use to educate and engage decision-makers on the basics of asset management and infrastructure renewal.

“CWWA has two collaborative projects currently underway to support the need for educating elected officials and advancing public awareness of the importance of water and wastewater infrastructure.”

Another national initiative that warrants mention is CWWA’s First National Water and Wastewater Conference in Whistler, B.C., October 25–28, 2015. This event will bring together professionals in the areas of drinking water, wastewater, water security, water and energy efficiency, biosolids, and climate change. It will be the first time CWWA will bring together nationally all these players to discuss all aspects of water and wastewater management at one event. It will help build new collaborations and relationships, and give the water and wastewater sector a stronger national voice. CWWA will also hold its 2015 Annual General Meeting in conjunction with the conference.

With the above new event strategy set for October in Whistler, it was decided to move the annual ‘Window on Ottawa’ event to June 2016. Please mark your calendars now for the next ‘Window on Ottawa’ event scheduled for June 8–9, 2016 at the Albert at Bay Suites Hotel in Ottawa.

This will be my last time reporting on CWWA affairs in this section of the magazine, as my term as both Director of Government Relations and CWWA Director ends this fall at our annual conference and annual meeting. It has been truly a tremendous honour and privilege to serve and represent ACWWA on the Board of Directors of CWWA. I appreciate the support and encouragement received throughout my term. In closing, thanks again and best wishes for the future.

Should any other information be required on CWWA activities or initiatives, please do not hesitate to contact me directly at roland.richard@nb.sympatico.ca or visit the CWWA website at www.cwwa.ca.

Mark your calendars for the first CWWA National Water and Wastewater Conference – October 25–28, 2015 in Whistler, British Columbia. Details on the program and venue can be found at www.cwwa.ca. 



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Winner of the **Silent Hero Award**, Gerald Noseworthy



1. **Job title:** Town Foreman.
2. **Who do you work for?** Town of Pouch Cove, in Pouch Cove, NL.
3. **Where do you currently live?** Pouch Cove, NL.
4. **Where did you grow up?** Pouch Cove, NL.
5. **When I'm not working, I'm...** Tinkering in my workshop, working on my house, relaxing.
6. **If you could go on a road trip with any one person (living or dead), who would it be and where would you go?** David Suzuki is a person I greatly admire. His committed dedication to environmental issues is inspirational. Dr. Suzuki has a manner of presenting even the most important issues in such a way that even the unaware can understand. He makes you want to be a more earth-friendly person. I would be happy to accompany Dr. Suzuki on any of his explorations!
7. **What is your philosophy on life?** I have two: live and let live; it is what it is.
8. **Toughest thing about your job?** The toughest thing about my job is liaising between the general public, the office staff, and the Council.

9. **When you were a kid, what did you want to be when you grew up?** A forestry technician.
10. **Last book you read?** *The Maze Runner* trilogy, by James Dashner.
11. **Last movie you saw?** *Divergent*.
12. **What music did you listen to this morning?** Country rock – oldies.
13. **Favourite TV show?** I don't have one favourite, but I enjoy *The Nature of Things*, *National Geographic*, that sort of thing.
14. **What was the best gift you ever received?** My ride-on lawn mower!
15. **What is the most useless thing you ever purchased?** My first car! It was a 1962 Plymouth.
16. **What attracted you to the water/wastewater industry?** When the system was initially being installed in Pouch Cove, I became extremely interested in the entire process and wanted to learn more. As the infrastructure expanded, so did my interest and knowledge. I'm still learning...
17. **What is your greatest luxury?** I've been known to indulge in a bottle of 25-year-old port.
18. **What is your favorite famous quote?** I have many, but perhaps my favourite is from comedian

Ron White: "You can't fix stupid; stupid is forever."

19. **Describe your perfect day.** A perfect workday would be that elusive day when all can go ahead as planned and can be accomplished and finished without interruption, delay, or problems! A perfect day off would include relaxing with family and friends.
20. **What three objects would you rescue from your burning house?** Provided that all members of the house were out, I would try to rescue some collected mementoes from my past, my parents and children, a few art objects that really matter, and personal papers/documents.
21. **What do you like most about your job?** That every day presents new challenges!
22. **What is your ideal vehicle?** 1966 Pontiac GTO.
23. **What is your favorite travel destination?** We have a house in Prince Edward Island. I really enjoy going and being there – in all seasons. 🌊

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Join us in St. John's

Featured again in this edition of *Go With the Flow* is our annual conference. If you have not had a chance to get to the conference, then now is the time! Plus you will get to explore the beautiful City of St. John's, NL. How can you stay home? The conference is an excellent opportunity to reconnect with colleagues and meet new ones. You can share stories and experiences and of course many laughs. When I am asked about the benefits of being an ACWWA member, I can list a whole lot of things but topping the list every time is having the opportunity to network with other professionals in the field of water and wastewater.

As you have hopefully seen via email or in the last edition of this magazine, we had so much success with the Photo Contest that we are doing it again this year. The deadline for submissions is at the end of August. Remember, all you need in the picture is water and an ACWWA member (or family member or pet). How easy can this be? Plus, I'm sure you all have snow mountain photos that you want to share. ☁️

"The conference is an excellent opportunity to reconnect with colleagues and meet new ones."

A big welcome to our new members over the past few months:

Name	Company	
Lori Arbeau	Veolia	AWWA
Timothy Bachiu	AECOM	AWWA
Gabriel Belliveau	City of Dieppe	AWWA
Steve Berry	Nova Scotia Power Inc.	AWWA
Chris Boone	Dillon Consulting Limited	AWWA
Dan Campbell	Town of Stellarton	AWWA
Laura Jenkins		AWWA
Joseph Landry	Town of Stellarton	AWWA
Bernice Lanigan	NB Power – Point Lepreau Generating Station	AWWA
Chuck Roberts	Town of Truro Water Utilities	AWWA
Daphne Sullivan	City of St. John's	AWWA
Tim Trenholm	Village of Port Elgin	AWWA
Scott West	Town of Clarendville	AWWA
Tyler White	Amec Foster Wheeler	AWWA
Rebelle Zibara		AWWA
Mia Vautour	WSP Canada Inc.	AWWA
Cory Hoddinott	City of St. John's	WEF

Here is a snapshot of what our membership looks like:

Membership totals as of July 2015:	
AWWA - 443	WEF - 132

PHOTO CONTEST

Your Family and Water

Rules and criteria:

1. Photo must be submitted by an ACWWA member.
2. Photo must include water AND a family member(s) and/or pet(s).
3. Please provide first name of those in photo.
4. Unlimited submissions.
5. Judged by Membership Committee.
6. Submit pictures or questions to amyw@cbcl.ca.



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YP Committee update

By Brad McIlwain, EIT, M.A.Sc

The YPs had a busy start to the summer of 2015. In May, the YP Committee hosted the Annual Blue Drinks Speaker Series. The event was held at the T-Room bar at Dalhousie and featured three great presentations. Timothy Bachiu, Fresh Ideas contest winner from the 2014 Annual Conference, started off the presentations with a discussion about watershed studies that were conducted in Halifax and how these studies have assisted in development planning. John Eisnor then gave a presentation about the emergency repairs that were executed at the Lake Major dam. The presentation described the history of the project and the substantial coordination efforts that were involved in completing the repairs. Our final speaker, Dr. Gordon Price, presented findings of a study that evaluated electrocoagulation as a process for treating mussel wash water. The YP Committee was very fortunate to line up these three great presenters for the event, and we would like to thank them for donating their time and for making the event such a great success.

“In June, many YPs were out on the field with their teams for the annual Water For People softball tournament.”

In June, many YPs were out on the field with their teams for the annual Water For People softball tournament. This year's tournament was another big success, as a substantial amount of money was raised for the charity, we had terrific weather, and all participants had a great time. Six teams battled it out on the field: CBCL Limited, two Stantec teams, SNC Lavalin, Dalhousie University, and Dillon. Stantec Black & Blue beat Stantec Red in the final game to win the championship. The event was followed up with an after-party at Garrison Brewery, which gave a great opportunity for rivals from the field to meet up and reconcile their differences over a cold drink. Thanks to everyone who was able to make it out to this year's tournament, and we hope even more people are already planning their rosters for next year.

The YP Committee will continue to hold events throughout the summer and into the fall, including the YP Mixer at this year's Annual Conference in St. John's, NL. More updates will be sent out in our monthly YP Newsletter. For anyone who is looking to become more involved with YP activities, please contact Brad McIlwain (bmcilwain@cbcl.ca). 



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ABEA Scholarship winners & upcoming events

We would like to begin with congratulations to our 2015 recipients of the ABEA Scholarship:

Claire Reardon, daughter to Terry Reardon of Atlantic Purification Systems in Dartmouth.

Claire will be attending Dalhousie University in Halifax this fall, where she will pursue her degree in Medical Sciences, for someday becoming a doctor. Congratulations Claire, and we hope to see you become a successful doctor!

Jarod Monk, son to Damien Monk of IPEX Inc. in New Brunswick.

Jarod will be attending Mount Allison University in Sackville, New Brunswick, where he was accepted into the Fine Arts Program to obtain a Bachelor of Fine Arts & Drama Studies. Jarod is looking to pursue a career in arts and theatre, not only working on stage as an actor, but behind the scenes directing. Congratulations Jarod, and hope to see you acting or directing the act!

Twins Liam and Grace Pyke, son and daughter to Stephen Pyke of OPUS Engineering in Fredericton, and also siblings to Charlotte Pyke, our 2013 ABEA Scholarship winner.

Liam will be attending the University of New Brunswick - Fredericton this fall, where he will be pursuing a degree in Kinesiology. Liam is a highly active individual, and would like to help others get on a healthier track. Congratulations Liam, and we are sure we will all be looking for some advice on a healthier lifestyle.

Grace will be attending Memorial University in St. John's, Newfoundland this fall, where she will be pursuing a Bachelor of Engineering Science. Grace believes in the powers of engineering, the innovations and technologies that will push the world forward. She would love to work with Engineers Without Borders, working locally and globally, helping those around the world. Congratulations Grace; we can't wait to see what the world of change in which you will engineer!

Before moving on we would like to shout out to Charlotte Pyke and Christian Oxner, our 2013/2014 Scholarship recipients; we hope all is going exceptionally well for you!

Monday, October 5 will see the ABEA host their annual Hospitality Suite at O'Reilly's Pub on George Street, 9:00 PM until closing. It is going to be a fun, sociable time!

Plan to attend the Annual ABEA Tradeshow at the ACWWA Conference, Tuesday, October 6, 2015 where the exhibitors will be displaying current and newly innovated products to the water & wastewater industry. The Tradeshow will be running from 9 AM until 1:00 PM. See you all there!

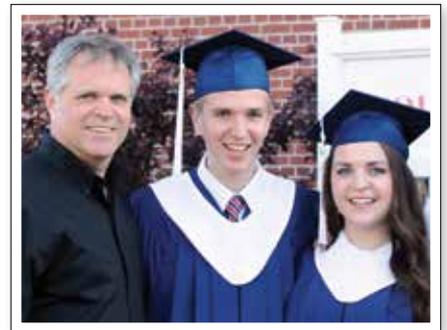
Once again the ABEA, and its membership, will be sponsoring the Annual Golf Tournament at Clovelly, the Osprey on Sunday, October 4. Tee times will begin at 9:30, so please make sure you check the box on your registration forms to join us. It will be a premier event that you will not want to miss... hope to you see you all on the course! 



Claire Reardon



Jarod Monk



Liam & Grace Pyke



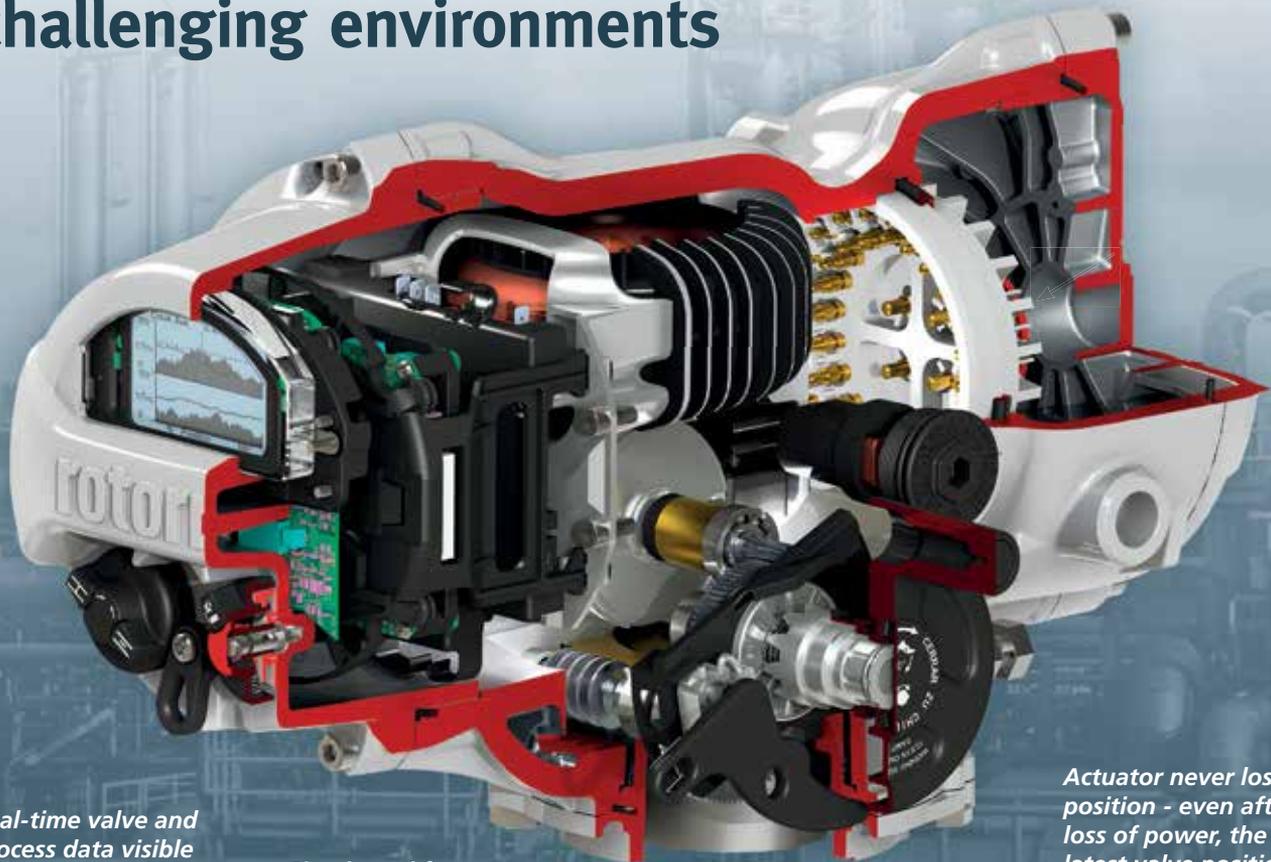
For other updates on the ABEA, its members, and its affiliates, please check out our Facebook, Twitter, and LinkedIn pages, where you can find the most up-to-date information.

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Congratulations to Fuller Award Winner Jamie Hannam

Jamie Hannam, MBA, P. Eng.
Director, Engineering & Information Services, Halifax Water

1. **What is your job title?** Director, Engineering & Information Services.
2. **Who do you work for?** Halifax Regional Water Commission.
3. **Where do you currently live?** The Bridgeview area of Halifax.
4. **Where did you grow up?** Prince Edward Island.
5. **What's the toughest thing about your job?** Ensuring the customers understand the value of water and wastewater services.

Finish these sentences:

6. **“When I’m not working, I’m...”** At the cottage in PEI in the summer, playing hockey in the winter, and lots of dog walking in between.
7. **“The accomplishment I’m most proud of is...”** Raising two boys and getting them to university.
8. **“When I was a kid, I wanted to be _____ when I grew up.”** A dentist or an architect, until the engineering kicked in.

9. **“Not many people know I can....”** Juggle (no chain saws).

What is...

10. **the last book you read?** Bruce Springsteen biography.
11. **the last movie you saw?** Re-run of Chevy Chase’s Summer Vacation.
12. **your favourite TV show?** Seinfeld.
13. **your guilty pleasure?** Cheeseburger, fries, and a cold beer.
14. **the song or story you remember from the radio this morning?** Warren Zevon – Werewolves of London.
15. **the most useless thing you have ever purchased?** A 1996 Dodge Caravan.
16. **If you could go on a road trip with any one person, living or dead, who would it be and where would you go? (and what would be in the CD player).** That’s easy, with my wife, down any road that ends with a beach. 🌊



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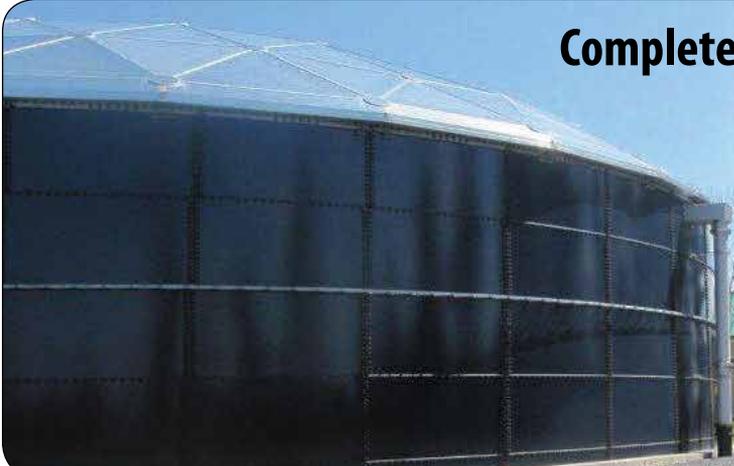


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water for people

Water For People events

In continuing with a long-running tradition, the Atlantic Canada chapter of Water For People hosted the annual softball tournament. The tournament was held on Saturday, June 27 at the Maybank Fields in Dartmouth. Six teams participated in the tournament from Dalhousie, CBCL, Dillon, SNC-Lavalin, and Stantec (with two teams). The tournament was followed by a Garrison Brewery Tour, hosted by the ACWWA Young Professionals committee.

Each team donated an item for the silent auction to be held at the annual ACWWA conference in St. John's, NL from October 4 to 7, 2015. In addition to these items,

tournament registration fees and the BBQ canteen raised about \$1,500 for Water For People. Stantec (blue team) won the tournament and Stantec (red team) won the door prize of \$100 towards a Salvatores pizza party.

Thanks to Brad McIlwain and Sean MacIsaac for coordinating the activities on the day of the event and to all participants.

Be sure to sign up for the Water For People 'Fun Run' when making your annual ACWWA conference arrangements. If you would like more information on how to become more involved with Water For People, please contact Matt Follett at Matthew.Follett@snclavalin.com. 



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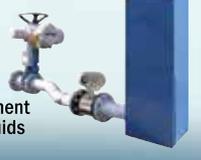
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ACWWA 2015 Conference highlights

SUNDAY, OCTOBER 4

9:30 am
ACWWA Golf Tournament

1:00 pm
Technical Tour
– Bay Bulls Big Pond
Water Treatment Plant

Dissolved Air Flotation Facility

5:30 pm
Young Professional Mixer

Gypsy Tea Room – Water Street

7:30 pm
Meet and Greet Reception –
Harbourview Ballroom

MONDAY, OCTOBER 5

8:00 am
Official Conference Opening

Fuller / Bedell/ MacNab
Awards Ceremony

Keynote Speaker – Gwynne Dyer

11:45 am
Annual General Meeting Luncheon

3:15 pm
Top Ops Competitions

5:00 pm
Water For People – Fun Walk (or Run)

Quidi Vidi Lake – single loop = 3.85 km

6:00 pm
Dine on Your Own

9:00 pm
ABEA Hospitality Night
– George Street

TUESDAY, OCTOBER 6

7:30 am
Best of the Best Water Taste Test

8:00 am
ACWWA Awards Breakfast

9:00 am
ABEA Tradeshow

6:30 pm
Water Works Club Reception

7:00 pm
Down East Feast

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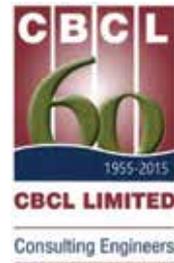
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Conference registration

PART 1 – GENERAL INFORMATION			
FIRST NAME	LAST NAME	ORGANIZATION	
MAILING ADDRESS		CITY	
PROVINCE	COUNTRY	POSTAL CODE	AWWA/WEF MEMBERSHIP NUMBER
PHONE	FAX		
REGISTERED	COMPANION EMAIL ADDRESS		
Sector <input type="checkbox"/> Utility <input type="checkbox"/> Supplier <input type="checkbox"/> Contractor <input type="checkbox"/> Consultant <input type="checkbox"/> Student <input type="checkbox"/> Academic <input type="checkbox"/> Regulator <input type="checkbox"/> Other			

PART 2 – REGISTRATION			
Full Conference Delegate – On or Before September 11, 2015	<input type="checkbox"/> Member – \$475	<input type="checkbox"/> Non-Member – \$525	\$
Full Conference Delegate – After September 11, 2015	<input type="checkbox"/> Member – \$575	<input type="checkbox"/> Non-Member – \$625	\$
Companion Program	<input type="checkbox"/> Member/Non-Member – \$250		\$
Student (Includes Meet & Greet, Lunches, Awards Breakfast and Trade Show)	<input type="checkbox"/> Member/Non-Member – \$100		\$
Monday Full Day Pass (Includes AGM Lunch and ABEA Hospitality Reception)	<input type="checkbox"/> Member – \$250	<input type="checkbox"/> Non-Member – \$275	\$
Tuesday Full Day Pass (Includes Trade Show & Lunch and Down East Feast)	<input type="checkbox"/> Member – \$250	<input type="checkbox"/> Non-Member – \$275	\$
Tuesday 1/2 Day Trade Show Pass (Includes Trade Show Lunch)	<input type="checkbox"/> Member – \$125	<input type="checkbox"/> Non-Member – \$150	\$
Register before August 7 and be entered for the early bird draw			Part 2 – Subtotal \$

PART 3 – TRADE SHOW BOOTH RENTAL & EXHIBITOR REGISTRATION			
Booth Rental (Max 3 Booths & 2 People/Booth)	ABEA Member – ___Booths @ \$500	Non-Member – ___Booths @ \$850	\$
Extra Exhibitor Registration <i>(includes Meet & Greet, ABEA Hospitality Reception and Trade Show Lunch)</i>	ABEA Member – ___@ \$75	Non-Member – ___@ \$100	\$
Exhibitor registration does not include the full conference. To attend full conference, please register as a Delegate in Part 2			
EXHIBITOR'S NAME	EXHIBITOR'S NAME	EXHIBITOR'S NAME	
EXHIBITOR'S NAME	EXHIBITOR'S NAME	EXHIBITOR'S NAME	
EXHIBITOR'S NAME	EXHIBITOR'S NAME	EXHIBITOR'S NAME	
			Part 3 – Subtotal \$

PART 4 – MEALS & ACTIVITIES			
Sunday, October 4		Please indicate Attendance by checking box	
Golf (transportation not included)	Shirt: S___ M___ L___ XL___ XXL___	___ @ \$70 =	\$
Technical Tour – Dissolved Air Flotation Facility – Bay Bulls Big Pond Water Treatment Plant		___ @ \$10 =	\$
Young Professionals Mixer (Included)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	<input type="checkbox"/> Exhibitor ___
Meet & Greet (Included)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	<input type="checkbox"/> Exhibitor ___
Monday, October 5			
Pick-up Breakfast	<input type="checkbox"/> Delegate	Companion	Included
Annual General Meeting Luncheon (Included for Delegate)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Exhibitor ___ @ \$60	\$
Companion's Luncheon (Included with Companion Program)		Companion	
ABEA Hospitality Reception (Included)	Delegate	Companion	<input type="checkbox"/> Exhibitor ___



Conference registration

Tuesday, October 6			
Awards Breakfast	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
			<input type="checkbox"/> Exhibitor ___ @ \$40
Trade Show Luncheon (Included)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	<input type="checkbox"/> Exhibitor ___
Down East Feast (BUFFET – cod/salmon/chicken/beef)	<input type="checkbox"/> Delegate	<input type="checkbox"/> Companion	Included
			<input type="checkbox"/> Exhibitor ___ @ \$85
Please describe any dietary restrictions or other special needs you may have			Part 4 – Subtotal \$

PART 5 - TOP OPS COMPETITION REGISTRATION			
Top Ops Team Registration	<input type="checkbox"/> Water	<input type="checkbox"/> Wastewater	___ Team @ \$50.00 \$
To complete team registration contact Deneen Spracklin at (709) 729-1158 or dspracklin@gov.nl.ca			Part 5 – Subtotal \$

PART 6 – FEES	
	Subtotal \$
	Life Members deduct \$100.00 \$
	13% HST (869 924 910 RT2) \$
	Water For People Fun Run/Walk ___ @ \$25.00 \$
	Total Amount Due \$

PART 7 – PAYMENT OPTIONS			
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ACWWA CANCELLATION POLICY

Cancellations must be received in writing, on company letterhead, and faxed, mailed or emailed to the ACWWA Office. Phone cancellations are not accepted. All cancellations postmarked/fax-dated 14 days in advance of the conference start date will receive a full refund, minus a 10% administrative fee. Cancellations between 7 and 14 days of the conference start will receive a 50% refund. Cancellations less than 7 days in advance of conference will not be refunded. Please note that substitute registrants are welcome. Fax requests for substitutions or cancellations to (902) 435-7796 or email to contact@acwwa.ca.

ACWWA 2015 Taste Test Entry Form

Date: Friday, September 25, 2015
Location: Delta Hotel

Entry forms must be received by Friday, September 25, 2015. Water samples will be accepted at the Registration Desk during Registration hours. All samples must be received PRIOR TO Friday, September 25, 2015 at 5 PM. Two samples should be collected, each in a 1-liter container. While you can use any type of container, the suggested use is a glass, Teflon-capped container with no air at the top and a small opening for easy pouring. Each container should clearly identify the name of the water system. A representative of the water system must be present at the conference for eligibility in the competition.

Official Water System Name:	
Water System Address:	
Contact Name:	
Contact E-mail:	
Contact Phone:	
On-Site Representative and Contact Info (if different from above)	
Treatment and Source Water (for ACWWA information only – this will not be made available to the judges)	
Water Description: for entertainment purposes only, will not be read with related water sample, but there will be a prize for best description	

*** All entries must have incurred no provincial or federal drinking water violations during the last twelve months***

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For general questions about the 2015 ACWWA Taste Test please call Deborah Smith at 709-745-1870 or e-mail at dsmith@stjohns.ca



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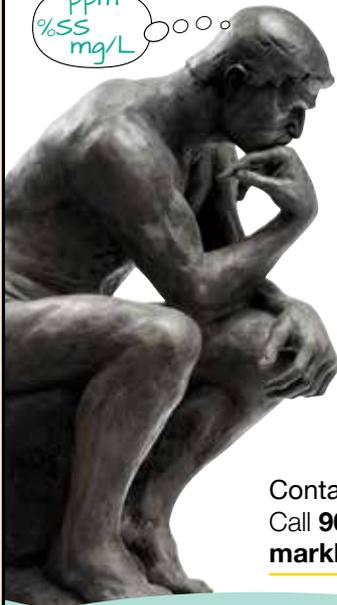
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Fall course schedule

The following is a list of the ACWWA fall courses.

Please check our website for online registration and course details, at www.acwwa.ca/courses/courseschedule.html.

<p>Meter Training – Bridgewater, NS September 22, 2015 Non-Member Price: \$316.25 Member Price: \$287.50</p>	<p>AWWA Water Distribution Mainline Valves, Design, Installation, Operation & Maintenance – St. John’s, NL November 5, 2015 (Flyer available online soon)</p>
<p>Water Distribution, LEVEL I & II – Sydney, NS 2015/09/28 – 2015/10/01 Non-Member Price: \$1101.59 Member Price: \$1014.88</p>	<p>Drinking Water Quality – Charlottetown, PE 2015/11/05 – 2015/11/06 Non-Member Price: \$564.30 Member Price: \$513.00</p>
<p>Centrifugal Pumps – St. John’s, NL October 8, 2015 Non-Member Price: \$310.75 Member Price: \$282.50</p>	<p>Water and Wastewater Fundamentals – Halifax, NS 2015/11/17 – 2015/11/18 Non-Member Price: \$569.25 Member Price: \$517.50</p>
<p>Leak Detection – Charlottetown, PE October 15, 2015 Non-Member Price: \$313.50 Member Price: \$285.00</p>	<p>Watermain Disinfection and Safeguarding – Halifax, NS November 19, 2015 Non-Member Price: \$316.25 Member Price: \$287.50</p>
<p>Water Distribution, LEVEL I & II – Moncton, NB 2015/10/19 – 2015/10/22 Non-Member Price: \$1082.43 Member Price: \$997.23</p>	<p>Water Treatment, LEVEL I & II – Halifax, NS 2015/11/24 – 2015/11/27 Non-Member Price: \$1101.59 Member Price: \$1014.88</p>
<p>Wastewater Collection, LEVEL I & II – Halifax, NS 2015/10/26 – 2015/10/29 Non-Member Price: \$1101.59 Member Price: \$1014.88</p>	<p>Wastewater Treatment, LEVEL I & II – Moncton, NB 2015/11/30 – 2015/12/03 Non-Member Price: \$1082.43 Member Price: \$997.23</p>
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Intermittent operation | an irresistible attraction?

Operating wastewater treatment plant processes or equipment intermittently offers the irresistible attraction of reduced energy costs. But take the practice too far, or in the wrong circumstances, and treatment processes can be damaged as a result. Marcia Sherony, National Sales Manager of Hydro International, looks at the trend to introduce intermittent plant operation in some processes in wastewater treatment. Using grit removal as an example, she considers the opportunities and pitfalls.

The cost of energy is a constant consideration on the operating budget of plant operators. Public facilities that treat and distribute drinking water and those that collect and treat wastewater are energy-intensive, accounting for approximately three percent of U.S. electricity use (approximately 100 billion kWh annually)¹.

For local governments, this level of consumption means that water and wastewater facilities are one of the largest and most energy intensive loads they own and operate, representing up to 35% of municipal energy use². Wastewater facilities in particular have a wide variety of processes and associated equipment that consume energy.

The equipment and processes used in treatment plant operation, and the amount of energy they use, vary significantly reflecting the regional topography and environmental conditions and requirements to treat certain types or concentrations of waste.

Looking for savings in energy usage

Any plant operator tasked with auditing wastewater processes to isolate the biggest energy consumers and identify operational efficiencies faces conflicting priorities. Both operators and engineering designers are motivated firstly by maintaining or improving the availability and reliability of their facilities. Any energy-efficiency opportunities have to be considered within this context.

A waste treatment plant engineer knows that motors and motor-driven equipment use a significant amount of energy to pump, filter, and aerate water. Indeed, wastewater aeration, pumping and solids processing account for a significant amount of the electricity used in wastewater treatment. Approximately 42,000 wastewater pumping stations across the country operate to meet continuous and varying wastewater flows and typically, pumps are the most prominent energy consumers.

However, each piece of equipment is part of an integrated system.

Therefore, it is important to consider facility performance when introducing energy-efficiency measures and to determine which measure or combination of measures will result in the biggest energy reduction for a given investment, and avoid degradation in performance.

Frequent targets of cost-cutting audits are pumps and the subsequent activated sludge treatment process. Both processes can be energy-intensive in many plants. For example in a typical activated sludge treatment plant, the aeration system typically represents 60% of a plant's electricity use; pumping represents an additional 15%, of which grit slurry pumping is a small part.

Grit system considerations

It is tempting to think that diurnal flow variations and wet versus dry weather variations in incoming waste water flow volumes might be met with intermittent grit pumping schedules. While plants should continue to reduce electricity consumption where possible, balancing the system performance efficiency and operation of any other downstream treatment processes must also be considered. The loss of digester performance and aeration basin efficiency, along with the time and expense to clean either, can quickly offset any savings realized by running the grit pump intermittently.

As there are no industry guidelines available for intermittent running of grit pumps, careful and continuous attention to flow and incoming grit load is required and intermittent operation is often not suited to many plants and locations for a variety of considerations including flows, collection system design, condition of the collection system, and grit loading.

Continuous grit pumping is recommended in many

applications to ensure that elevated grit loads and wet weather events are covered when higher grit volumes can be expected. It is also important that total solids in pumped grit slurry remains at approximately 1% or below, otherwise washing and dewatering equipment efficiency can degrade and risk plugging, as can piping.

Where conditions allow, it is possible to consider intermittent pump operation, which should always be assessed by an expert. For example, it could be used if the range between the peak and average flow is very great, (i.e., high wet weather flow spikes) or there are very low overnight incoming flows with small grit loadings such as may occur at small plants. However, the entire grit system must be designed to handle the build-up of grit that will occur with intermittent operation.

When operating the grit system intermittently, it is advisable that continuous operation is still enabled during wet weather events. This can be achieved either by influent flow sensing triggered by a set point for automatically switching between continuous and intermittent operation, or a manual control switch with timed intervals during dry weather and continuous during wet. The latter carries a certain risk if not well attended.

High-performance grit separation system can be optimized for intermittent flows. In the latest developments of the Eutek HeadCell® for example, an expanded grit underflow collector allows grit to inventory while the pump is not operating. Flexible grit pump operation can be optimized by plant operations personnel based on grit load and plant demand while minimizing energy consumption. Intermittent pump operation can also reduce plant use of non-potable water associated with the grit washing/dewatering system components as these components typically run in tandem with the grit pump.

Design implications

In other grit collection technologies, energy usage is dependent on the process design as well as the operating equipment. For example, aerated grit basins can be a significant source of power consumption due to the blowers used to supply air to diffusers located in the basin. Aeration basins typically have a recommended air delivery rate of three to eight cfm of basin length, where the basin length is the standard three to eight times its width, and designed for a detention time of three minutes at peak flow. This means that a typical basin of 55 ft length, and a width of 7 ft to 18 ft, could require 165 to 440 cfm of air, and need up to 100HP of power to drive the air compressor. There are, of course, far bigger basins which require more air and higher power to produce it.

The next power user in a grit system is typically the grit pump and any potential saving through intermittent operation would be attractive. However, will intermittent pump operation impact the grit – or other subsequent processes? Combined sewer plants and plants with large peak to average flow ratios will see a significant increase in grit load at higher flows.

Grit quantities are typically reported to range from 0.53-24 ft³/mgal (M&E) and operating grit pumps intermittently during high influent loadings can be detrimental to the grit removal process and cause plugging, loss of grit, and system failure. Pumping intermittently increases the concentration of the grit slurry as well as the problematic debris accumulated in the grit sump and grit slurry piping.

In fact, even without intermittent pump operation, the lack of sound design guidance may contribute to the problems met in removing, conveying, and processing grit slurry at many treatment facilities; combined sewer collection systems are particularly prone. It is ironic that this process is intended to prevent or reduce downstream

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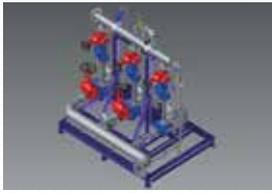
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maintenance, but often is fraught with its own frequent maintenance issues such as plugged grit slurry collection sumps, plugged grit slurry piping, failed grit slurry pumps, and plugged grit slurry concentrators. Intermittent operation will only exacerbate such problems.

Careful conclusion

While decisions to run equipment like pumps, including grit pumps, intermittently can save electricity and lower energy costs, care must be taken to match the operating schedule to plant inflow conditions. Careful assessment, and the right grit removal equipment, will greatly reduce the risks of extra costs incurred through ineffective removal using conventional technologies or intermittently pumping decisions influenced solely by the desire to cut the dollars.

Consulting closely with engineering designers and equipment manufacturers is therefore essential to take advantage of the opportunities of intermittent operation without running unnecessary risks.

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References

1. EPRI, Water and Wastewater Industries: Characteristics and Energy Management Opportunities, 1996.
2. Consortium for Energy Efficiency National Municipal Water and Wastewater Facility Initiative.

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- **Support** industry best practices
- **Provide** our industry with an education for the future
- **Promote** information exchange in the water and wastewater industry
- **Conduct** annual conferences
- **Enhance** government relations
- **Increase/optimize** membership
- **Improve** our Association's effectiveness

Number and value: Up to four awards with a value of \$1,000 each (one for each Atlantic Canadian province: NB, NL, NS, and PEI)

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- intend to pursue a career related to the water or wastewater industry.

Fields of study: University degree in engineering/science or college diploma in water/wastewater field.

Assessment criteria:

- Academic record after at least one year completion of postsecondary education (30%);
 - Statement/essay (60%); and
 - Work experience and extracurricular activities (10%).
- Preference will be given to a candidate with a demonstrated interest in working in the water or wastewater treatment sectors.

Application: The application shall include

- a short biography, a recent photo and contact information including name, phone number, mailing and email addresses;
- a 500-word statement or essay of the applicant's interest, knowledge and future goals in the water/

wastewater industry together with applicable work experience or extracurricular activities;

- a description/list of planned future studies; and
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Apply to:

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Selection: Selection will be based on the principle of open and equal opportunity and carried out by the Scholarships Committee. The award winners will be announced in the following January/February. 



Water Environment Research article examines the occurrence of pharmaceuticals in Calgary's wastewater and related surface water

The open access article for the May 2015 issue of *Water Environment Research (WER)* examines the ability of Calgary's water resource recovery facilities to remove pharmaceuticals during the treatment phase. The authors found that although the facilities were not designed to remove these types of contaminants, a recordable amount was removed in the aqueous stage.

According to WER Editor-in-Chief Tim Ellis, "the authors looked at the removal of 15

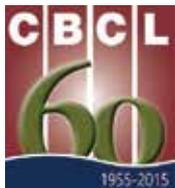
pharmaceutical compounds in Calgary's wastewater treatment facilities and found that effluent concentrations were in the low parts per trillion to low parts per billion range, while treatment removal rates ranged from 99.5% for caffeine to nearly zero for carbamazepine. Despite measurable downstream surface water concentrations of many of the target compounds, comparison to toxicological data suggested little risk for adverse environmental effects."



Selected WER articles such as this one are available free to the public on a monthly basis through an open-access program. Go to <http://www.ingentaconnect.com/content/wef/wef/2015/00000087/00000005/art00004> to download the open access article, 'Occurrence of Pharmaceuticals in Calgary's Wastewater and Related Surface Water,' by M. Chen, V.I. Cooper, J. Deng, P.L. Amatya, D. Ambrus, S. Dong, N. Stalker, C. Bonilla-Nadeau, and J. Patel.

Published by the Water Environment Federation (WEF) since 1928, WER is a popular professional journal that features peer-reviewed research papers and research notes, as well as state-of-the-art and critical reviews on original, fundamental, and applied research in all scientific and technical areas related to water quality, pollution control, and management.

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Cyanotoxins guide targets blooming issue

Source: awwa.org

The American Water Works Association and the Water Research Foundation have released a guide to help water utility managers detect and control cyanotoxins, the algae-related contaminants that led to a 'do not drink' advisory for 400,000 people in Toledo, Ohio, last summer.

'A Water Utility Manager's Guide to Cyanotoxins' addresses cyanotoxin occurrence, source water management, and treatment strategies. Presented in a simple Q&A format, it is available for free download from both the AWWA and WRF websites. A more technical companion document is also in development.

Cyanotoxins typically arise from cyanobacteria – often referred to as blue-green algae in lakes and reservoirs and can

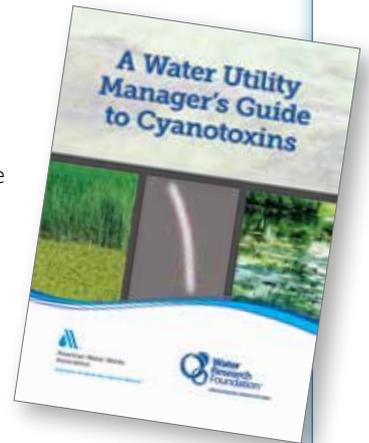
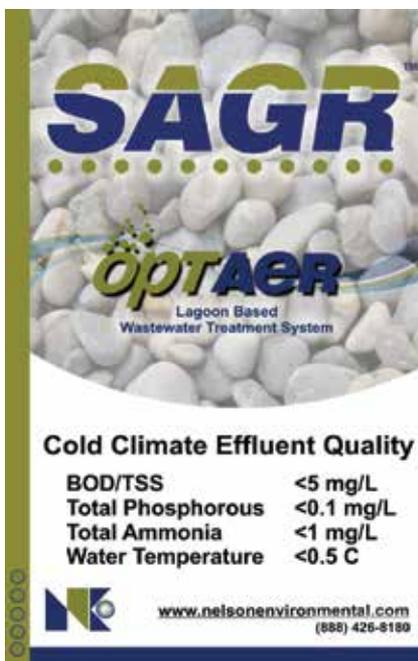
impact drinking water quality. While health effects from drinking water contaminated by cyanotoxins are not well understood, potential negative health impacts of prolonged or very high exposures include liver, nervous system, and gastrointestinal problems.

The guide comes as the federal government considers how to address cyanotoxins from both regulatory and legislative perspectives. The U.S. Environmental Protection Agency is expected to publish a health advisory on cyanotoxins during spring or summer of 2015, to assist regulators and water managers as they consider steps to protect the public from unregulated contaminants. U.S. Congress is considering multiple bills related to cyanotoxin monitoring and risk assessment.

"The Toledo incident launched cyanotoxins into the public consciousness," said AWWA President

John Donahue. "This guide will help water managers make informed decisions in how they manage cyanotoxin concerns and communicate effectively with their customers."

"As we look towards the warm days of summer, this new guide presents water utility managers with the right information at the right time to help them confidently apply the best science and best practices to protect the communities they serve," said Robert Renner, WRF's Executive Director. 

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Atlas Copco awarded ISO 22000 – Food Safety System Certification – for its production facility in Antwerp



Antwerp, Belgium: Atlas Copco is the first compressor manufacturer to receive ISO 22000 certification by Lloyds Register for its production facility in Antwerp, Belgium, which manufactures state-of-the-art oil-free air compressors, blowers and air treatment products.

In today's modern world where the population is growing and the need for high quality food is increasingly important, regulations on food standards are essential.

ISO 22000 specifies the requirements for a food safety management system where an organization in the food chain needs to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of human consumption.

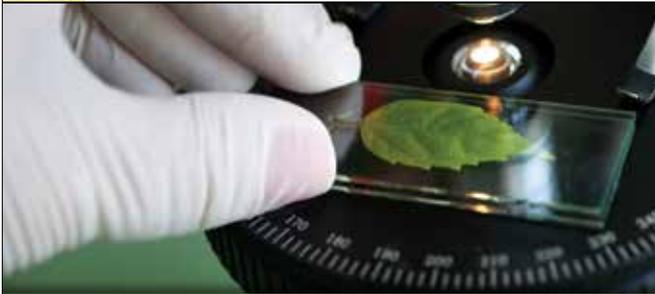
Compressed air comes in many applications in contact with the end-product or even forms an active part of the food, therefore Atlas Copco decided to go for this high class valuable certification.

Most of the leading food manufacturers across the globe are getting more and more stringent about the quality at source and proud to create a benchmark for compressed air industry.

Thanks to this auditable ISO standard with clear requirements, the customer can tangibly rely on Atlas Copco as a compliant compressed air manufacturer for their products and processes.

“We were able to demonstrate after intensive work shops and thoroughly executed audits by Lloyd's Register that Atlas Copco is ready to comply with the highest standards in the food industry with its oil-free compressors. The same HACCP (Hazard Analysis Critical Control Point) and procedures as used in the top quality food companies have been implemented in the design and production of compressors, blowers and dryers. At Atlas Copco, we are committed to sustainable productivity of our customers and we will continue creating positive value for our stakeholders,” said Chris Lybaert, President, Oil-free Air Division.

For more information please contact: Mrs. Chung-Ngy Ung, marketing assistant for Atlas Copco Compressors Canada, division Oil-Free Air [chung-ngy.ung@ca, atlascopco.com](mailto:chung-ngy.ung@ca.atlascopco.com), Phone: 1-514-421-8528.

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