

OPERATOR

May 2015 Edition



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What are these bunnies, Lance, Marcus & John up to? Find out on page 6.



Jason "Eddie" Mullins hosting Millionaire Hotseat at the AGM and Seminar. More on page 8.

Eenie, Meeney, Miney, Moe - Tony Hourigan sampling water in Orange. More on page 15.



Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

FROM THE EO'S DESK

Not sure if it's a sign of old age but I am still having trouble with writing 2015 instead of 2014 when signing documents and other stuff. The scarier bit is that almost half of 2015 has now already gone into the bargain!

Our Annual General Meeting and weekend seminar were held in early March. The assembled members were treated to some excellent technical and product presentations, some informative exchange of information in the open forum and some home-made fun fit for millionaires at the dinner. A report on all the goings on appears later in this edition.

At the AGM, Ryan McGowan was appointed President with Adrian Rijnbeek elected as the new Vice President. We welcomed both Heidi Josipovic and Neil Crossing onto the Committee for the first time and both have provided some thoughts on what they hope to bring to the position. We farewelled John Day and Russell Mack and thanked them for their amazing efforts over many years.

Neil Crossing has hit the ground running, and we are very excited to report that a meeting has recently been held in South Australia. WIOA will be staging our first SA event - a Water Taste Test and Interest Day on 21 July. We will look to formalising the South Australian Advisory Committee as part of this event.

Once again, the WIOA event calendar is rapidly filling courtesy of some great work and assistance by all our State based Advisory Committees. Apart from our three major conferences, there are a variety of interest days and tours about to happen, along with some seminars and Water Taste Test events. Although we do understand that not everyone can go to every event, please make sure you support the work of your own members by participating whenever you can.

In a collaborative effort with VicWater and the Victorian Department of Health and Human Services, we were honoured to host a seminar in Melbourne in late February by renowned Canadian author and researcher Dr Steve Hrudehy. The day was attended by over 100 water industry representatives. Steve provided some very strong take home messages about how easily things can go wrong and how we need to be prepared and alert in our roles. A report on the seminar and comments from some of the participants is also included later in this edition.

In late March we staged our NSW conference in Orange for the second consecutive year. It was a great success with strong delegate and visitor numbers and has provided a sound base to grow future NSW events on. Our thanks are again extended to our excellent Hosts in the Orange City Council, along with all our sponsors, exhibitors and delegates. The award winners announced at the NSW conference also deserve our heartfelt congratulations.

In mid June we head off to Toowoomba again for the Queensland conference at the Clive Berghofer Centre, a part of USQ. This conference is also shaping up well with a sell-out exhibition, a diverse line up of presenters covering a wide range of topics including input from operations staff from a number of Queensland Councils. Delegate and visitor registrations are still being accepted with registration forms available from the website.

The exhibition sites for the Victorian conference were put on sale in early May and all 185 spots were snapped up in just 3 HOURS, yes hours not days! We now have a lengthy waiting list of companies hoping to attend. We know that economically, things are pretty tough out there so we are taking this support to be a strong endorsement of our conferences and the formula we have developed for running them over a number of years. The papers program has also been set and delegate registration forms will be released shortly. It is important that all WIOA members attend these events if possible, either as a delegate or a day visitor. We also need you, our members, to help promote the events as widely as possible to your water industry peers even if you can't get there yourself, to help make each conference a success.

A group of 12 Australian operators, including award winners from NSW, Queensland and Victoria, headed off to New Zealand in early May for the annual 8 day tour of NZ water and wastewater plants. This year, the tour visited plants on the top half of the South Island before joining our Kiwi cousins at their annual operations conference at Blenheim. Once again the WIOG team did a fantastic job not only in organising and hosting the tour, but by running such a successful conference with 100% volunteer staff. One of the tour members will provide a report in the August edition of Operator.

WIOA has joined the organising committee for a very special event to be held on 26 June at Etihad Stadium in Melbourne – the inaugural Biggest Ever (Laurie Gleeson) Dinner. The event is timed to celebrate Men's Health Week and pay tribute to the late Victorian water industry stalwart Laurie Gleeson. The event will include guest speakers, a charity auction and raffle with all profits to the Australian Prostate Cancer Foundation. There are still a few tables available and individual bookings can also be made. Contact Ben at VicWater ben.brennan@vicwater.org.au for bookings.

WIOA has continued working with a range of organisations on the operator certification schemes in both Victoria and nationally. We have processed a number of new applications received from operators under the WIOA Victorian Certification Scheme and we now have 29 operators certified. In conjunction with **qldwater** and the Queensland Department of Energy and Water Supply, we will be holding a special certification presentation ceremony at the WIOA Queensland conference in Toowoomba in June. There we will be presenting certified operator credentials to the first group of operators anywhere in the country under the National Certification Framework. This is an exciting first for the water industry, and we hope it will be the catalyst for many more operators signing up in the future.

The final item to report to members is that after almost 2 years of work, Government Skills Australia has all but finished the review and update of units and qualifications in the National Water Package. The updated material will be loaded to the GSA website in early June 2015 for a 6 week consultation period. We encourage all members and water industry employers to check out the material and advise GSA or WIOA of any concerns.

Until next time, **George Wall**, WIOA Executive Officer

PROFILE OF A MEMBER



Name: Daniel Squire

Position: Process Technician (operator)

Employer & Location: Allwater Glenelg WWTP

How long have you worked in the water industry and what attracted you to it? I have

worked in the water industry for just over three years, first starting in the southern network pump stations and then moving over to the Glenelg WWTP as an operator. I had the opportunity in November last year to take up a secondment role as the plant supervisor here at Glenelg. This lasted 9 months and now I'm back to be a process technician. I previously worked in the shipping industry and needed a way to stay at home and not go away. So when the opportunity came up to work in the sewer pump station networks, I had a good idea about pumps, moving water and I knew that there will always be work in sewer so I went from there.

What do you enjoy most about your job? That most of my family and friends are indirectly our customers. I also love that we take an undesirable but completely necessary waste and turn it into resources: the treated water is turned into A class water to keep our city parklands green for everyone to enjoy year round, the sludge produced in the process is being used by farmers as a fertiliser and the biogas generated through biological treatment is used to generate onsite power (currently more than 80% of the electricity required to run the plant). I'm lucky enough to work with a great group of guys and girls here at Glenelg thriving to make sure the Glenelg WWTP is an optimised resource recovery plant. It is really rewarding to know that in treating sewer I am contributing to the protection of the environment and to public health.

What are the major challenges in your current role? We have many challenges here at Glenelg and it's still amazing the varied issues that can pop up each day. I would say the biggest challenge I have is working between the different plants and areas here. We all rotate weekly between the main plant, the GAP (our UF recycled water plant and PS) and the laboratory.

How long have you been a WIOA member? I have only just joined the WIOA late last year with a lot of the Allwater operators, but I have been reading the "Operator" and can't wait to get involved.

How do you relax? Go for short getaways with my wife and or mates. I also love working on my little Datsun 1200 Ute that costs me a fortune, but I love it.

Where do you live and what's the best thing about it? Adelaide South Aus, the best thing about Adelaide is that you can go for a two hour drive and be in the Barossa enjoying wine, to the beach in Victor surfing with mates or in the desert... being hot. It's like a big country town.

QUICK QUESTIONS

Age: 27

Family Status: Married, November 2014

Pets: Not at this stage but just about to get a blue heeler puppy

Favourite food: Anything my wife cooks

Least favourite food: Anything my mother cooks

Favourite TV show: Topgear

Worst TV show: Soaps and Teen Mum

Favourite Movie: Cars/Planes

Favourite Musical artist/s: Love all types of music from rock (Foo Fighters, Cold Chisel), Australian country (Sunny Cowgirls, Leigh) and Aussie Hip Hop (Hilltop Hoods, Bliss n Eso) Etc.

Favourite book: Diary of Ann Frank

Favourite team: NSW Blues (I know I'm a South Australian but lived in NSW for a while and love the vibe around Origin time!)

Ambition in life: Further myself in the wastewater industry and continue to learn every day. Be happy, have fun and do my best at whatever I do.

Hobbies: R/C aeroplanes, working on my cars.

Best Trait: I can talk to and get along with almost anyone.

Worst Trait: I'm a "story topper" I hate it but can't help myself.

Four people to invite to dinner: Barack Obama, Ken Block, Scott Cam and Jennifer Lawrence

FRANK'S OFF TO NZ WITH WIOA

Congratulations to Frank Rinaldo from North East Water who was announced as the winner of the 2015 PASS Award at the NSW Conference in Orange.

This is the 5th year the PASS award has been presented. The award creates an opportunity for water industry operational staff to share their in-the-field innovations and/or fixes to problems so that others in the water industry can benefit.

Frank came up with an innovative sluice valve top remover tool - a two pronged slide hammer tool that you slip under the base of the sluice valve top and jackhammer it up to remove it.

For his efforts he joined the WIOA team on their annual operational tour of New Zealand, which included attendance at the New Zealand WIOG operations conference. The award is made available through the kind sponsorship of Aqualift Project Delivery. WIOA celebrates the sharing of good ideas by publishing and distributing all of the entries received in a booklet.



PASS Award Winner Frank Rinaldo, with Jill Busch (L) and David Barry (R) from Aqualift Project Delivery.

2015 COMMITTEE ELECTED

The 2015 WIOA Committee was elected at the AGM held at Club Mulwala in conjunction with the Weekend Seminar on 1 March. Ryan McGowan from Goulburn Valley Water was announced as President and following a vote by members present, Adrian Rijnbeek from Xylem was elected Vice President.

WIOA is fortunate to have such dedicated members prepared to put their hand up for leadership positions and along with those who are chairing advisory committees around the country, our future looks bright indeed.

Outgoing Committee Members John Day from North East Water and Russell Mack from Gippsland Water were thanked for their work, vision and commitment to WIOA. Both are former Presidents, have been long term Committee members, and have done stints on the WIOA board as well. Their knowledge and perspectives of the industry will be missed at Committee level, but we are sure they will continue to support the Association in other ways.

We welcome to the Committee our first member from South Australia in Neil Crossing, as well as Heidi Josipovic from North East Water, who will add a much needed female perspective. The general Committee now includes members from 5 different states which is reflective of the changing membership demographic of the Association.



Russell handing the President reigns over to Ryan at the WIOA AGM.

NEW WIOA COMMITTEE MEMBERS

We thought we would introduce the new Committee members by asking them some pretty easy Q&A's



Heidi Josipovic

Position Operations Systems Project Officer

Employer North East Water

Thoughts on the water industry at the moment? The water industry has many skilled and highly diversely educated people. Some aspects of the industry work well together; however there is room for more knowledge sharing between water authorities, especially in different states. We should

be working together more to share ideas and projects. WIOA is a great way to bring different water authorities together, and share ideas and initiatives instead of reinventing them.

Your involvement with WIOA My first involvement with WIOA was in 2007. I was a University student and received the WIOA/EGL water and wastewater prize. The prize included an all-expenses paid trip to the Bendigo WIOA Conference. It was here I first learned about WIOA and its involvement with the water industry. I was very impressed with the way it brought together people from all over Victoria from different water corporations and provided a place for presenting ideas, networking, and interaction with suppliers and water industry contractors. From there I continued to work in the industry with Gold Coast Water. I became a more active member of WIOA when I started a career with North East Water. I have since joined the Victoria Advisory Committee, presented a platform paper and attended the Bendigo Conferences and several interest days.

As a new member on the WIOA committee, what contributions are you hoping to be able to make? I am highly enthusiastic and passionate about my current and future career in the water industry. I see WIOA as a valuable resource for all water corporations in Australia, as it provides a connection between authorities. I am hoping to help extend the involvement of water corporations with WIOA Australia wide, and encourage more people to participate and get out of WIOA what I have. I also look forward to helping organise and plan future WIOA events and be an active Committee member.

Editors Note *We're pretty sure that Heidi now holds the record for being the first (and only) WIOA Committee member to give birth to a bouncing bundle of joy whilst in office. Archie John was born on 20 March 2015 and weighed in at a healthy 7 lb 11 ounces. Congratulations Heidi and Jamie from all at WIOA.*



Neil Crossing

Position Process Optimisation Engineer

Employer Allwater, SA

Thoughts on the water industry at the moment? Over the last fifteen years the water industry has shown diversity and flexibility, from water conservation during a drought to construction and operation of desalination plants and smart water recycling techniques. Now compared to the good old (?) days (1970s) technology has taken huge steps to securing water providing good consistent water

and effluent quality with consideration to the environment and customers.

Your involvement with WIOA I've been a member since the early 2000's.

As a new member on the WIOA committee, what contributions are you hoping to be able to make? My aim is to help develop WIOA in SA. There is a need and other South Australian water organisations want to contribute towards WIOA.

Editor's Note *Neil has contributed in bringing a number of South Australian water industry stakeholders together in support of potential activities for WIOA to conduct in SA. WIOA will be conducting a Water Interest Day that will coincide with a South Australian Water Taste Test on 21 July in Adelaide, where we will crown the best tasting tap water in South Australia.*

NOT JUST ANOTHER DAY IN THE OFFICE

On Wednesday 29th April 2015, WIOA released the exhibitor prospectus for the 2015 Victorian Conference. On this day, we had the largest single daily volume of traffic ever recorded on our website, a total of 445 individual sessions logged. To clarify, a session is a period time a user is actively engaged with our website.

In the past, the WIOA website would crash once the number of users exceeded 50. This was a major frustration to those companies looking at securing an exhibition site. To remedy this, we recently relocated our website hosting to another provider. The problem now (if you would call it a problem) is that a large number of potential exhibitors are able to access the website at the moment the prospectus is released, meaning they are able to get their completed applications in to WIOA much quicker.

At 1.00pm (AEST), the time of release of the prospectus, there were 120 individuals logged in to the WIOA site waiting to access the registration form. We received 97 applications in the first 20 minutes, 63 of them in the first 10 minutes. A number of companies book multiple sites, and the sites around the meals area and those surrounding the morning tea and coffee stations are always the first to go. This ultimately meant that the number of site applications exceeded the number of sites available within the first 3 hours and 37 minutes. An amazing response!



WIOA staff members, Ann and Sherryn working through the Victorian site allocations.

Once the completed applications are submitted to us, the WIOA staff work our way through the applications in the order we received them, wherever possible allocating the first available preference. In cases where preferences have been taken (and it happens a lot) we contact each company representative in turn directly so that they can choose their preferred site from those remaining. This process takes a number of days to complete.

Interestingly, visitors to the conference website came from 26 countries with Australia most represented with 81.8% of users. We are unable to validate if they are all legitimate visitors or just trawlers of the web, but we can confirm it was a very busy day to be in the WIOA office.

Our exhibitors help make the WIOA conferences great! Whilst acknowledging that our allocation process is not perfect, we believe it is as fair and equitable for everyone as we can possibly make it. Just like anyone who misses out on a concert or sporting event ticket, we do feel for those who miss out through the allocation process but ultimately, we only have a limited amount of space available.

Craig Mathisen, WIOA Chief Operations Officer

WIOA LOOK-ALIKES

During the NSW Conference, Bazzare Gazzard provided a hypnothrapist performance where he constantly referred to one of the on stage performers, Joel from Aeramix, as Luke Ball. We wondered if we could come up with any more possible WIOA look-alikes.



*Joel Fitzgerald
Aeramix*



*Luke Ball
ex Collingwood & St. Kilda*



*Sam Magill
Water Infrastructure Services*



*Gary Ablett Jnr
Gold Coast Suns*



*Marcus Boyd
Toowoomba RC*



*George Rose
St George*



*Tony Hourigan
Aeramix*



*Harrison Ford
Actor*

If you know of a WIOA member who has a look-alike send us a picture (with permission) for us to publish.

ENSURING SAFE DRINKING WATER WORKSHOP PRESENTED BY DR STEVE HRUDEY

The Matthew Flinders Hotel, Chadstone was full of eager Water Industry and Victorian Health Department representatives, when Dr Steve Hrudehy presented a one day workshop based on the case studies contained in his and Elizabeth Hrudehy's recently published book *Ensuring Safe Drinking Water – learning from Frontline Experience with Contamination*.

The intent of the workshop was to learn from the misfortune / mistakes of others. The case studies were presented in a manner where participants could compare the scenarios presented to situations / sites that they are familiar with.

The take home messages were presented as a form of 10 Commandments for Safe Drinking Water. A key theme was ensuring that key staff are armed with the appropriate level of skills, knowledge, experience and understanding to do their job competently. Knowing what is **normal**, versus **abnormal** operating conditions, and properly understanding WHY you must do the tasks related to regulatory requirements is vital. Operational staff must also be properly supported by Senior Managers who understand the risk profile associated with the safe treatment and delivery of drinking water to consumers, and appreciate that operational activities are undertaken and water infrastructure assets are there to provide a community Public Health Service, rather than to provide a dividend to investors. Risk Management Plans need to be developed, documented, and actively followed to consistently deliver this Public Health Service without compromise.

Another key theme and Commandment was **do not underestimate the capacity of faecal waste to make water unsafe**. All case studies challenged us to see how quickly we could detect problems from all parts of our own systems, and how quickly our organisations could respond and deal with problems effectively. We were also cautioned that in the absence of truly understanding the root cause of a problem, the typical first response to flush could actually exacerbate a problem!

This workshop was another high quality, interesting and engaging session, that WIOA jointly facilitated with the Victorian Department of Health and the Victorian Water Industry Association. The organisers should be commended on securing the services of such a high profile international speaker, and I would encourage other WIOA members to attend future sessions. The value of the knowledge imparted by attending these programs cannot be properly quantified, but if this knowledge prevents a water quality disaster of any magnitude, then it is priceless.

Contributed by **Michelle Colwell**, Gippsland Water



WIOA EO George Wall introducing Steve Hrudehy at the Melbourne seminar.



Rod Dedman (L) Victorian Department of Health and George Wall (R) WIOA with Steve Hrudehy.

Just over 100 people attended the seminar.



PARTICIPANT FEEDBACK

This was a real eye opener to the types of contamination events that could realistically occur and gave light to some improvements that we could make to our existing risk management and emergency management practises.

Tara Callingham, Goulburn Valley Water

Great to see WIOA VicWater and Department of Health and Human Services working together to help improve knowledge and skills.

Rodney Dedman, DHHS

It may be hard to publish a message that was delivered with such passion, understanding and commitment. A focus on the continuing improvements made throughout all Water Corps on both the water quality and asset management/improvement. The information that can be gained from previous incidents is very valuable, and should be shared.

Carmel Cumming, Coliban Water

An excellent insight into the complexities of providing safe drinking water, delivered by a world renowned expert using real case studies for a very attractive fee.

Ray Borg, WI Group

The workshop was a great opportunity to learn from issues and events elsewhere which highlighted some areas that we need to focus on more to ensure that public health is protected.

Andrew Telfer, Lend Lease

The seminar Steve held was very informative and I felt it was very operator based which made it very easy to relate to. He did not try to over complicate his thoughts but did stress how important the treatment operator's job is.

Matt Sinnott, Wannon Water

Great to see industry and the regulator working in collaboration to enable access to such a respected and knowledgeable presenter. This approach is a step forward in aligning objectives and achieving outcomes efficiencies for all parties.

Simon Edwards, North East Water

This was an excellent seminar, and great to see it being cosponsored by WIOA, VicWater and Department of Health to share experience across the industry.

Grace Rose-Miller, Yarra Valley Water

Steve's seminar clearly demonstrated how easily water supplies can become contaminated unless appropriate procedures and safeguards are not only put in place, but strictly adhered to. It also emphasises how important it is for those responsible for water treatment processes to clearly understand the critical nature of these procedures and safeguards if they are to be performed correctly.

Graham Smith, Fluidquip Australia

10 COMMANDMENTS FOR SAFE DRINKING WATER

Ensuring Safe Drinking Water - Learning from Frontline Experience with Contamination.

Steve E. Hrudey & Elizabeth J. Hrudey. 2014.

© American Water Works Association.

1 Never say never!

Contamination can strike any system. The test for you will be how quickly you recognize trouble and deal with it effectively.

2 Do not underestimate the capacity of faecal (human or animal) waste to make water unsafe.

Ample evidence proves how remarkably little faecal waste is needed to seriously contaminate drinking water.

3 Learn from experience - do not just survive it.

Learn from your mistakes and from those around you.

4 Make sure you understand why you must comply with regulated requirements.

If you only do things because you are told to, you are well on your way to complacency and worse to come.

5 Recognize when you do not understand what is happening.

Admit it and seek help to understand.

6 Treat water operations like defensive driving.

Expect mistakes by others.

7 Do not overlook the obvious.

If your plant is so poorly maintained or filthy that a reasonable person would not consider eating food there, you should not expect a rational person to have confidence in your ability to produce safe drinking water there.

8 Maintain healthy skepticism about the first explanations of what is wrong.

If things are going seriously wrong, an unfortunate coincidence involving independent but noncritical problems may lead your corrective efforts astray.

9 Do not let others (managers, politicians) be able to pin the blame on you.

If you know that improvements are needed, document those needs in detail and bring them to the attention of your immediate supervisor.

10 Take pride in the public health responsibility that you carry and maintain.

Our society generally takes drinking water for granted, but you must recognize and make sure your family and friends understand that all those involved in ensuring delivery of safe drinking water are in the front line of protecting public health.

2015 WEEKEND SEMINAR & AGM

With a long drive ahead of us myself & John “Navman” Harris set off for Mulwala to attend the WIOA AGM & Weekend Seminar. It was clear to see along the journey that we are in a lucky part of the state as it didn’t take too long to see dry lakes, dams & creeks reminding us that we really need rain.....and a lot of it. We realised not far from the mighty Murray River just how reliant we are on water when everything turned to green again! After a quick round of golf it was off to our committee meeting before retiring for the night.

As midday approached on Saturday familiar faces started to appear and find their assigned groups randomly issued at registration. The friendly banter was interrupted only by the arrival of lunch. The AGM was conducted with our new President Ryan McGowan from Goulburn Valley Water duly elected, along with some fresh faces on the committee in Neil Crossing & Heidi Josipovic. The fantastic work of retiring committee members Russell Mack and John Day was recognised. Both have served terms as President, in fact Russell has had two terms, overseen various subcommittees and represented WIOA on various industry focus groups in Australia and New Zealand. We hope they will remain active members in the future.

With the AGM over, Dallas Barker from SFI Australia Valvemax was the first of our speakers for the day with a presentation on automated valve operators. Titled, valve exercising, is it the forgotten maintenance key?, Dallas discussed the benefits of a regular valve working program utilising mechanical valve operators. After watching a video it was outside to see the machinery first hand. Who knew the number of turns to shut a valve was 3 times the nominal size, (in inches), plus 2 or 3 to make sure?

We arrived back in the room to find Hannah Instruments, Dierdre Gallivan and Corinne Winch had been very busy mixing up containers of concoctions for us to test. Dierdre ran us through the science of pH and we were able to see just what beer, gin, wine, milk and plain old water would do to our stomachs if we overindulged! We were also able to determine how buffering capacities of different consumable products can have a huge effect on the pH and taste.

Malcolm Baird from Pelican Products introduced us to the great range of storage containers for a wide variety of tools & instruments. If it’s likely to be driven over, dropped from the top of a silo or immersed in water, this is the product for you that will safely contain whatever you put inside.

To finish off the day, Jason Mullins gave us all a presentation of the relationship between North East Water and WIOA. It was clear to everyone that the level of involvement through committee representation, support of events with paper and poster presentations, helping out or just turning up as delegates is second to none. It was fantastic to see Jason acknowledge not only the current workforce but also the people that are no longer at North East Water in his presentation for their help to get them where they are today.

After a rest and shower we were back to the club for pre-dinner drinks and nibbles, where we could get “Hot pies”, someone wanted to be a millionaire, another loved to be photographed and we even had ourselves an Italian speaking waiter. It didn’t take all that long to realise these were the first timers at the Weekend Seminar undertaking the ice breaker challenges that had been set. The dinner was a great time for everyone to catch up before Eddie arrived to welcome us all to “Who wants to be a Millionaire”. It was a tense session of Q & A but sadly Eddie Mullins ran away with the huge cheque, as no one knew the correct answer to the final question.

After a late night (for some), it was time for breakfast and the traditional Sunday morning quiz before we all headed outside for a demonstration of a drone by Alistair Laidlaw from North East Water. Alistair ran us through the operation of the drone, its capabilities and purpose before handing the controls over to a lucky few to have a go at operating it. Luckily he was able to snatch the controls off Tolsh before he took on the river redgum or the rotunda.

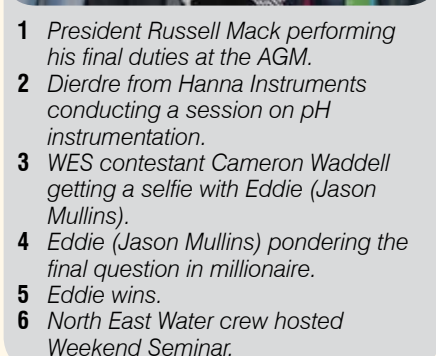
After checking out of the hotel, some made their way home while others went on a tour of the Lake Mulwala weir hosted by Goulburn Murray Water. It included a demonstration of the fish ladder that allows the fish to move along the mighty Murray. When raised, onlookers were thrilled to see a variety of sizes of fish that included Yellow Belly’s, Murray Cod and the odd carp or two.

With that it was goodbye to all, and on the road for the 7 hour trip home. The “Navman” had a doze for a little while and we didn’t get lost, so that was a bonus. When he woke up we talked about the weekend and couldn’t fault a thing. The presentations were interesting & interactive, the food was good and the trivia quizzes and entertainment were excellent. Congratulations to the North East Water crew who hosted the weekend, you all did an exceptional job and have really set the bar high for the rest of us to follow!

Contributed by **Anthony Evans**, Wannon Water



Weekend Seminar attendees out the front of Club Mulwala.



TASWATER UPGRADES

TasWater is currently carrying out a full review of recently released research into Pioneer's water supply, which claims to have identified the source of lead.

TasWater and previously Ben Lomond Water, has carried out rigorous testing of heavy metals in the town's water supply since June 2010. When the presence of lead was identified, the Department of Health and Human Services took action to protect the community by introducing a public health alert.

CEO Michael Brewster says there are elements within the Macquarie University study which need to be challenged but a full analysis of the findings will take some time. "We are seeking independent verification of the science and findings of the report and will share this information when we have it," Mr Brewster said.

He says in terms of providing residents with an alternative and safe drinking water supply, TasWater is continuing its programme of service replacement. "In line with community backing, we will continue to install new water tanks at local properties with the reticulated system to be maintained for garden watering and other purposes."

TasWater acknowledges the installation of water tanks is taking longer than hoped but as each installation is different and involves the upgrade of roof gutters and household plumbing, service replacement can take time.

Some residents too are still to sign contracts to enable the process to commence. Mr Brewster says water quality issues are not unique to Tasmania with many small towns across Australia experiencing problems with their supply, be it caused by limited rainfall, poor quality catchments or inadequate storage and distribution infrastructure.

"In Tasmania, since the reform of our water supply system in 2009, close to half a billion dollars has been spent on improving water and sewage networks," Mr Brewster said.

This financial year TasWater is spending \$90 million in upgrades with \$330 million scheduled to be spent over the next three years. This will see the number of towns covered by boil water notices or do not consume alerts being reduced from 26 down to eight in the next eighteen months.

In the north east of Tasmania alone this funding will see a new pipeline and water treatment plant installed for the towns of Ringarooma, Branxholm, Derby and Ledgerwood; all will have fully treated water by the end of next year.

Contributed by **Simon Pilkington**.

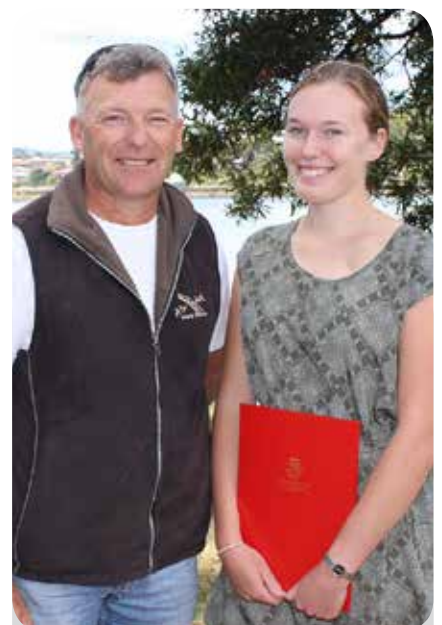
STEVE BALCOMBE 2015 SCHOLARSHIP AWARDED

In honour of the inaugural Hobart Water chairman, Steve Balcombe, TasWater has continued to offer the Steve Balcombe Scholarship each year.

TasWater congratulates Mae Farrell from Scottsdale as the winner of the 2015 scholarship. Mae is studying a Bachelor of Applied Science, majoring in Environmental Science.

Mr Balcombe was an engineering graduate of the University of Tasmania and a pioneer in the Tasmanian water industry. He had a distinguished career in Tasmania before his premature death in March 2001.

The scholarship also allows recipients to gain insight and experience in the water industry and participate in real projects with real outcomes to improve the delivery and quality of water, protection of the environment and to improve the essential services we all take for granted. Past recipients have worked on important projects within TasWater and several have progressed to successful careers within the water industry.



Mae Farrell, winner of the Steve Balcombe 2015 Scholarship with her father Rob Farrell.

QUEENSLANDERS BOWL THEM OVER IN YANDINA

The 2015 WIOA Qld Charity Bowls Day at Yandina has been run and won for another year and as always, it did not disappoint. This was my second WIOA Bowls day and planning for this day began in the car on the way home from last year's event. We developed a cunning plan to convince someone to drive us this year so we could enjoy the day's festivities to the fullest. The plan went off without a hitch and we managed to find a sucker/driver, which happened to be me.

The day was a great networking opportunity for meeting new people and catching up with mates from within the industry. Once the bowling started, there was the usual mix of skill, luck, creative captaincy and good natured sledging which brought out the best in some and sent some others back to the drawing board.

Unfortunately, there could only be one winner and the 2015 title went to Team McBerns comprising of Noel, Lloyd and myself. We fought off a rampaging effort from Team KSB who were consistent throughout the day but could not match the poise and experience of the McBerns Team in the final.

Congratulations to everyone who took part in this day whether you came first or last. And speaking of last place, it seems we have a bowler from last year who just can't give up the bunny ears. There's always next year John.

In the end, a fun day was had by all with heaps of laughs, a good feed and countless prizes given away to the punters and raffle winners. More importantly there was over \$1000 raised for charity on the day, which is a credit to the WIOA team. Can I also mention the hospitality of the staff and volunteers from the Yandina Bowls Club which was outstanding. If there is a better day of networking with some bowls and a few beers whilst raising money for people less fortunate, then I'd love to hear about it.

See you all next year.

Contributed by **John Haviland**, KSB Pumps

Editor's Note: *John Haviland has gone from wearing the Bunny ears himself in 2014 to the winners circle in 2015. There is hope for us all!*



- 1 Ben bounces a bowl down in the Grand Final
- 2 Grand Finalists Noel from McBerns and Ben from KSB face off just before the Grand Final.
- 3 QLD Advisory Committee Chairman Marcus Boyd trying to herd the cats at the bowls day.
- 4 Team McBerns captain Noel Southern lifted up in celebration of their victory.

QLD & NSW GET ALONG & SHARE INSIGHTS

State of Origin rivalries were put aside on 7th May 2015 when Unitywater Maleny STP Operators, Glenn Carroll and Matt Ball showed off their new \$17million MBR-Wetlands plant to a group from the Goulburn Mulwaree Council. The tour was organised by Christopher Harpham of GE Membranes and showcased the innovative award winning design.

This will hopefully open doors for more interstate sharing of technology and ideas, which can only lead to greater benefits and savings to the business and the communities.

The following notes were contributed by Grant Moller, Director Goulburn Mulwaree Utilities

Goulburn Mulwaree Council is currently going through the process of Upgrading the Goulburn Wastewater Treatment Plant. The new plant will be approx. 33,000EP in size and \$35M in cost.

We have engaged Hunter H2O to prepare the detailed design. At present we are visiting a few wastewater treatment plants of similar technology to that proposed at Goulburn to get an understanding of what the local plant operators and engineers like or dislike about their plants. It has been a very good process so far.

I'd like to take this opportunity to thank Glenn and Matt for their detailed tour of the Maleny Sewage Treatment Plant. Their knowledge of the process and issues of this plant were excellent and much appreciated. It is obvious that the Maleny plant is well looked after by staff who have a lot of care and passion about what they do. The tour was thoroughly enjoyable and we gained a lot out of the experience.

The Unitywater boys will be presenting a paper on the Maleny STP Upgrade and Community Wetlands at this year's WIOA Qld Conference Toowoomba June 17-18 and look forward to seeing you all there!

Contributed by **Glenn Carroll**, Unitywater



From left to right: Ramraj Kulkarni Treatment Plant Engineer (Unitywater), Marina Hollands Manager of Water Operations (Goulburn Mulwaree Council), Adam Kiss Manager of Infrastructure (Goulburn Mulwaree Council), Grant Moller Director of Utilities (Goulburn Mulwaree Council), Matt Ball Operator (Unitywater) and Glenn Carroll Operator (Unitywater).



ROSNY SEWERAGE TREATMENT PLANT, TASMANIA

The Rosny Sewerage Treatment Plant (featured in this edition's Birds Eye View on page 12-13) was built around 1958, prior to adjacent housing development. The plant has had many additions over the years. The original plant included a mechanical screen, aerated grit chamber, three primary clarifiers and two digesters. Primary treated wastewater and digested sludge were discharged into the Derwent River.

During 1998, augmentation works included addition of one micron drum screens, inlet pumping, inlet storm balancing, a Trickling Filter solids contact stabilisation process, sludge press and Chlorine disinfection.

As Rosny STP is located within 40 metres of the nearest residence and 10 kilometres from fertile agricultural land, further additions were made to meet environmental expectations. Recent additions have been an effluent reuse system to agriculture and an activated carbon odour scrubber.

Plant Description

Untreated wastewater is delivered to the plant via the Warrane and Rosny gravity sewers and pumped rising mains from Bellerive, Howrah and Montague Bay to a common inlet pit. Liquid Oxygen and Magnesium Hydroxide is dosed at the pumping stations for odour control.

From the inlet pit the wastewater flows by gravity through in-channel drum screens and vortex grit removal systems to the inlet pump station. The flow is measured and recorded continuously. From the inlet pump station the wastewater is lifted to the trickling filters where about 60% reduction of BOD takes place. The wastewater leaving the trickling filter flows by gravity to the solids contact tank where the wastewater is aerated and brought into contact with re-aerated return activated sludge. This process removes an additional 76% of BOD. Mixed liquor is continuously displaced from the solids contact tank to the clarifiers, where the flocculated solids are allowed to settle. This produces a thickened sludge for recycle and a clear supernatant for discharge. Prior to discharge,

agricultural reuse effluent is disinfected and passed through a nominal 10 micron filter. Sludge is lime stabilised then applied to agricultural land.

All processes on-site that are likely to release odours are covered. Odorous air is collected and scrubbed by passing through a Sodium Hydroxide scrubber then an activated carbon scrubber. The AC scrubber was added during 2014.

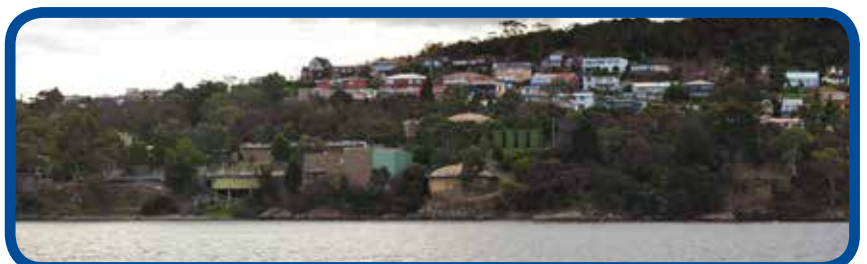


Rosny AC odour scrubber.

BIRDS EYE VIEW - Facilities Members Operate

Rosny Wastewater Treat Plant, Hobart, Tasmania

- 1 Recycled effluent pump room
- 2 Chlorination building
- 3 Contact tank
- 4 Effluent micro filter
- 5 Agricultural reuse pump room
- 6 Redundant digesters
- 7 Office and amenities
- 8 Sludge processing (lime stabilisation)
- 9 Fitters workshop and stores
- 10 Secondary clarifiers
- 11 Solids contact and reaeration tanks
- 12 Aeration tank blower and sludge thickening room
- 13 Inlet screening /grit removal and Influent pump room
- 14 Inflow storm balancing tank
- 15 Location of new AC odour scrubber
- 16 Redundant soil bed odour scrubber
- 17 Biological trickling filter
- 18 Chemical odour scrubber



TasWater



Design Loads

Population	35 000 ep
ADWF	10.2 ML/d
PDWF (2.5 x ADWF)	25.5 ML/d
PWWF (4.5 x ADWF)	1909 kL/h
BOD	2940 kg/d
NFR	2940 kg/d
Plant Design Temperature	9 °C
Hydraulic Design Loading to Treat PDWF	25.5ML/d





2015 NSW CONFERENCE REPORT

PCYC on 25 & 26 March 2015. In total, 620 people attend the conference and exhibition, and it was well supported by the Orange City Council who hosted the event. Delegates and day visitors from more than 50 NSW councils and service providers attended.

The 9th Annual WIOA NSW Water Industry Operations Conference and Exhibition was staged at the Orange

Delegates were officially welcomed by the Mayor of Orange, Councillor John Davis, and the conference keynote address was delivered by Meredith Macpherson from Centroc who discussed their nexus between energy and water project.

The conference culminated in the Awards Dinner on Thursday evening where Glenn Clifford from Dubbo City Council was named winner of the 2015 NSW Operator of the Year. The locals, Orange City Council were awarded bragging rights for having the Best tasting Water in NSW after winning the IXOM taste test.

NSW CONFERENCE 2015 WINNERS



Glenn Clifford (R), with Gary Mitchell from the NSW Water Directorate.



Kim Sheree (L), winner of Best Paper by an Operator with Alex Maderasi from Ecolab.



Kate Smith (R) from ACTEW with Ian Jesson from Iwaki Pumps after winning Best Paper Overall.



Lindsay Walsh (L) with Michael Hansen from CleanTeQ Aromatrix, winners of Best Exhibition Site.



IXOM NSW 2015 Water Taste Test Winner, Orange City Council



1



2



3

2015 NSW CONFERENCE REPORT

NSW CONFERENCE 2015 WINNERS

NSW Operator of the Year

Glenn Clifford from Dubbo City Council

Ecolab Prize for Best Paper by an Operator

1st **Kim Sheree** from Veolia Water

2nd **Bob Palmer** from Port Macquarie-Hastings Council

3rd **Craig Stone** from MidCoast Water

IWAKI PUMPS AUSTRALIA for Best Paper Overall

Kate Smith from ACTEW Water

WIOA Conference Charity

\$1,500 presented to **Foodcare Orange**

Ron Bergmeier Award for Best Exhibition Site

Won by **CleanTeQ Aromatrix**, with honourable mentions to Krohne Australia and VOR Environmental

PASS Award 2015

Frank Rinaldo from North East Water

IXOM NSW 2015 Water Taste Test – Winner

Orange City Council

IXOM NSW 2015 Water Taste Test – Finalists

- Bega Valley Shire Council
- Orange City Council
- Port Macquarie Hasting City Council
- Tamworth City Council

FEEDBACK FROM DELEGATES

As I am only able to attend the Conference every third year, due to sharing with other operators, I have found that the evolving technology of equipment, tools and instruments to be greatly improved from my last attendance. The papers by operators were informative and a helpful aid, if the same incidents happen in or around my own plant. Thanks WIOA!

Les Potter, Coffs Harbour City Council

Attending a WIOA Conference for the first time, I found the event to be very informative and a great opportunity to meet with existing contacts and make new ones.

Mark Halliwell, Taggle Systems

Being my first WIOA Conference I had no idea what an impact it would have on me to be an integral part of such an important industry. It made me proud to be a participant and to highlight meeting such lovely people who have such a passion for their roles in the industry.

Juliet Robert, IDEXX

I loved the water meter presentation with photos of the dangers of reading meters showing a “gopher”. Plus the meters hidden caged off with the comment no one has this in their shire. All experiences we endure on the job.

Roland Heatley, Moree Plains Shire Council

It is a conference of the operators by the operators for the operators. Real life issues with real life solutions.

Vince Ridley, Tumut Shire Council

Once again WIOA hits a home run with this conference. A must attend for any water industry operator.

Bob Palmer, Port Macquarie Hastings Council

The opportunity to make face to face contact with sales reps instead of phone calls was a refreshing change. Along with the prospect of seeing future ideas was invaluable to the challenging direction of the industry.

David Scott, United Services Union



- 1 Some of the participants at the tour of the Icely Road WTP on Tuesday.
- 2 Adrian Nisbet from Automation group officially opened the NSW Exhibition.
- 3 Keith Scott entertains the crowd on Wednesday Evening.
- 4 Rod Norman demonstrating some of the Piping & Automation Systems products.
- 5 Contestants trying their luck in the conference competition.

NSW OPERATOR OF THE YEAR

Glenn Clifford from the Dubbo City Council was awarded the prestigious NSW Operator of the Year award at the WIOA NSW annual conference. The annual award is presented to reward excellent performance, initiative and all round attention to detail by an operator of a water or wastewater treatment facility.

Glenn has been operating treatment plants as a career for more than 30 years, and at Dubbo since 2003. In 2009, he was appointed as the Head Operator (Supervisor - Treatment) after an exemplary five year period as Operator.

Having been an Apprentice Operator from his first day out of school, Glenn graduated with a "Craftsman's Certificate" in November 1988 and appears to have been a true craftsman in his chosen field ever since.

During his 11 years at Dubbo, Glenn has been a team member or team leader of outstanding quality and ability. He has introduced a number of innovations and is committed to training and WHS standards. Glenn is extremely highly regarded by his Manager and supervising Operations Engineer.

Dubbo City Council noted in their nomination that "Glenn is a reliable and proactive Operator in whom we place our absolute trust. Several times he has been tested in emergency situations (pigeon infestation in a reservoir in 2007, non-availability of chlorine in 2010, imminent uncontrolled overflow from a sewage effluent pond in 2012), and each time Glenn met the challenge and overcame it."

In addition to his trophy, Glenn was funded by the NSW Water Directorate to join the WIOA New Zealand trip as a delegate. The trip includes a study tour of various water and wastewater treatment plants as well as attending the WIOG NZ conference. All airfares and accommodation are included in his award.

The judges are always very impressed with the high quality of operators in regional NSW and the Water Directorate would like to congratulate this year's other nominees: Kevin Creighton from Walcha Shire Council and Warren Nazzari from Coffs Harbour City Council.



Glenn Clifford from Dubbo, NSW Operator of the Year 2015.

NSW CONFERENCE – EXHIBITOR PERSPECTIVE

First of all we wanted to express a huge thanks to the WIOA committee and volunteers for making us feel extremely welcome as a new exhibitor at a WIOA event! It was a terrific conference, which was well run, interesting and very enjoyable.

The whole experience enabled us to engage with exhibitors and delegates with similar interests which is always inspiring and is fantastic for the business! It was great finding out about the new technologies and products relevant to the water industry and of course enjoyed some fabulous hospitality and beautiful food! Also participating in the water taste testing was a new and fun experience for us.

Overall it was a great experience enjoyed by all the staff that attended from the Cadia Group and we are looking forward to attending future WIOA conferences! Contributed by **Amanda Warren-Smith**, Cadia Group



ORANGE HAS BEST TASTING WATER IN NSW



IXOM



1 The very excited team from Orange City Council.

2 The taste test judges had the tough job of selecting the winner.

3 Representatives from the 4 finalists of the NSW water taste tests with Tony Cavanagh from IXOM (Top).

4 NSW Advisory Committee Chairman Lindsay Walsh pours the samples at the heats of the taste test.

Orange was announced as the winner of the IXOM 2015 NSW Water Taste Test at the Awards Dinner held on the Thursday night of the WIOA NSW Operations Conference.

The finalists were chosen using a “Masterchef” style tasting on Tuesday evening by delegates at the welcome reception. The four finalists were: Bega Valley Shire Council (defending their 2014 title but with a different sample), Orange City Council, Port Macquarie Hastings Council and the Tamworth Regional Council.

On behalf of Orange City Council, Icely Road Water Treatment Plant manager Jon Francis said winning the competition was due to his dedicated team’s hard work. While the plant has high-tech systems including ozone treatment and biologically-activated carbon (BAC) filters not often seen in regional plants, the defining factor behind Orange’s water quality was the plant’s four workers.

Working as a team to contribute to the constant running of the plant is important. We’ve done a lot of work on the filters recently. The guys are constantly tinkering with things to optimise the plant. There is always something to improve, he said of the win.

The plant processes approximately nine megalitres of water a day, pumped from Suma Park Dam, treated with chemicals and filtered. Each day workers check water quality, clean filters and make sure the storage tanks and booster pumps around Orange are in good condition.

Senior water treatment operator Glen Wicks identified the most satisfying part about his job was knowing that Orange residents had access to clean, safe water. Just seeing the quality of water from when it comes up from the Suma Park Dam to when it gets pumped out the other end to the community of Orange, it’s amazing the difference in quality.

As part of the WIOA Qld Conference in June, the Orange City Council will represent NSW in the IXOM Water of Origin Taste Test against the Richmond Shire Council, winners of the **qldwater** Best of the Best Water Taste Test. The score is currently one win apiece for NSW and Qld so one state will take the lead on 17 June when the winner is announced.

NATIONAL WATER ACCOUNT 2014



The Bureau of Meteorology has released another instalment of its annual National Water Account. The latest set of regional reports reveal:

- Increased production of desalinated water in 2013–14 allowed Adelaide to reduce its dependence on other water sources, with overall supply volumes remaining similar to 2012–13.
- The Melbourne region conserved water in local storages in 2013–14 by sourcing more water from the Thomson Reservoir—more than five times the volume sourced in 2012–13.
- Runoff to Sydney's water storages was 54% lower than in 2012–13, and the overall storage volume decreased from 98% to 83% of capacity. However, desalinated water was not used to supplement supplies, as the trigger point of 70% was not reached.
- South East Queensland water storages reduced to 89% of capacity, after being near full in June 2013, due to much lower rainfall during 2013–14. Surface water and groundwater abstractions increased to compensate for belowaverage rainfall and streamflows.

Reports for the Adelaide, Melbourne, South East Queensland and Sydney regions join those for Canberra, Daly, Ord and Perth online at www.bom.gov.au/water/nwa/2014.

The Murray–Darling Basin report will be published mid-year. The National Water Account provides detailed insight into Australia's water resources at the national and regional scale for the previous financial year for nine nationally significant water use regions. It discloses information about water stores and flows, water rights and water use. It reports on the volumes of water traded, extracted and managed for economic, social, cultural and environmental benefit.

The reporting regions are home to more than 80 per cent of Australia's population and more than 70–80 per cent of Australia's total annual water consumption.

The National Water Account is prepared by the Bureau in partnership with many collaborators, including State and Territory governments, agencies, water utilities and other water agencies.

The Bureau is committed to the continuous improvement of the National Water Account and welcomes all feedback.

This year, improvements have been made to the structure of the region accounts, to provide better visualisation of the region's water flows, assets and liabilities. It contains less text, and more schematics and graphs, with some of the underlying data available as downloadable files.

For more information please visit www.bom.gov.au/water/nwa.

BUREAU CONFIRMS TROPICAL PACIFIC NOW AT EL NIÑO LEVELS

The Bureau of Meteorology's latest update on the El Niño–Southern Oscillation (ENSO) confirmed on 12 May 2015 that El Niño thresholds have been reached in the tropical Pacific for the first time since March 2010.

Assistant Director for Climate Information Services, Mr Neil Plummer, said El Niño is often associated with below average rainfall across eastern Australia in the second half of the year, and warmer than average daytime temperatures over the southern half of the country.

"The onset of El Niño in Australia in 2015 is a little earlier than usual. Typically El Niño events commence between June and November," Mr Plummer said.

"Prolonged El Niño-like conditions have meant that some areas are more vulnerable to the impact of warmer temperatures and drier conditions.

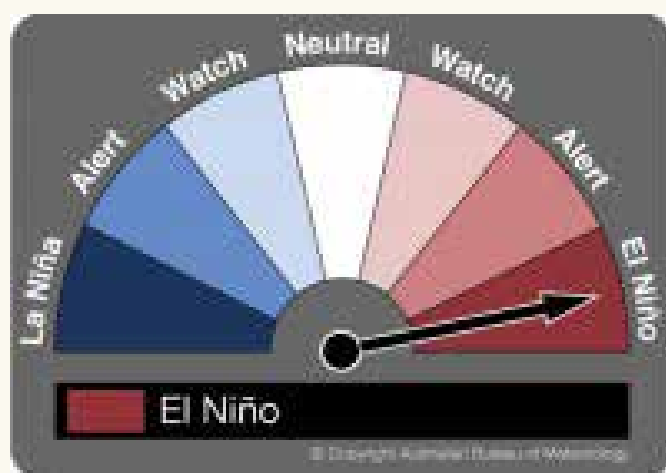
"The failed northern wet season in 2012–13, compounded by poor wet seasons in 2013–14 and 2014–15, have contributed to drought in parts of inland Queensland and northern New South Wales," he said.

Mr Plummer noted that while the El Niño is forecast to strengthen during winter, the strength of an El Niño does not necessarily correspond with its impact on Australian rainfall. Australia experienced widespread drought during a weak El Niño in 2006–07, while stronger events such as the El Niño event in 1997–98 had only a modest impact on Australian rainfall.

"Recent significant rainfall and flooding along the east coast of Australia, associated with two almost back-to-back East Coast Lows, did not penetrate far into inland regions and therefore have done little to alleviate conditions in drought affected areas," Mr Plummer said.

While El Niño increases the risk of drought, it does not guarantee it; of the 26 El Niño events since 1900, 17 have resulted in widespread drought. Despite El Niño increasing the likelihood of drier conditions later this year, the Bureau's May to July Climate Outlook indicates much of Australia is likely to be wetter than average.

This is being driven by warmer than average Indian Ocean sea surface temperatures, which are dominating this outlook.



AUSTRALIAN- FIRST PROJECT TO HARNESS THE POWER OF WATER

Homes on the Sunshine Coast could be powered by water in the near future if a new Australian-first hydroelectric turbine project proves successful.

Unitywater is working with Nextera Energy to install two micro hydro electric generators that have been developed by Nextera Energy into the water network to capture lost energy and convert it into renewable green electricity.

Unitywater Manager Technologies Barry Holcroft said the innovative project is expected to commence generating electricity from May 2015 and is forecast to produce about 1.7GWh of energy a year.

"That's the equivalent of powering 212 Sunshine Coast homes for a year," Mr Holcroft said.

The generators are being placed within the water network where water pressure has to be reduced to ensure that it is suitable for use in local homes and businesses. A by-product of reducing this pressure is dissipated energy which is simply 'burned off' in the forms of noise, heat and vibration.

"By harnessing this energy, which was quite literally disappearing into thin air, we can sell it creating revenue that will help offset Unitywater's energy costs, contributing to a sustainable future for our community."

Nextera Energy CEO Paul Camilleri said the company and its investors were funding the ground breaking project because of Unitywater's commitment to a long term partnership arrangement and would share a percentage of generated revenue with Unitywater.

"By using these 'Pressure Reduction Generators' (PRG) we're helping to offset Unitywater's electricity costs without damaging the environment," Mr Camilleri said.

"This is about changing the way we think about our drinking water, specifically in terms of hydroelectricity. The opportunities for us to install these turbines within water pipelines across Australia are endless, and who knows, maybe one day the water from your taps may even be able to power your house."

Mr Holcroft said Unitywater would continue to assess additional locations across the Unitywater network where similar technologies could be implemented.

"It makes sense to work with Nextera Energy to explore additional opportunities to generate energy from our everyday operations," Mr Holcroft said.

Contributed by **Rebecca Marshall**, Unitywater



Similar pumps by Nextera Energy's Turbine suppliers, KSB in Germany that are already installed.

SEWAGE BREWAGE: MAKING BEER FROM WASTEWATER

Some companies boast of making beer with spring water from majestic mountains.

They won't be competing in the upcoming Pure Water Brew Challenge, in which an Oregon (USA) wastewater treatment operator has asked home brewers to make great-tasting beer from hops, barley, yeast and the key, not-so-secret ingredient: treated sewer water.

Clean Water Services, a wastewater operator in Washington County, is holding a competition this summer that will enlist 10 home brewers to use recycled water to make beer.

The competition may help shine a light on the importance of recycled water.

"We need to be judging water by its quality, and not by its history," said Mark Jockers, a spokesman for Clean Water Services. When it comes to making beer, recycled water may actually have an edge on tap water because of how the brewing process works.

"The water that comes from the high purity water system is the cleanest water on the planet," Jockers said. That's meaningful because cleaner water creates better beer.

Though some might find toilet-to-tap totally gross, places from Singapore to parts of California and Texas use treated effluent for drinking water, generally mixing it into the regular supply.

There were some regulatory hurdles the competition had to jump through before it could get off the ground.

"The Department of Environmental Quality allows recycled water to be used for drinking purposes, but only if it goes through a specific process that includes approval from state and national agencies, as well as a public hearing. State officials told KGW the brewers are following this process".

Clean Water Services has held the same competition in the past.

Thirteen brewers crafted 16 styles of beer using water from the Tualatin River, including 30 percent effluent from Clean Water Services' upstream wastewater treatment facility. The source water was further treated by Clean Water Services, beyond drinking water standards, and then offered to Portland-area home brewers to concoct the best beer possible.

Contributed by **Bernd Vetter**, Evoqua Water Technologies (adapted from: www.kgw.com)



Now I understand why we say in Australia 'to get pissed'

WATER INDUSTRY TRAINING CENTRE NEWS



The Water Industry Training Centre announced in February that it will not be re-registering as an RTO when its current registration with ASQA expires on the **30 June next year**.

It is anticipated that the training provided by the Centre will continue to be available to Water Industry clients through a new enterprise operated by Stephen Wilson. It is Stephen's intention to offer similar quality training programs after this date with assistance from the remaining staff either by setting up a new RTO or through a partnership arrangement with another training provider. Planning and discussions are presently underway in this regard.

You might also be aware that the current Water Training Package (NWP07) will be superseded when a new Package is endorsed as expected sometime this year. The Centre will be able to finalise and award qualifications under NWP07 until 30th June 2016 under the teach out provisions of the Package.

Any trainee who has completed training with the Centre in recent times should review their training records and if desired, contact the Centre for a Training Plan. The Centre is able to provide Training Plans which set out relevant Units which could be used to qualify for a Certificate II, III or IV in Water Operations and also summarises training completed and outstanding requirements needing attention to finalise the qualification.

You should check training modules you might have undertaken but not completed, eg. you might not have submitted Workplace Evidence Reports to enable the award of Statement/s of Attainment. You are encouraged to either complete the requirements or contact the Centre to discuss how these requirements can be completed. It will not be possible for the Centre to issue Statements of Attainment and Qualifications after June 2016.

Further, any organisation wishing to have any training needs met within this time period (other than currently ongoing training programs) should contact the Centre to enable suitable scheduling arrangements to be made.

It is important to be aware that, as an operating RTO until that time, the Centre intends to continue the provision of training through its regular Training Schedule until April 2016.

If you have just commenced studies under the Water Training Package and will not be able to complete your studies in the above time period, you would be able to transfer your enrolment to the new Training Package and continue your studies with the new training body.

The Centre has made this announcement to enable its clients and trainees to plan and meet the requirements of their training in the time period advertised. Should you require further information or any clarification of your Training Plan, please do not hesitate to contact

John Park (parky@deakin.edu.au) or
Stephen Wilson (wilsons@deakin.edu.au) or
Telephone (03) 5227 2301.

GETTING THE RIGHT FILTER NOZZLES CAN BE CHALLENGING

For maintenance engineers around the country, keeping water filtration systems in good working order can be difficult, particularly in the case of older systems. Not only is there a wide diversity of filtration systems in use throughout Australia, there is also substantial variations in the types of filter nozzles used.

Tecpro Australia's large and flexible range overcomes repair and maintenance challenges, with filter nozzles available to meet any specification.

"In our work we come across massive differences in the types of filter nozzles in use," said Graeme Cooper, Managing Director of technical solutions specialist Tecpro Australia. "There are many variations in slot widths, thread and stem sizes as well as the material the nozzles are made from. When you're replacing them, it's vital to have a close match for their dimensions and also to ensure the fabrication is suitable for local conditions."

Mr Cooper said the materials used in the construction of filter nozzles affect how well they perform in different operating temperatures, and how well they withstand chemicals and general wear and tear.

"Our range includes filter nozzles constructed from stainless steel and standard polypropylene, as well as different specialised formulations to offer increased strength, durability and chemical resistance. These include glass-filled polypropylene, mineral-filled polypropylene and polyvinylidene fluoride, or PVDF as it's known," said Mr Cooper.

Tecpro advises on the best choice of filter nozzles for all types of applications including water treatment plants and municipal pools throughout Australia.

"We've never met a filter nozzle challenge we couldn't solve," said Mr Cooper. "Our range is available in 22 different models, 8 standard stem lengths, 8 types of thread and 10 different slot widths, and we can even arrange for custom filter nozzles to be manufactured if necessary. As a result we can find an accurate match for any system of any age."



The filter nozzles distributed by Tecpro are made in Italy by ILMAP, a company with more than 40 years experience in designing and manufacturing filter nozzle solutions for water treatment systems in Europe and around the world.

"The ILMAP filter nozzles are precision-made and are highly regarded for the reliable dimensional accuracy of their slot sizes, which prevents the passage of particles," said Mr Cooper. "Of course getting the best outcome starts with having expert advice to help you choose the model that will capably deal with the demands placed on your system."

The technical team at Tecpro can advise on and recommend the optimal choice in filter nozzles for a wide variety of systems.

More information via the Tecpro website: www.tecpro.com.au.

STORM

Season
IS HERE

ITS STORM SEASON DO YOU HAVE SPARES?

As we are in the midst of storm season Automation Group support staff are finding that many customers either don't have spares for their system or don't know if their spares actually work. Have you asked yourself the following three questions lately?

1. **Do I have spares for my critical sites?**
2. **If I do have spares are they known working units?**

Many times customers swap out an RTU or radio (or both) to get a failed site on line again. The suspect units that were removed are often left sitting on a table or bench. They sit there for a couple of weeks and are forgotten until someone puts them back to the spares pool without being tested. It may be faulty, but no one really knows for sure. Some time in the future, another site fails and you need to grab the radio or RTU from the spares pool and it doesn't work. You assume that it was a good unit so something else must be wrong so you start changing other components to try and fix the problem. Staff get frustrated and tempers are frayed as both time and money is wasted chasing your tail due to spares not being controlled.

3. **Am I accumulating faulty units?**

Don't wait until you have no working spares left. Send them back to us as soon as you can. We can assess them and let you know if they just require reprogramming or whether repair/replacement is required. If you need some spares or have doubts about the status of your current spares let us know and we can give you a price for spares or send us some of your spares and we will assess them for you. (This assessment time can be booked against your support agreement where applicable). If you are using Radtel 8000 series RTUs, did you know that (like many other RTUs) they contain a lithium battery that allows important data to be retained? These batteries can last up to 10 years from the date of manufacture after which they should be replaced. If not, in the event of a complete power failure (including the external backup battery) some configuration data such as Peer to Peer configuration can be lost. This means that if you have an 8000 on a reservoir that needs to send a tank level or a water called signal to an associated pump station then your pumps may not start after a medium term power failure. You will need to manually reload the configuration data.

Contributed by **Adrian Nisbet**, Automation Group

NEW MONSTER INSTALLED

The Baranduda Waste Water Treatment Plant (WWTP) is located approximately 11km south east of Wodonga in Victoria. It was constructed in 1990 and currently services a population of approximately 1700 and two small to medium sized industrial facilities. There are also plans for approximately 1000 additional house lots in the catchment area over the next 10 years.

The existing plant comprises a partially aerated primary lagoon, secondary maturation lagoon, winter storage and a pump station which returns excess treated effluent to Wodonga. An inlet structure and a capability to screen incoming effluent was not included as part of the original plant.

The accumulation of non-biodegradable material in the primary lagoon over the period since construction is now causing major operational difficulties with the lagoon aerators.

North East Water issued a Tender for a technical solution and quotation for the supply and installation of inlet screening equipment to be installed in a new inlet structure to screen the incoming effluent at the Baranduda WWTP and provide a point of diversion to facilitate the bypass of the primary lagoon.

The project was awarded to Xylem Water Solutions, with the installation of a JWCE Model ACE2410-XDS2.0 Auger Monster system suitable for 100 L/s in a 610 mm wide x 1000 mm deep channel. The new Auger Monster was installed in a newly constructed inlet structure with emergency bypass and manual screen, as well as provisions for a future channel and screen installation. The new system removes trash and unwanted solids, so the treatment plant and aeration equipment runs more efficiently and life is easier for operators.

Contributed by **Ian Moreland**, North East Water



BIOFILTRATION FOR EMISSION ODOUR CONTROL

Odours constitute the largest area of air quality-related complaints for all Australian and New Zealand regulatory authorities” (Clean Air Society of Australia and New Zealand). It is generally accepted that there is no single panacea odour control technology. However, biofiltration is emerging as a versatile solution due to its ability to adapt to a wide variety of Volatile Organic Compounds (VOCs) in that appropriate bacteria will naturally colonise biofilter media in response to the VOCs that are introduced. Early biofilters were open bed (soil bed) type facilities. They were often poorly designed, had limited media options, required high-maintenance and subsequently often delivered poor performance. Over time, soil beds evolved and improved but were still constrained by their fundamental design. The biofilter concept evolved further and was configured as a “packaged biofilter”, with the media contained within a vessel. There has now been a specific development of packaged biofilter technology - FiltaOdor.

The Principal of Biofiltration

Biofiltration is the removal and oxidation of VOC's by microorganisms. The air flows through a packed bed and the pollutant transfers into a material that is biologically active, the biomass. Microorganisms, including a consortium of bacteria

and fungi are immobilised in the biofilm and degrade the pollutant. An ideal environment must be maintained to ensure a robust biomass.

Comparison of soil beds with FiltaOdor

The following table provides a comparison of soil beds with the FiltaOdor biofilter in terms of the Key Operating Parameters. It is acknowledged that many biofilter designs have addressed some of the shortcomings of soil beds to varying degrees; however, the FiltaOdor design comprehensively addresses all shortcomings.

Contributed by **Brad Levey**, Odour Control Systems, www.odours.com.au



Similar pumps by Nextera Energy's Turbine suppliers, KSB in Germany that are already installed.

SOIL BED		FILTAODOR
Flow Velocity and rate	Airflow resistance of media restricts media depth, resulting in a large footprint to achieve the necessary media volume, and limiting where on site the soil bed can be positioned.	Very low airflow resistance of media allows a deep bed and small footprint, thus providing greater flexibility for positioning on-site.
Humidification	It is common for soil beds to rely on irrigation alone to maintain media moisture levels.	Integrated humidifier/irrigation system. Media moisture level is maintained at equilibrium via a process that allows excess moisture to fall out for recovery and recirculation. The media is not exposed to weather.
Irrigation	Typically rely on timer-based systems with lawn watering type sprinkler heads. No automated control of media moisture content.	Incorporates a “wobbler” sprayer, creating heavy droplets and an irregular spray pattern to provide even coverage. Excess moisture freely drains from the media so that saturation is avoided and optimum moisture content is maintained.
Diffusion	Typically have slotted pipes in granular bedding, subject to blocking with degraded organic media. Bark/woodchip-based media is highly bioavailable and degrades rapidly, becoming compacted and restricting air flow. Also subject to weed growth, with roots interfering with air flow and often penetrating the slotted pipes.	Airflow introduced via an unrestricted void space (plenum). Media is a combination of an organic fibre and a mineral media working cohesively to create even diffusion and moisture retention. The media has very low biodegradability.
Media Interface	If media is in direct contact with the granular bedding of the diffuser pipes, material migrates through and blocks the pipes. If a separation layer such as geofabric is used to prevent this, the geofabric itself restricts airflow.	Incorporates a cored deck separating the media from the plenum. The deck has a specific aperture size and number to ensure there is no restriction or increase in airflow velocity. The media is placed directly on the deck with no need for any other separation layer. The media does not break down and allow migration of material through the deck.
Venting	Emission capacity of the slotted diffuser pipes needs to be tuned to match the inlet ducting capacity. It also needs to be tuned for even distribution across the diffuser pipe layout.	Inlet ducting size is designed for optimum airflow, open plenum allows even distribution, exhaust is via a correctly sized exhaust vent.
Managing Environmental Variances	Open beds are exposed to seasonal temperature conditions. Wind causes variable evaporation rates that auto irrigation cannot accommodate. Media is subject to weed and vermin infestation.	The enclosed vessel facilitates a more consistent temperature average. Optimal moisture content is maintained. There is minimal seasonal impact. There is no weed or vermin infestation.

TECHNOLOGY ADVANCEMENT SOLVES PROBLEM FOR YARRA VALLEY WATER

Yarra Valley Water has over 350 network flow meters in its fleet, mainly Mag-Flow meters (95%) with the rest ultrasonics (5%). These meters are used for zone flow calculations, flow balancing, system monitoring, non-revenue water management and flow modelling.

One of these meters; a 300mm Danfoss Magflow meter located at McLeod Street, Rosanna, had ceased to function correctly. The recorded flow had been jumping from zero to over range and all points in between every few seconds causing it to report back over 400,000 events. It was subsequently disabled until a suitable replacement meter could be sourced. The root cause of the meter failure was identified as electrical interference, due predominantly to its physical location directly adjacent to a major rail junction. Cathodic Protection was also another complication at this site.



Location map and EMF Interference.

When considering a replacement meter, Yarra Valley Water needed to ensure that whatever type of meter and technology was installed it could handle the EMF interference issues present at the site; previous experience with this issue had proved that a standard Magflow meter, if earthed correctly, may have worked, but given the location and the fact the water main travelled directly under numerous rail tracks, it was felt alternative options should be considered. An answer was the installation of an ultrasonic meter, considered to be impervious to EMF / electrical interference. However, a possible issue was that the usual installation method of a Transit time ultrasonic flowmeter involves inserting the wetted face transducers through very precisely drilled holes in the side of the existing pipe. Yarra Valley Water usually only installs these types of Ultrasonic meters on mains > 600mm.

Some other issues on installing these types of meters are as follows:

- The internal condition of the pipe is generally unknown, this may cause flow variations and affect meter accuracy.
- The exact internal diameter of the receiving pipe is also generally unknown, which would have a direct affect upon the meter's performance.
- Accuracy – It was believed that an ultrasonic could not measure low flows as well as a Magflow Meter.
- They should not be installed anywhere vibration may be present.
- These types of meters do not come with a calibration certification (this guarantees that the meter was accurate at the time of a correct installation.) This is not possible with these meters as they are installed in-situ and cannot be calibrated on a certified test rig back at the factory.

The answer to the above came with a relatively new advancement in the introduction of a transit time spool pieced Ultrasonic flow meter with wetted face transducers. This met all accuracy requirements, and handled the above issues normally associated with Ultrasonic meters; including the EMF interference issue.

Yarra Valley Water contacted MJK Automation, as experts in flow measurement and also the supplier of this technology, worked through the concerns regarding the use of an ultrasonic transit time flow meter and decided to install a Picofly spool pieced Ultrasonic flow meter.



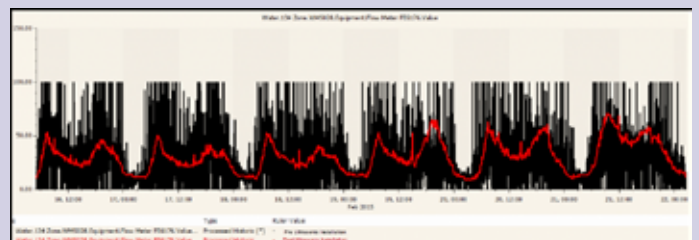
Picofly spool pieced Ultrasonic flow meter.

In the past, questions had been raised regarding the accuracy of Ultrasonic meters, especially during low flow periods. The Picofly Ultrasonic utilises quantum time transit technology. This utilises two-dimensional space-time intersection as a time scale to make the resolution

of ultrasonic transit time reach to the picosecond level. This provides:

- No blind spot time measurement
- Image resolution :1ps 1ps=10-12s
- Single measurement accuracy up to 10 ps
- Effective sampling rate > 9500 times / sec

Below is a SCADA Graph showing the classic before and after – Black is pre installation and Red is post installation. This shows a clear improvement in the performance of the flow meter with a meaningful and usable output.



SCADA Graph.

This is the first installation of this meter type for Yarra Valley Water and it is believed it may be the first time on a water distribution network within Victoria, if not nationally.

With a significant proportion of Yarra Valley Water assets around high tension power lines, rail and tram networks, various types of communication towers and Cathodic Protection systems, this is an option that should be considered to ensure the most accurate and timely information is returned from sites within the water distribution network.

Contributed by **MJK Automation**, www.mjkautomation.com

NEW MEMBERS

Welcome to the following people and companies who have recently joined our Association as a Member or Corporate Supporter.

New **Individual Members** include:

Ben Parcell, Christopher Roberts, Brendon Roots, Chris Williams, Rod Walmsley, Adam Abel, Stephen Frankl, Trent Holden, Belinda Green, Andrew Quarmby, Alanus Boyle, Todd Milligan, Arnold Marchant, Jeronimo Nepomuceno, Sunny Manmothe, Vittorio Sclosa, Ian Bicknell, Charlie Harris, Sally-Ann Storey, Shane Hutchinson, Scott Reeve, Abhishek Shrestha, Christopher McCallum, Joel Fitzgerald, Robert Hillgrove, Nick Lauricella, Gregory Sheppard, Lorri Hill, Kim Sheree, Greg Morrow, Rachael Brenton, Mary Daaboul, Rodney Ward, William Webb, Todd Porter, Scott Petts, Fambisai Makamure, Benjamin Williams, Daniel Hixon, Drew Hedington, Kelly Mionnet, Adrian Lawson, Jarrett Martyn, Nev Hearn, Kristy Walker, John Potter, Abigail Hickman, Shane Pope, Scott Sanderson, Wayne Lowie, Chris Collins, Wayne Buzzer, Jack Rhodes, Paul Cofield, John Brennan, Marty Woodhead, Chris McKenna, Ian Hosking, Sean Fry, Lindsay Dunstan and Cameron Stevenson.

New **Utility Corporate Members** include:
Corowa Shire Council.

New **Corporate Members** include:

Netsch Australia, Acron, Merrett Plumbing, Taggle Systems, Wears Australia, J&P Richardson Industries, UV-Guard Australia, ACS Equip, Gemm Chemical & Coating Solutions, Renold Australia, Flotech Controls, Bio Natural Solutions, Wrighteye Industries, Projex Group, Napranum Aboriginal Shire Council, Sibelco Australia, Aerzen Australia, Visco Pump & Seal Group, The Drain Man, Shakti Pumps, Drainchem, John Valves, Active Mechanical Services, Derwent Industries and Miri Technologies. and Metasphere Australia.

WHAT DOES AN OPERATOR LOOK LIKE?

This question was posed to attendees at the weekend seminar and the teams were asked to draw an operator in 5 minutes with each member having one minute stints where the pen was not allowed to leave the page. The results were... interesting to say the least. We have chosen (to protect the innocent) to only publish the winner of this competition.



COMING EVENTS

2015

- 17 & 18 June** 40th WIOA Queensland Water Industry Operations Conference & Exhibition, Toowoomba
- 25 June** Inaugural Biggest Ever (Laurie Gleeson) Dinner, Melbourne
- 14 July** Distribution Seminar, Yeppoon & Brisbane
- 16 July** Distribution Seminar, Gold Coast & Logan
- 20 July** Kwatye Applications close
- 21 July** IXOM South Australian Water Taste Test, Adelaide
- 5 August** Tasmania Water Interest Day and IXOM Tasmanian Water Taste Test, Bicheno
- 2 & 3 September** 78th WIOA Victorian Water Industry Operations Conference & Exhibition, Bendigo

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NEXT EDITION

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