

Business Relations e-Bulletin

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Customer Water Use Portal

Adelaide Oval and Zoos SA reaping the benefits of access to water data

Earlier this year we announced the release of a brand new service, providing non-residential customers the opportunity to have smart meters installed and to connect to the SA Water Customer Water Use Portal. The portal provides up to date water consumption data from the business's site which can help them better monitor their water use and detect any leaks or faults. This helps them to achieve significant water and cost savings.

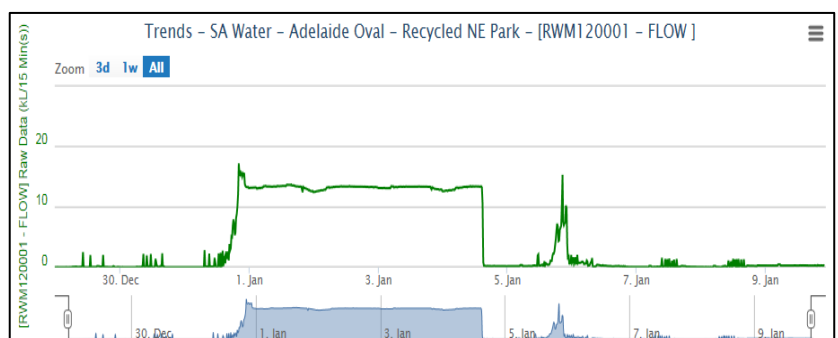
26 SA Water Customers are now accessing the Portal and benefiting from an increased understanding of how their sites use water. Zoos SA and Adelaide Oval are two of the customers who are already benefitting from the service.

Adelaide Oval

Managing water at Adelaide Oval is no easy task. Water is vital to its operation, especially to ensure the proper function of the 1300 plus toilets at the grounds. As you can imagine, without water, game day could turn into chaos.

The Oval's Customer Water Use Portal routinely monitors the use of both the recycled water supply used for the toilet facilities as well as its drinking water supply. Data produced from the portal recently helped the Oval realise what was a minor fault in their recycled water feed that was in fact causing a major and undetected water leak.

The Portal screenshot to the right shows water use peaked at approximately 870 litres per minute and continued over four days until it was noticed by staff monitoring the portal. The cause was quickly identified as being a stuck ball float valve on the feed into a header tank which supplied toilets



throughout the stadium. This was causing the tank to continually fill and overflow.

Adelaide Oval's Senior Plumber Ben Kither says if they didn't have the water portal in place it could have been leaking for quite some time.

"The tank is in a room that I don't often need to visit and there were no sounds or evidence of the leak from the outside of the room," says Ben.

It's estimated the Portal potentially saved the Oval more than 30 million litres just in this one instance, all through identification of a simple leak caused by a stuck float valve.

Zoos SA

Zoos SA is having similar success with the use of their Portal, namely an improvement in their response rate to events such as bursts and leaks at their Monarto site.

Managing water in a vast open plain zoo like Monarto for a range of animals with diverse water needs presents a certain set of challenges.

Monarto Zoo's Senior Works Supervisor Paul Stapleton says in the past it would often take months to even detect a burst or leak.

"Often the first sign there was an issue was when a unintended mini wetland was noticed by staff driving through the site, complete with rushes and frogs!" says Paul.

Monarto Zoo staff recently noticed water use increasing on one of the eight water meters monitored through the Portal. The culprit? A leak with a peak flow rate of 20 litres per minute.

"The leak was found under a large thirsty tree on top of a sand hill not visible from the surface," says Paul.

"It could have taken many months longer to locate or appear without the warning from the Portal."

It's estimated if this leak continued for another three months, it would have cost the Zoo at least \$10,000 in almost three million litres of lost water.

"Logging in and checking the site water use is now part of the morning ritual, along with reading emails, says Paul.

"Just by looking at the data we are able to understand if water use has increased due to normal use such as taps being turned on, or if a burst or a leak is occurring.

"From there, we can react very quickly according to the degree of increased water use."

If you are interested in accessing this type of information on your site, please contact us on email business.relations@sawater.com.au or by phoning 08 7424 3753.

Technical Series

DAF – Dissolved Air Flotation explained

Dissolved Air Flotation (DAF) is a water treatment method commonly used to improve wastewater quality through the removal of fats, oil and grease (FOGs), fine suspended solids (SS) and insoluble Biochemical Oxygen Demand (BOD). DAF units are installed where other pre-treatment systems aren't as effective. Grease arrestors for example, used on smaller scale operations will struggle with higher inflows, the settling of SS and aeration. They can also cause odour problems and potentially discharge acidic solutions into the sewer network.

How does a DAF work?

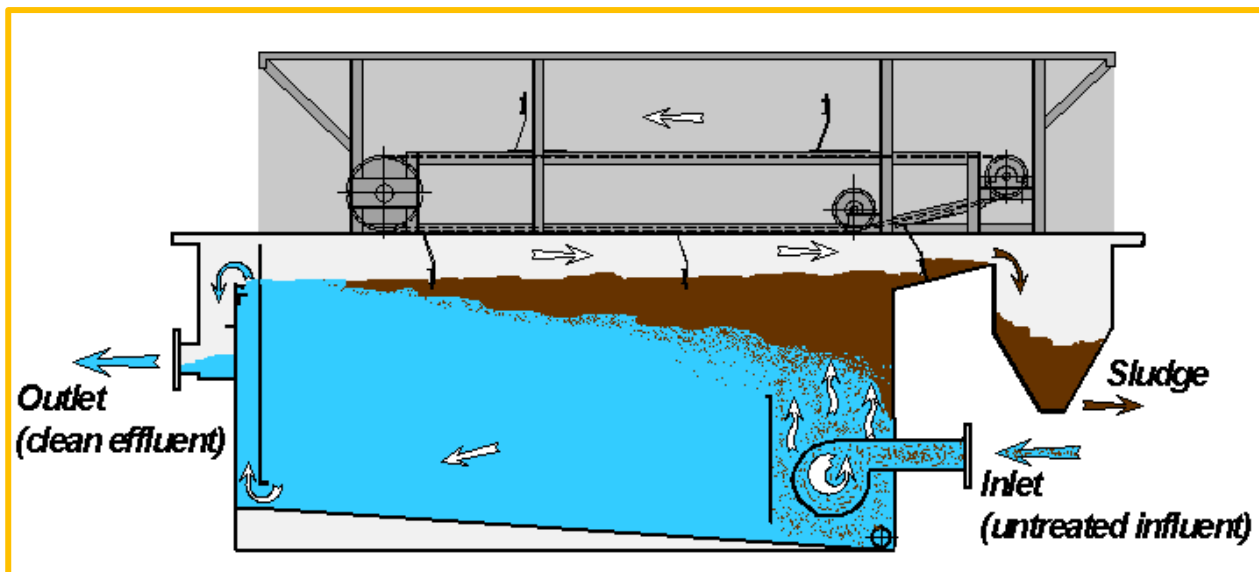
The diagram below shows a typical process flow of a DAF unit.

Influent enters the initial mixing area where it is mixed with micro bubbles of air, introduced from a process where approximately 10-15% of the effluent leaving the DAF unit is recycled into a small pressure vessel where compressed air is introduced. When injected back into the influent, the air bubbles create buoyant conditions for the SS (including FOGs) causing them to rise to the surface, forming a layer of sludge.

Flocculants and/or coagulants can be added in pre-reaction tanks to help join SS particles together, aiding their separation from the wastewater. The layer of sludge that builds up is usually removed by chain driven blades and collected in a sludge vessel ready for dewatering and disposal.

The end product is treated wastewater with a significantly improved quality. Removal efficiency for FOGs, SS and insoluble BOD will usually be in excess of 80% if the DAF is designed and operated properly.

Typical process flows of a DAF



The importance of pre-treatment upstream from your DAF

The type of pre-treatment system installed upstream from your DAF unit will impact on the DAF's operational effectiveness and protect the unit from damage and fouling. Any debris or sharp objects in particular destroy pumps and micro bubble formation. What you install will also depend on the wastewater characteristics you are trying to treat - larger SS particles should be removed before entering a DAF unit through source control techniques, screens and clarifiers. Having the appropriate pre-treatment upstream of your DAF will reduce the contaminate loading and hence operational costs of running your DAF.

Buffering and Holding Tank

Managing a consistent influent to your DAF over a production cycle is critical to the performance of the DAF. Collecting screened wastewater in a buffering/holding tank will enable control of the influent flow to the DAF, allow wastewater temperature to cool and moderate the short term variations in wastewater quality.

Managing Dissolved Oxygen (DO) rates and influent temperature

The volume of DO required in your DAF unit will depend on the loading of solids required to be removed. Dissolving air into water is energy-intensive and the amount of air that can be dissolved in water also decreases with temperature. Dissolving excessive amounts of air in your DAF unit can result in increased and unnecessary pumping costs.

Speak to your service provider for specific ratios of DO relevant to the wastewater that you're treating.

It's also important to allow hot water discharges to cool before entering your DAF unit as increases in temperature will reduce the amount of DO in your DAF unit. Temperature in the DAF vessel should be maintained below 40°C.

pH correction and chemical addition

pH correction systems are commonly installed on DAF units for treatment of industrial trade waste. pH correction will be necessary to ensure wastewater quality falls within the authorised trade waste limits. Appropriate pH adjustment will have a positive impact on controlling odour. It will also aid the effectiveness of coagulants or flocculants added to your DAF unit. Ensuring correct ratios of chemical additions will help DAF units operate efficiently and prevent excessive chemical additions which can lead to increased costs.

Maintenance and Monitoring

DAF systems require regular maintenance and monitoring. Regularly checking mechanical equipment such as chemical dosing and pumps as well as cleaning and calibrating pH probes, effluent meters, other monitoring equipment and any sediment that has settled at the bottom of your DAF unit are all important aspects when maintaining DAF units. Managing the sludge that's generated is also important. The floating solids concentration in the sludge is usually only 2-10% SS. Therefore, it's cost effective to ensure sludge is dewatered before disposal.

Measuring the performance of a DAF

Measuring the performance of DAF units can be undertaken through sampling wastewater at the influent and effluent points. The difference in wastewater quality will reflect the performance attributable to the DAF unit.

Reviewing historical sample results from trade waste audits is also another indicator on the performance of your DAF unit and other pre-treatment and cleaner production processes at your site. If you would like historical records of your trade waste sample results and costs you can request these from your Business Relations Consultant.

SA Water recently published the results of an investigation on the performance where DAF units were used in the poultry, dairy and beverage industries in South Australia. The three case studies where a DAF unit was implemented showed dramatic improvement in discharge quality to the SA Water network. You can access this information on the SA Water website -

http://www.sawater.com.au/_data/assets/pdf_file/0014/53402/90-Day-Trade-Waste-Project-Case-Studies-Snapshot.pdf

Also on our website are comprehensive industry guidelines on trade waste pre-treatment devices including DAF units - <https://www.sawater.com.au/business/trade-waste/industry-guidelines>

If you are in the process of upgrading your pre-treatment and investigating a DAF as an option please review these guidelines and then contact your Business Relations Consultant.

Trade Waste Funding

Resource Productivity Assessment Grants now open

SA Water business customers wanting to improve the management of their trade waste are now able to apply for funding to help cover some of the costs of a tailored assessments of their operations.

This is the first component of the State Government's Trade Waste Initiative. It presents a valuable opportunity for SA Water customers that meet trade waste volume and load thresholds. Eligible businesses can apply for funding of up to \$10,000 to cover up to 50% of the costs to undertake an assessment.

The assessment will help identify opportunities and make recommendations to improve the way trade waste is managed in your business. The aim is to enhance productivity and performance as well as reduce costs for the business. In addition, the assessments can be tailored to assess potential savings relating to materials, energy and water on your site.

This second component of the Trade Waste Initiative is the Food and Beverage Implementation Grants. These will offer eligible SA Water food and beverage customers funding to cover up to 50% of the costs for implementing trade waste management solutions, up to a maximum of \$300,000.

We strongly encourage you to review the components of the Initiative to determine if it may be of benefit to your business.

More information on the Trade Waste Initiative, associated funding, eligibility criteria and application forms can be found on the *Green Industries* website: <http://www.greenindustries.sa.gov.au/trade-waste-initiative>

Faults and Scheduled Works Notification

Reporting a fault

If your business is experiencing a water or wastewater fault such as a leaking meter, burst main, no water supply or sewer blockage/overflow, it is important that you contact us on 1300 883 121 as soon as possible so we can arrange for a crew to attend, investigate and resolve the issue. You can also report a leaking meter through our [website](#).

We understand water main leaks and bursts have an impact on businesses, and appreciate when you take the time to report a fault. We often rely on the information you provide to help us prioritise attendance and repairs to these faults.

Notification of emergency works

Once a fault has been reported, there are a number of ways customers can be notified depending on the situation. For emergency reactive works such as burst mains and major leaks, our priority is to get the water supply restored as soon as possible. Our notification to customers on these type of works is primarily through an up to date recording people will hear when they call the SA Water Customer Service Centre. You may also find yourself being contacted by your Business Relations Consultant or Community Response team when we become aware of a fault in your area, so as to minimise the impact to your operations.

Scheduled works notification

Where maintenance works are able to be scheduled in, such as those on our meter replacement or water main replacement programs, affected customers are sent a letter of notification prior to the works taking place. If you receive a notification letter and due to the nature of your business are unable to operate without water, please notify us as soon as possible so we can arrange a potential alternative time for the works to occur and minimise any potential disruption to your operations.

On the website

Did you know the SA Water website shows [scheduled maintenance works and current faults and outages](#)? We also list our [water main replacement program](#) and [current projects](#).

Twitter

Another way we keep the community informed of faults and scheduled works is through our [Twitter feed](#), which is continually updated as leaks, outages and restorations occur each day.

If you would like further information on what happens when a burst main occurs in metropolitan Adelaide, our [website](#) also details the step by step process from reporting to resolution.

SA Water Across the State – Eyre Peninsula

In early August, SA Water staff held a range of activities for the local community, stakeholders and schools on Eyre Peninsula as part of the *SA Water Across the State* initiative.

The event is rolled out in several regional areas throughout the year and aims to build on the relationship between SA Water and regional communities. SA Water uses the initiative to hear people's feedback and concerns on water-related issues as well as raise awareness of work happening in each area.

Eyre Peninsula Field Days

One of this year's initiatives saw SA Water staff attend the Eyre Peninsula Field Days in Cleve. Staff invited visitors at the Field Days to participate in an interactive feedback exercise enabling SA Water to gain insights into issues of importance to customers on Eyre Peninsula. More than 300 people provided their feedback over the three days of the event.

SA Water at Eyre Peninsula Field Days



SA Water's Tijana Harding speaking to the Uley South Basin tour group.

Community tour – Uley South Basin

A booked out community tour of Eyre Peninsula's main drinking water source, the Uley South Basin was also held this August. Thirty people attended on the day and heard from local SA Water staff about the history of the basin and how it works to supply about 70% of Eyre Peninsula's drinking water.

Participants were able to see the naturally-occurring sinkholes, bores and the pump station.

This is the second time SA Water has run the tour, and already has a waiting list for the next one.

Stakeholder meeting

Also as part of this *SA Water Across the State* event, SA Water's new Chief Executive Roch Cheroux together with other senior SA Water staff met with key stakeholders from the Eyre Peninsula to discuss issues of regional importance. Guests included some of the 11 local councils, Regional Development Australia and major business customers. Roch provided attendees with an update on what SA Water is doing in the region, its goals for the future and the customer-focused direction it will be continuing to go.

SA Water Chief Executive Roch Cheroux speaking with key stakeholders.



Business Relations Consultant role explained

Your Business Relations Consultant/Account Manager – how can they help you and your business?

The Business Relations team was created about two years ago in response to a request from our major customers for a single point of contact into SA Water.

The team comprises technical and account management/consultant components, which work together to get the best result for the customer.



Each Consultant/Account Manager within the team is assigned a number of major business customers who they meet with on a minimum yearly basis (some on a quarterly or bi-annual basis if required). By allowing the consultants to focus their work and attention just on their portfolio of customers, they can better understand the business and their individual needs.

Role of the Consultant/Account Manager

SA Water Business Relations Consultants can help business customers with a range of services including:

- account-based enquiries
- new connections
- business expansions
- leak analysis/water profiling advice
- trade waste cleaner production advice
- water use comparison charts for major customer sites
- smart metering.

If a Business Relations Consultant cannot provide an answer on the spot to a customer's query, they will aim to get it from another relevant area of SA Water and provide a response or more information to the customer as soon as possible.

For more information on the Business Relations Consultants, please don't hesitate to contact the Business Relations team at business.relations@sawater.com.au.

Disclaimer:

SA Water's Business Relations team provides recommendations and suggestions only. It is advised that further investigations are detailed studies are completed before any projects are implemented. All applicable standards & guidelines (Australian, EU, AQUIS, HACCP, Australian Drinking Water Quality Guidelines etc.) should be adhered to, and care should be taken to ensure water and wastewater minimisation programs do not negatively impact health or processing operations.