

OPERATOR

February 2013 Edition



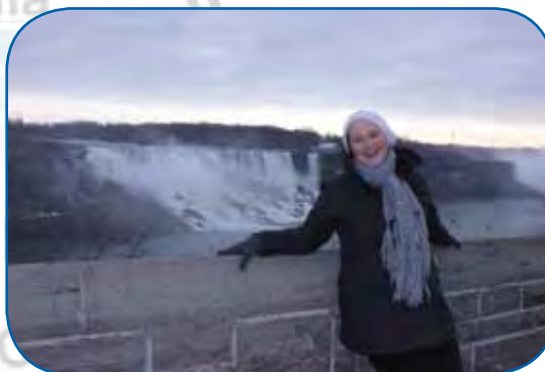
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Certified operator #1 Broc Mulcair. Read more about certification on page 4.

Why is this young operator special? Find out on page 3.



WIOA staffer Sherryn on holidays in USA. More on page 8.

Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

FROM THE EO'S DESK

After a very relaxing Xmas break, it is full steam ahead in the WIOA office with everyone back in the groove. Sherryn from our admin team had a well earned holiday in the USA and like many in our industry ended up "chasing water" during her holidays with a trip to Niagara Falls. Sherryn has penned an article which appears later in this edition, including some impressive facts and figures.

December 2012 was a really exciting month for WIOA with the first four water treatment operators awarded their certified status at a presentation ceremony in Melbourne. More information on the WIOA Certification scheme and a write up and photos from the presentation ceremony are included on page 4.

After celebrating the 75th staging of the Victorian conference in 2012, the anniversaries keep coming. In 2013, WIOA (formerly AWWOA Vic) will be celebrating the 40th year since the association was formed. We were very fortunate to have been provided a tub full of history information, early meeting minutes and a copy of almost all the WIOA Operator newsletters produced since 1973. We plan to share with members some of the issues, topics and articles from the last 40 years in the next few editions of Operator.

Planning is well under way for the 2013 Conferences. The program for the NSW event in Canberra in April has an excellent mix of platform and poster papers from operations staff with a wide range of Councils represented. The exhibition is a sell out and this is a "must not miss" event for NSW and ACT based operators. Registration forms are available from the WIOA website.

The Queensland conference at Parklands on the Gold Coast is coming together well and with strong early support, the exhibition looks like being a sell out again. We are still chasing papers from operators and regional water businesses, so please contact the office if you have any ideas for a presentation.

The 2012 WIOA Annual Review was released recently. It gives us the opportunity to report to members on our activities as well as celebrating the achievements of a number of our members. It can also be used to advise potential members of the scope and range of WIOA's activities, which in turn may encourage more people to join. We hope that all Members would be keen to promote WIOA to their peers and help us to do even more for the industry. We have additional hard copies which we can send to any members requiring them and an electronic version is available from our website. Just let us know in the office and we'll get copies out to you.

Our Technical Advisor, Peter Mosse has been busily working with some committed WIOA Members to develop a brand new "Membranes" seminar which will be staged in Victoria in March 2013. The program and registration form for this seminar is now available and depending on its success, we may stage additional seminars in other states in the future.

The WIOA Advisory Committees in both Tasmania and Queensland have remained active and both have their first ever charity events coming up shortly. The Tasmanian group has a charity golf day and the inaugural Orica Tasmanian Water Taste Test competition in Campbell Town on 22 February. The floods in Queensland contributed to the postponement of the Qld Charity Bowls day from 1 February to 15 March. We hope that members will support these events and participate in all the other opportunities on offer to network and share knowledge. We are still keen to establish similar groups in both Victoria and New South Wales so if any members are interested, please contact the office.

The jointly managed project by AWA and the NSW Public Sector ITAB to develop RPL and Training and Assessment Resources for a range of water treatment training units has proceeded with draft material recently released for review and comment. It is planned for some more consultation with the industry and training providers before the resources are finalised in mid 2013. We will continue to provide input to this project as having quality resources that promote consistent and thorough RPL processes Australia wide is an important issue.

WIOA has recently confirmed our participation in the three year Australian Curriculum Project, an initiative of AWA aimed at bringing together water organisations to develop materials for use in the new Australian curriculum for both primary and high school students. By having many water industry organisations working together collectively instead of individually, better materials will be able to be developed and it will reduce inefficiencies nation-wide. Teachers will have access to updated, quality resources to support them in the delivery of the National Curriculum, allowing better profiling and promotion of the water industry in schools and potentially improving the attraction of new recruits into our industry. Finally, those members yet to pay their 2012 fees would have received a reminder in the mail recently. Anyone not paid by the end of February will be removed from the database so make sure you pay promptly. Keep in mind that all financial Individual members will go into the bonus draw to win a \$1,000 travel voucher, generously donated by Royce Water Technology. The draw will be made at the NSW conference in Canberra. Until next time,

George Wall, WIOA Executive Officer

2013 MEMBERS DRAW

Get away with
WIOA

\$1,000
Travel
Voucher
to be won

WIOA Australia
EXCELLENCE IN OPERATIONS

All paid up, individual WIOA members are
automatically entered into the draw.
(Conditions Apply)

Royce Water Technologies
another bright idea from Royce Water Technologies
roycewater.com.au

WIOA - 2000TH MEMBER

The WIOA Committee decided to celebrate the signing of the 2000th Member by offering an all expenses paid trip for the lucky person to attend the next WIOA conference. Michael Hutchinson from Grampians Wimmera Mallee Water (GWMWater) was the lucky winner.

Grampians Wimmera Mallee Water (GWMWater) has supported WIOA for a number of years. It has always seen the value in providing operators with a forum for disseminating information and learning to be better operators. Operators from GWMWater have been making the annual trek to the Victoria conference at Bendigo for many years. Operators have produced platform papers, poster papers and former GWMWater employee, Eddy Ostarcevic, was the inaugural winner of the Katwe Prize in 2006.

When WIOA introduced the Utility Corporate membership in 2009, GWMWater had no hesitation in getting involved. Executive Manager Infrastructure, Stephen Jewell, said that "we had always encouraged operators to be members of WIOA and to be active. The benefits from membership were always seen as positive. The introduction of the Utility Corporate membership removed any barrier and allowed us to ensure that all our staff were members. It is a very small cost compared to the benefits membership brings."

Michael Hutchinson joined GWMWater in March 2012, as a Maintenance Officer in the Water Quality Division but hasn't as yet been able to attend a WIOA conference. Michael was absolutely rapt when he found out he was the 2,000th WIOA member and is looking forward to attending the WIOA NSW Conference in Canberra. "I am meeting more people across the industry than I dreamed I would have. I am determined to make sure I take advantage of this opportunity. WIOA membership has been very good to me!"

"Going to Bendigo would have been great, all the guys rave about it, but going to Canberra is even better. It will be fantastic to meet up with others in the industry and ask questions. We all have issues from time to time and it is rare that someone else hasn't already dealt with a similar issue and can provide some practical advice", Michael said. Michael thanked WIOA for the opportunity and GWMWater for their support.



Michael Hutchinson on the job

Water Taste Tests in 5 States

The Orica Water Taste Tests are a fun and exciting way to raise awareness of the quality of drinking water and to recognise the efforts of local water service providers in delivering valuable water services to their communities.

Last year, in conjunction with **qldwater**, WIOA hosted the Best of the Best Orica Qld Water Taste Test at our conference on the Gold Coast. In line with **qldwater's** rotation policy, the Qld taste test will be hosted at another water industry event in 2013.

Following the success of Qld, WIOA worked with sponsor Orica to conduct the inaugural Victorian taste test at the Victorian Conference in 2012. There will be another opportunity for Victorian water businesses to take home the magnificent perpetual trophy, currently proudly on display in the foyer of Bendigo's Coliban Water offices, when the taste test is conducted at the Victorian Conference and Exhibition in September 2013.



Vic taste test trophy with Ryan and Adrian

We are excited to be able to introduce similar taste tests to Tasmania, NSW and the Northern Territory in 2013.

Tasmania

The inaugural award for the Best Tasting Water in Tasmania will be competed for at the Tasmanian Water Taste Test & Charity Golf Day to be conducted on the 22nd February 2013 at the Campbell Town Golf Club.

NSW

The inaugural award for the Best Tasting Water in NSW will be judged and presented as part of WIOA's 7th Annual NSW Conference and Exhibition to be held at Exhibition Park in Canberra on 10 & 11 April 2013.

Northern Territory

The inaugural award for the Best Tasting Water in the NT will be judged and presented as part of Power and Water corporations' annual operations conference later in the year.

Members from water treatment facilities in all 5 States are urged to enter a sample of your finest water for judging at the event in your respective State and make sure that you are in the running to lay claim to having the "best tasting water in your state".

May the best water win!!!





WATER INDUSTRY CERTIFICATION - AN AUSTRALIAN FIRST

Broc Mulcair and Luke McCormick from Veolia Water and Matthew Sinnott & Peter Umland from Wannon Water have become the first four certified water industry operators in Australia. After participating in a pilot trial of the WIOA Certification Scheme, they were presented their credentials at a reception held at the Victorian Department of Health on Friday 14th December 2012.

WIOA has been working for a number of years on the development of a system to recognise the importance that the training, experience and competence of water treatment operators has on the production of safe drinking water. Although the national Water Training Package provides the opportunity for operators to undertake training in all the treatment process steps they operate, there were no systems in place to ensure the training, competency and experience matched the actual treatment processes being operated. WIOA saw the opportunity to develop a certification scheme as being complimentary to the Water Training Package.

The release of the "Victorian Framework for Water Treatment Operator Competencies - Best Practice Guidelines" (BPG) in late 2010 was the result of excellent collaborative work between the Victorian Department of Health (DH), members of the Victorian Water Industry Association (VicWater) and WIOA. The BPG defines minimum training, qualification and competency standards that operators must attain and maintain in order to operate drinking water treatment facilities in the State of Victoria.

Throughout the BPG development process, a WIOA sub-committee was also working on the development of the WIOA Certification Scheme. WIOA submitted our certification scheme and applied to DH for endorsement as a certifying body in March 2011 and received endorsement from DH in April 2011. As part of the Certification Scheme, WIOA undertakes an independent assessment of the training and experience of each nominated water treatment operator and if deemed suitable, awards certified status. Certified operators must then undertake a range of professional development activities to maintain their certified status.

In early 2011, the National Water Commission appointed Government Skills Australia as project manager to undertake a consultation process to develop a Framework for Certification of Water Treatment Operators nationally. The Victorian system was used as the starting point during the project discussions. The report and proposed framework was submitted to NWC for consideration in March 2012 and much of the content of the Victorian BPG has been proposed for use nationally.



Dr Rosemary Lester addressing reception attendees

Although WIOA could have started certifying Victorian operators from April 2011, a wait and see approach was adopted in order to determine the outcomes from the national Certification project. Although WIOA has the knowledge, credentials and capability to undertake the role of a Certifying body nationally, concerns were raised about the impact on our association if we invested heavily in expensive computer software and other systems if we weren't going to be considered as a certifying body nationally.

It became apparent in late 2012 that the national scheme would take some time to be finalised and implemented, and to meet increasing requests from Victorian water businesses to certify their staff, WIOA undertook a pilot trial of our Scheme in late 2012 working with staff from Wannon Water and Veolia Water.

Undertaking the pilot trial allowed WIOA to unpack the whole BPG and WIOA Certification Scheme and a series of flowcharts and processes were developed allowing all the information required to be documented. This process made it much easier to develop the forms, collect the right information from applicants and build a comprehensive website containing all the appropriate information. The unpacking process also uncovered a range of other unforeseen logistical issues which have either been resolved, or are currently being worked through with DH. An interim system was developed to allow WIOA to receive, evaluate applications and store information securely. Importantly, the information can be easily migrated to another platform pending the future determination of the national certification body. The WIOA scheme was opened for applications from the rest of the Victorian water industry in January 2013.



(L to R) WIOA Chairman Ron Bergmeier, VicWater CEO Tony Wright, Broc Mulcair, Luke McCormack, WIOA EO George Wall, Matthew Sinnott, Peter Umland, Victorian Chief Health Officer Dr Rosemary Lester and David Sheehan from Vic Dept Health.

An additional benefit from the certification process is the development of a template which can be used by all Water Corporations to match the units of training required to each treatment process at their water treatment facilities.

On its own, the template should assist each water business to build the right training plans for their operators. An added benefit is that the template can also be used to report on treatment processes, along with chemicals and other substances added, as required under the Victorian Safe Drinking Water Regulations.

At the certification presentation day in Melbourne, the Victorian Chief Health Officer Dr Rosemary Lester said “the actions taken, or not taken, by a water treatment operator can have a direct impact on the health and wellbeing of the communities for which they undertake water treatment services”. Dr Lester recognised the important role that WIOA played in the development and implementation of the Guidelines and said “WIOA has shown leadership to its members in recognising and prompting the importance that training and skill development plays in being an effective water treatment operator”.

WIOA Executive Officer George Wall said “the water treatment operator is the final and most important cog in the supply of safe drinking water to our communities. We should never look on our role as just a job – we should see ourselves as public health workers and we should act accordingly”.

He also said “For just on 40 years now, WIOA as an organisation has been doing everything we can to improve the training and recognition of operators. We’ve also been promoting the opportunities for operators to develop themselves, their skills and in many cases, to take up leadership roles in the industry. Attaining Certified Operator status is a real achievement. Any certified operator has demonstrated they have not only met the training requirements, they have been endorsed in writing by their employer as being competent and experienced. I am certain that only the best operators will receive this acknowledgment and in time, this will give the other operators something to aim at”.

Before presenting their credentials, George also noted “The four of you – Broc, Luke, Matthew & Peter have made your own little piece of history today and you are being rewarded for the fantastic job you do. We hope it is a special and proud day for you, as it is an extremely exciting day for WIOA to have our first certified operators. We hope that you will be the first of potentially many thousand certified water operators in Australia and in the long run, the certification process will be a great driver in the continual protection of public health”.



*George Wall
signing the
credentials
for the first
4 certified
operators*

MOVEMBER

We know other WIOA Members around the country participated in Movember but the only one who answered our call and dobbed himself in with a photo was WIOA Director Peter Tolsher (Tolsh).

This is the first time Tolsh has participated in Movember and he decided to grow his Mo after recently moving back to North East Water (NEW) from EGL. NEW has been a strong supporter of the Movember initiative over the years, so apart from being for such a good cause, it was a chance for Tolsh to reintegrate back into the NEW organisation.

After having a beard in his thirties, (all brown color then), Tolsh has been clean shaven for the last 20 years or so. Once he got going with the Mo, the distinct brown color had given way to a grey tinge and the comment that it made him look like a grandfather (ooops, he actually is!) made him very keen to get to December and go back to being a clean shaven “young” bloke. For his efforts, Tolsh was able to raise \$440 and would thoroughly recommend other WIOA members participating in this initiative later this year.



Tolsh – bringing back the Mo.



Queensland Charity Bowls Day

Due to the Queensland floods in late January and February, the Queensland Advisory Committee decided to postpone the afternoon of networking incorporating the inaugural Charity Bowls Day to 15th March 2013.

The day goes from 10am to 3pm at the Yandina Bowls Club. Book your RDO and mark the date in your diary now. We’d love to see as many WIOA members and friends as possible come along in support of this Charity event. We are still looking for Corporate sponsors for the bowls day. If you would like to have a team represent your company at this event, or would like to donate the charity fund, please contact Craig at the WIOA office.



WIOA Tours of ACTEW Water Facilities

As a precursor to the 7th Annual NSW Water Operations Conference and Exhibition, ACTEW Water is offering the opportunity to undertake a tour of either the Mount Stromlo Water Treatment Plant (Water) or the Lower Molonglo Water Quality Control Plant (sewage) on Tuesday 9th April 2013. The tour will run for approximately 2 hours commencing at 2.30pm and bus transport will be provided, departing from EPIC at 2.30pm and returning around 4.45pm in time for delegate registration and the welcome reception. Participants must be on the bus provided to participate in the tour. To book your place email sherryn@wioa.org.au



opportunity to
Control Centre
transport will be
come reception. You

Plant Operation details

- 1. Bypass storage dam** (volume 147ML) - Screened sewage can be moved to the bypass storage dam which is used to control the inflow of sewage to the plant and avoid hydraulic overloading.
- 2. Screening and incineration building** - As sewage enters the plant, it is screened through 3 millimetre aperture screens to remove objects that could damage or interfere with the process and equipment. The incinerator uses 1500 L/d of fuel, and produces 13T/d of AgriAsh which is a soil conditioner.
- 3. Flocculation and grit removal tanks** - Screened sewage is then aerated in the grit tanks to let grit, made of heavy particles such as sand, sink to the bottom where it is removed.
- 4. Primary sedimentation tanks** - Sewage moves to the primary sedimentation tanks where organic material settles to the bottom of the tanks as sludge. Oils and grease float to the surface. The sludge, oils and grease are then collected and removed.
- 5. Anoxic biological reactor tanks** - Sewage moves to the anoxic biological reactors where micro-organisms naturally remove nitrogen, releasing it into the atmosphere as gas. Nitrogen and phosphorus can act as a fertiliser for algae and water plants. As these can be harmful to river ecosystems, they are removed during the treatment process.
- 6. Biological reactor tanks** - Sewage moves to the biological reactor tanks where air is pumped through porous diffusers to mix it with returned activated sludge, which contains micro-organisms. The pumped air provides oxygen to the micro-organisms which naturally oxidise ammonia.
- 7. Secondary clarifiers** - Sewage then moves to secondary clarification where the liquid is separated from sludge which still contains the active micro-organisms. A portion of the activated sludge is returned to the biological reactor tanks to be re-used. The excess activated sludge is returned to the primary sedimentation tanks.
- 8. Effluent Filters** - Sewage then passes through tertiary filters, which remove suspended solids to produce a clear effluent. The filters consist of finely crushed coal and sand.
- 9. Chlorine contact tanks** (200kg/d) - The clear sewage then moves to the chlorine contact tanks where chlorine is added to disinfect any remaining microbiological pathogens. Sulphur dioxide gas is then used to remove excess chlorine, which would be harmful to the river ecosystem. The treated water is then ready to be re-used and discharged into the river. 80ML/d of recycled water is released into the Murrumbidgee River.
- 10. Ferric Chloride** - 5T/d of Ferric Chloride is added (preremoval) for the removal of phosphorus.
- 11. Ginninderra Sewer Tunnel** (inflow 90ML/d) - Sewage enters the sewer system from homes and businesses across the ACT and arrives at LMWQCC in two main inflow pipes from north and south Canberra.
- 12. Chemicals** - Various chemicals are added such as lime (11T/d), Ferric Chloride (6T/d), Polyelectrolyte (16kg/d).

WITC TRAINING INITIATIVES

Reclaimed Water Irrigation

With government policy requirements to investigate and implement reuse of reclaimed water, many water businesses have developed reuse schemes which incorporate irrigation of reclaimed water.

The management of these facilities, to ensure that they are sustainable, is a complex matter requiring the application of skills across a number of areas of expertise including the management of wastewater quality, soils and irrigation infrastructure.

The Water Industry Training Centre (WITC) in collaboration with Roger Wrigley and Associates is offering a module that will allow trainees who successfully complete the training to attain the Unit of Competency (NWP362B– Monitor, operate and control reclaimed water irrigation) under the current Water Training Package (NWP07). This module is scheduled to run for four days commencing 30th April 2013.

The four day module includes the following major topics:

- Objectives for operating a reclaimed water irrigation schemes
- Water quality for irrigation
- Irrigation system types
- Soil properties important for irrigation
- Plant water use
- Water, nutrient and salt budgets
- Drainage requirements and groundwater protection
- Field trips and water & soil practicals

Activated Carbon

In collaboration with Peta Thiel from *Research Laboratory Services Pty Ltd* the Water Industry Training Centre is developing a module that will cover the unit of competency NWP367A - Monitor, operate and control activated carbon adsorption processes

The two day module includes the following major topics:

- Activated carbon in water treatment
- Contaminant removal – taste and odour, algal toxins, dissolved organic carbon
- Activated carbon adsorption principles
- Carbon types – PAC, GAC BAC
- Operation and maintenance of activated carbon systems
- Monitoring and control of activated carbon processes including BAC aging profiles, PAC jar testing.

It is anticipated that this module will be scheduled for delivery in the second half of 2013. Expressions of interest in attending this module can be e-mailed to Anthea at the WITC.

Development of Certificate IV Modules

The WITC is progressively developing Certificate IV modules related to water and wastewater treatment. In 2013 the existing OH&S, Environmental Procedures, Chemistry and Chemical Additions Cert. IV modules will be augmented by the development of *Select treatment requirements for waterborne microorganisms (NWP411A)* and *Investigate and plan the optimization of granular media filtration processes (NWP406A)*.



2013 AWARD OPPORTUNITIES



NSW Operator of the Year

Nominations for the 2013 NSW Operator of the Year sponsored by the Water Directorate, close on 8th March 2012 with the winner announced at the WIOA NSW conference in Canberra.

If you know someone within the NSW water industry that fits the bill download a form from the Water Directorate website and nominate them today www.waterdirectorater.asn.au/downloads/Nomination_Form.pdf



Pass Award

The PASS (Problem Accepted – Solution Supplied) Award provides an opportunity for operational staff to share their in the field innovations and fixes to problems so that others in the water industry can benefit.

It is a fantastic opportunity for members of WIOA to receive recognition for their innovation and efforts and lets us share the good ideas and innovations with other Members

Applications will be accepted until Friday 1st March 2013 with the winner announced at the NSW Conference in Canberra. The prize for the winner is an all-expenses paid trip to join the WIOA contingent on the tour of NZ and to attend the WIOG operations conference in Invercargill in May 2013.

HOLIDAY AT NIAGARA

In November 2012, my cousin and I joined the jet-set brigade and enjoyed a 7 week holiday in the USA. Starting on the West Coast in L.A. for Thanksgiving, we drove to San Francisco, Las Vegas & the Grand Canyon. We flew across to the East Coast to Orlando and saw a rocket launch into space at Cape Canaveral, worked our way up to the Capital Washington DC and checked out the Obama's digs at the White House. We experienced a white Christmas in a small town in Michigan and capped it all off by seeing in 2013 while standing on the Brooklyn Bridge in New York City.

Being interested in water, one of the highlights from my holiday was our visit to Niagara Falls. After an 8 hour drive from where we stayed in Michigan, we arrived at the New York, USA side of Niagara Falls.

We stood beside the "American Falls" which is 320m long at a height of 53m. Being the middle of December and in USA's winter it was very cold, especially when we were getting sprayed with mist from an average of 567,811 Litres per second of water falling over the edge.

Since we had our passports handy we decided to walk the 290m across the Rainbow Bridge into Canada, which was well worth the 50c entry fee. The International Border Line runs through the middle of the Niagara River that flows under the bridge so it was fun to have officially stood with a foot in two countries at once.

From the Canadian side you can see both the American Falls and the Horseshoe Falls. The "Horseshoe Falls" which sits on the Canadian side of the border spans just under 800m at a height of 51m with a huge average of 2,271,247 Litres per second falling to the rocks below.

That takes the grand total of water going over the falls to 2,839,058 Litres per second. From my rough maths, this equates to over 245,000ML per day. At that rate it will take just over 2 days to fill Sydney Harbour, and about 13 days to fill Lake Eildon in Victoria. Now that's a lot of water!

You can get a bird's eye view of the falls from 775 feet up the Skylon Tower. You can see the water flowing down from Lake Erie and then split around Goat Island to fall down either side. At night they shine lights on the Falls in all different colours and is truly an amazing sight to see.

If you ever get the chance I recommend you see Niagara Falls from the Canadian side, you get a better view of both the falls and you don't get wet!!

Contributed by WIOA staff member Sherryn Wall



Niagara Falls – the American Falls side

savewater!® refill stations

Water is our most precious resource, let's rethink the way we drink it.

Installing water refill stations in your community and encouraging residents to carry a re-usable bottle can greatly reduce the negative impacts on the environment caused by the prevalence of bottled water, provide health benefits and save people money.

The savewater!® Alliance has just launched its new water refill stations which are now available to water providers and local councils with significant discounts for savewater!® members.

The savewater!® refill stations provide consumers with convenience as they can be installed in a number of different locations including parks, gardens, schools, sporting areas, bus and train stations, bike paths and foot paths. Central Tablelands Water in New South Wales has recently installed five refill stations in a variety of locations.

These new water refill stations are robust, provide ample customisable signage space, are made from polyethylene materials that minimise graffiti damage and are available in a sandstone or millstone look. The units include a bubbler, a bottle refill outlet and an optional dog bowl.

The bubbler for drinking has been designed to allow wheelchair access and has adjustable flow rates to make sure the stream is always adequate for drinking regardless of local water pressure. High quality microlene filters are an optional extra on both the bubbler and the bottle refill outlet if required.

In addition, market research by savewater!® has found that 84% of respondents would use a water refill station to fill their personal water bottle if it was available. The refillit™ campaign was recently launched by savewater!® to encourage people to buy a refillable water bottle to:

- reduce their impact on the environment
- refresh their mind and body; and to provide
- relief for the world's poorest communities

More details about the refillit™ campaign and products can be found at www.refillit.com.au/ or by calling 03 9508 0023.

For all inquiries regarding the savewater!® water refill stations and the pricing please email products@savewater.com.au or call 03 8508 6888.



CORPORATE MEMBER NEWS

BioSolid Odour Control With Organic Catalysts

Wastewater treatment plants often need to control the “rotten egg” odours resulting from their waste and sewage treatment processes. The unpleasant odours in and around wastewater plants are mainly caused by H₂S, but other odorous compounds can include mercaptans, amines, aldehydes, and ketones.

Organic formulations can contain ingredients which effectively control odours having an organic origin. To the extent that the detection of odours is understood, it appears that physical, chemical, and biological mechanisms contribute to the odour eliminating properties of the products.

In order to eliminate malodor, bio-organic catalysts including enzyme like amphiphilic substances, which have a high affinity for physically combining with organic molecules and inorganic malodorous substances such as hydrogen sulphide. Formation of initial physical complexes is required for the subsequent chemical reactions that result in the elimination of odour causing molecules. These physical complexes, alone, can reduce odour, at least temporarily, by altering the physical shape of malodorous molecules so that they are eliminated or not recognised by the same odour receptors.

After the formation of physical complexes, chemical reactions are initiated which permanently eliminate the malodorous characteristics or organic molecules and hydrogen sulphide. Based on the known oxidative properties of organic catalyst, it is assumed that malodorous substances, such as amines and mercaptans, are eliminated primarily through oxidative reactions, although other types are chemical reactions and are possible contributors to odour elimination.

There are two ways by which odours can be eliminated. The above physical and chemical mechanisms are for eliminating odours after they have been formed by the anaerobic decomposition of waste. A second way by which we can prevent odour is to biologically prevent the formation of malodors from organic wastes by the application of organic catalysts.

Organic catalysts treatment prevents the formation of malodors by providing aerobic microorganisms with a favourable environment for the rapid biological oxidation of organic wastes.

Organic catalyst products enhance aerobic biological waste treatment by:

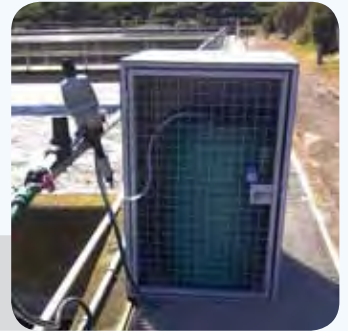
- Directly oxidising biosolid organic wastes;
- Providing additional oxygen for aerobic growth; and
- Providing nutritional factors required for rapid microbial growth.

It should be noted that despite the best efforts in measuring the odour strength (at the source) and in predicting the impact areas, conditions may be such that unacceptable odours can occur beyond the predicted impact area. This can occur because of extremely poor dispersion conditions, however facility managers should be able to demonstrate that appropriate checks have been performed to ensure correct operation prior to assuming that meteorological conditions have resulted in poor dispersion. These checks could include assessment of meteorological data for stability patterns.

At EcoCatalysts, we're continually seeking new ways to ensure extremely high levels of treatment plant performance and work to supply economic, efficient and environmentally friendly industrial odour control outcomes. By utilising the power of nature, our high performance catalysis technology for biosolid odour control is unparalleled.

Please contact our office on:
+61 7 3881 2244,
Email: info@ecocatalysts.com.au

Contributed by Scott Neilson
- EcoCatalysts



“Dosing organic catalyst into an STP”

HELPFUL HINTS

Troubleshooting with Gauges

1. If you know a pump's discharge pressure and suction pressure [or vacuum], you can usually ascertain what is going on with your pump.
2. If you do not have gauges (only amp meters), you don't always get the information you need.
3. If your current draw goes up, it could be one of several things. There may be something caught on the impeller, causing it to bind with the casing and increase the current draw. There could also be a discharge connection leak or failure, causing the pump to produce more flow, and increase current draw. There could also be a failure downstream of the pump, causing less head and therefore higher flow, and higher current draw.
4. If the current draw decreases this can be caused by a blockage in a valve or in the eye of the impeller, restricting flow. A worn pump can also reduce flow, causing a reduction in amp draw.
5. In the case of a self-priming pump with a good set of gauges, if the discharge pressure goes up and suction vacuum decreases, you know there is a problem downstream.
6. If the discharge pressure goes down and the suction vacuum increases, you know there is a problem in the suction line.
7. If the discharge pressure goes down and the suction vacuum decreases, you have just isolated the problem to the pump.

Contributed by Ben Davidson - Hydro Innovations



WHEN THE PHONE CALLS STOP

Imagine if you lost all phone services, couldn't access ATMs or make EFTPOS purchases, and couldn't call 000 in an emergency.

This was the scenario thousands of South West Victorians faced for many days following a fire at Telstra's Warrnambool Exchange on 22 November 2012. The 4:30am fire severely damaged 60% of the exchange and, as the exchange is a 'parent' exchange, crippled telecommunication services across South West Victoria. All up, 65,000 land lines, 16,500 ADSL services, 80 Telstra mobile towers and thousands of broadband connections were lost, covering Wannon Water's entire service area.

The outage also had flow-on community effects, including lost access to some ATMs and EFTPOS purchases (including groceries and fuel), automatic building intrusion and fire alarm notifications and emergency services (including 000).

Wannon Water activated its emergency response at 7:30am that same morning, deeming the incident a prolonged event with significant impact and cost to business and customers. Sixty-two employees (29% of our workforce) were diverted from normal duties to assist the Incident Management Team, respond to emerging risks and monitor the incident.

Vic map showing extent of interruption



- 60,000 residents without landline and internet access.
- Five shires affected.
- Banks closed and ATMs offline.

As a result, Wannon Water implemented several alternative – but effective – arrangements, including:

- Purchasing alternative telecommunications provider mobiles and recharge cards and redirecting Telstra land lines (including SCADA alarms)
- Manual 24/7 monitoring of SCADA alarms from a central location and deploying employees to rectify identified problems
- Installing extra radio antennas to boost signals in some areas, which permitted alarming and control via radio link.
- Establishing twice-daily physical checks at remote facilities.
- Shutting down water treatment plants with enough water in storage. Where needed, water was sourced and dosed manually.
- Rescheduling or cancelling non-essential field work.

Key learnings:

- It's important to maintain depth in your Incident Management Team to allow continued and appropriate levels of response to extended incidents
- Ensure all employees are well trained and, where possible, don't rely on sole operators. Maintain vigilance for employee fatigue.
- Don't put all your eggs in one basket, ensuring you maintain appropriate back-up/redundancy systems (internet, radio, telephone) and suppliers rather than reliance on a single system/supplier
- Be aware you may not always receive timely information or responses regarding the incident
- Build healthy relationships with other essential and emergency services and ensure you link in at various levels (local, regional and state). Don't assume other agencies have effective emergency response arrangements or recognise your dependence on them.

Wannon Water is proud of the efforts and professionalism of our operators in maintaining services for customers throughout the incident. We were also very pleased to be praised for our response by Victoria Police and the Department of Sustainability & Environment.

Contributed by John Harris - Wannon Water

NORTHERN WATER PLANT COMMISSIONING

Commissioning of Barwon Water's Northern Water Plant – Geelong's newest water recycling facility – is nearing completion.

The plant will treat sewage and trade waste from Geelong's northern suburbs and produce high quality Class A recycled water for use at the adjacent Shell Geelong Refinery.

The commissioning period is a significant milestone in the plant's construction and the final stage before it becomes operational. The first phase of commissioning – pumping wastewater into the plant – began in August, 2012. The second phase, producing Class A recycled water, started in October, 2012.

All of the plant's systems, including pump stations and biological treatment processes, ultra-filtration, reverse osmosis and odour treatment components, have been rigorously tested during commissioning.

Extensive performance trials will ensure the plant meets the requirements of the Environmental Protection Authority (EPA) and Department of Health for class A water quality, noise and odour limits.

The Northern Water Plant is unique in Australia in that it combines several functions into one facility, including:

- domestic and industrial wastewater treatment
- advanced treatment to generate the highest class of recycled water
- supply to industry
- supply to the community (for irrigation).

There are several other advanced water treatment plants in Australia. However, the Northern Water Plant is the only facility that generates the highest class of recycled water from sewage containing such a high proportion of industrial wastewater.

When fully operational, the facility will save around 2 billion litres of drinking water annually, equivalent to 5 per cent of Geelong's current consumption.

About 800 people have worked on the site, clocking up over 200,000 hours without any lost time to injury or incident – an excellent result in the construction industry. The project is expected to be complete in early 2013, on time and on budget.

For more information visit.

www.barwonwater.vic.gov.au/projects/nwp



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:

Graham Lipscombe, Jenine Smith, Andrew Wundke, Blake Haslam, Brian Lang, Chay Tokekar, Darren Raeck, Jamie Watson, Leigh Tucker, Paul Atherton, Phil Childs, Shaun Hurley, Wayne Krause, Calum McAlpine, Michael Hutchinson, Robert Jensen, Jason Wilkie, Jeremy Broomhall, Peter Broxham, Jacqui Lassau, Kim Mosse, Phil Smith, Scott Collinge, Albert (John) Pearson, Kayne Thomas, Troy Bostock, Christopher Mark Roberts, Leanne Wells, Matthew Cerutti, Luke Marcombe, Bree Wiggins, Geoff Prowd, Travis Bruce, Vickie Telfer, Jacob Frampton, Noelia D'Alessio, Tamarin Langley, Peter Tozer, Simon Chalmers, Cameron Dickinson, Colin Fisher, Robert Franzoi, Alister Laidlaw, Neil Maclean, Andrew Martin, Ashley McCallum, Russell McKelvey, Ian Moreland, Simon Palframan, Mark Pitches, Jaden Scobie, Ronald Sewell

New **Corporate Members** include:

Hychem International, B-R Controls, Wilo Australia, WA Cromarty & Co, Degremont Thies Services Joint Venture, Krohne Australia, Invensys Australia, Hydroflux, ITT Blakers, Odatech and Watercon.



THE LIGHTER SIDE



COMING EVENTS

2013

1 March	PASS Award Applications close
2 & 3 March	WIOA Weekend Seminar and AGM, (Ramada Resort, Cowes)
15 March	Queensland Networking & Social Bowls Afternoon, Yandina Queensland
20 March	Membrane System Operation & Optimisation Seminar, Melbourne
10 & 11 April	7th Annual WIOA NSW Water Industry Operations Conference, Canberra
24 May to 2 June	Operators Tour to New Zealand & WIOG Conference, Invercargill, NZ
5 & 6 June	38th Annual WIOA Queensland Water Industry Operations Conference, Gold Coast
20 July	Kwatye Award Applications close
4 & 5 September	76th Annual WIOA Victoria Water Industry Operations Conference, Bendigo

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NEXT EDITION

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