

COMMUNITY UPDATE

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WELCOME

It's been two years since construction started on the Victorian Desalination Project and in that time, much has been achieved.

What began as an empty paddock in September 2009 is now a complex construction project spanning five different project areas and multiple work sites, and involving more than 4,000 people.

More than 12 million man hours have been worked, with no serious injuries recorded.

Marine and tunnelling works were completed earlier this year, followed recently by the completion of the 84km water transfer pipeline and the 87km underground power supply.

This means that four out of five of project areas are now complete, leaving only the final stages of the desalination plant itself to be finished.

With construction nearing completion, the complex process of testing and commissioning each

component of the project is now underway and will continue over the coming months.

Hydrotesting of the pipeline began recently, along with the first series of tests on the underground power supply.

On the plant site, pre-commissioning of the dual media pressure filters is progressing, and preparations are underway for commissioning of the underground tunnels and marine structures later this year.

Just like in the design and construction stages, all commissioning activities are subject to strict quality, safety, and environmental performance requirements under the project contract.

At all times, our aim is to produce a reliable and high quality desalinated water supply for the people of Victoria.



VICTORIA'S NEW DESALINATION PLANT NEARS COMPLETION

From an empty paddock in September 2009, construction of the desalination plant is now well advanced.





- >> Victoria's new desalination plant will combine world leading desalination technology with an innovative design.
- >> Two years on, all 29 buildings that make up the desalination plant are heading into their final stages of construction.
- >> Constructed in three 50 gigalitre modules, the plant will be capable of supplying up to 150GL of water per year to Melbourne and regional communities.
- >> The architect's vision for the project is now clear, with the "green line" now clearly visible.
- >> A sweeping bridge connecting the reverse osmosis and administration buildings is in place.
- >> More than 40,000 plants have been installed on the green roof of the reverse osmosis building.
- >> Commissioning of the 72 dual media pressure filters (DMPFs) and other parts of the desalination plant are underway.
- >> Construction of the 84km water transfer pipeline and 87km underground power supply have been completed.
- >> Landscaping and revegetation works are underway to create the 225 hectare coastal park that will surround the desalination plant.

COMMISSIONING GETS UNDERWAY

As construction of the desalination plant nears completion, the project team's focus is moving to the next stage of works – commissioning.



Over the coming months, performance and reliability tests will be carried out on every element of the desalination plant to ensure it can reliably produce high quality water in commercial quantities as required under the contract.



The 72 Dual Media Pressure Filtration (DMPF) vessels are in the process of being pre-commissioned.

The desalination plant has been designed in three identical 50 gigalitre 'streams' or 'modules', each one able to be tested and operated independently.

Inside the reverse osmosis building – the heart of the desalination process – more than 16,500 pieces of electrical equipment, valves and instrumentation must be checked and tested before water can enter each stream.

Each stream will be flushed with water to remove any fine particles or dust from the reverse osmosis membranes and pipes.

Seawater will then be pushed through the 55,000 ultra fine reverse osmosis membranes at very high pressure to separate salt from seawater – producing the first test samples of desalinated water.

Throughout this process, a team of more than 30 commissioning engineers will be involved in a continual process of testing, monitoring and adjusting each individual piece of equipment to ensure that the overall system is operating as efficiently as possible.

This will include monitoring membrane performance, control system sequencing, energy efficiency and water production and quality standards.

Desalinated water will not enter the water network until the production standards are achieved during the later stages of commissioning in 2012.

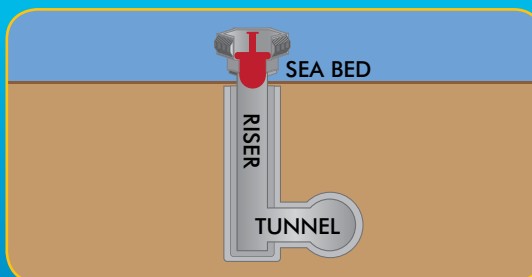
COMMISSIONING THE MARINE STRUCTURES AND TUNNELS

Out on the water, divers will open valves on each of the four marine risers, allowing seawater to flow into the marine structures, through the underground tunnels and on to the desalination plant site.

The process to flood each tunnel will take around 24 hours to complete, with water entering the marine structures and tunnels at a very slow and controlled rate.

Underwater cameras located inside each marine riser will monitor the flow rates of water entering the risers.

Further checks will be carried out at the Seawater Lift Pump Station to ensure a continuous flow of water up and into the desalination plant site.



To prevent seawater from entering the marine structures during construction, each riser is fitted with a double isolation plug measuring around 3 metres in diameter, 5 metres high and weighing around 10 tonnes.

During commissioning, small valves will be opened allow seawater to flow slowly into the structures and through to the desalination plant. The plugs will then be removed.

This work will involve divers and a boat with a crane.

DID YOU KNOW?

Before the desalination plant can begin producing commercial quantities of water, it must first pass a 30 day reliability test.

COMMISSIONING THE PIPE AND POWER SUPPLY

An extensive series of tests and checks will be carried out to ensure both the water transfer pipeline and the underground power supply are free from defects and operating correctly.

Hydro-testing of the pipeline involves filling the pipeline with water, pressurising it and then performing inspections and quality tests to establish whether the pipeline and its supporting structures, such as air valves, are operating correctly.

Tests will also be carried out on the 87km underground power cable to test the integrity of the power supply system and associated equipment.

Reduced voltages are sent through individual sections of the power cable for testing and monitoring, before the power cable is finally connected to the electricity grid and fully energised or made 'live'.

Hydro-testing of the pipeline commenced in August, while the first tests on the underground power supply are due to commence shortly.

Read more about the power supply commissioning process on page 9.



GREEN ROOF COMES TO LIFE

Since planting began in June this year, more than 40 percent of the green roof is now in place and flourishing on top of the reverse osmosis building.

When complete, the green roof will be the largest of its kind in the southern hemisphere, covering more than 26,000m² and holding around 100,000 indigenous plants and shrubs to blend the plant into the surrounding landscape.

Victorian company Fytogreen is installing the green roof, using a multi-layered system which provides a lightweight, waterproof base strong enough to hold such a large number of plants.

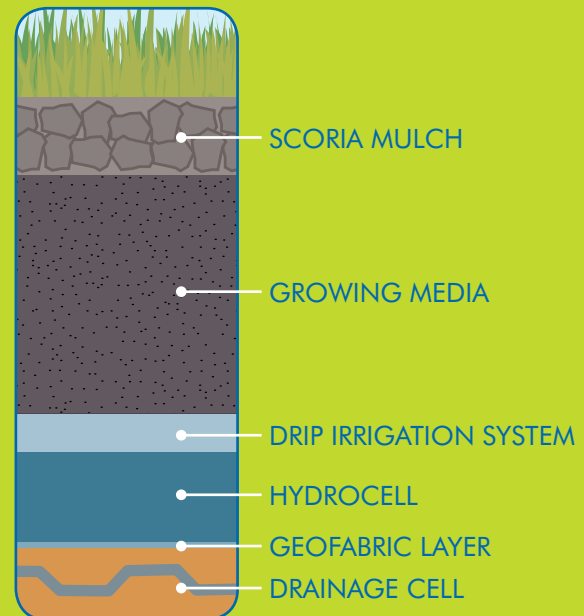
Starting with a 20mm drainage cell, a thin fabric layer is then applied to prevent any larger materials or impurities from washing through to the roof surface.

An artificial soil environment – known as a hydrocell – is then applied, followed by a drip irrigation system and an 80mm layer of growing media.

Finally, two layers of scoria mulch are applied to help hold the plants and shrubs in place.

A new display at the project's Community Information Centre in Wonthaggi provides visitors with a closer look at how this impressive structure is being put together, along with samples of the different species of plants and shrubs being used on the roof.

CROSS SECTION OF THE GREEN ROOF



Over 40,000 plants are now in place on the green roof.



LIFE AFTER THE DESALINATION PROJECT

The number of people working on the desalination plant site is decreasing and local businesses are planning for a 'soft' economic landing.



Photo courtesy Bass Coast Shire Council

Over the coming months, the 4,000 strong construction-team will scale down to make way for a different and much smaller team, who will operate and maintain the plant for the next 27 years.

AquaSure and Thiess Degrémont are currently working with Bass Coast Shire Council and organisations like the Wonthaggi Business Association to help prepare for this transition.

While the economic benefits of such a large workforce in town have certainly been felt across the business community, the challenge now is to ensure the continued economic sustainability of the local community into the future.

"We have a growing population, good infrastructure, and strategies in place to transform Wonthaggi into a major regional centre, all of which augers well for the continued economic growth of Bass Coast and surrounding areas" said Cr Veronica Dowman, Mayor of Bass Coast Shire.

A recent business forum hosted by the Wonthaggi Business Association, and attended by Thiess Degrémont and around 200 local businesses, explored these issues in depth, along with the importance of planning to ensure a 'soft landing' after the desalination workforce leaves.



PIPE AND POWER CONSTRUCTION COMPLETE

- ✓ 84km water transfer pipeline complete
- ✓ 87km underground power supply complete
- ✓ 290kms of fibre optic cable installed
- ✓ Pipeline commissioning underway and power supply commissioning to commence soon
- ✓ Infrastructure including pipeline booster pump station, surge vessels, delivery points and power supply compensation stations nearing completion

Both the 84km transfer pipeline and the 87km underground power supply for the Victorian Desalination Project are now complete.

The final section of mainline pipe was recently installed, representing the efforts of the Thiess Degrémont Nacap construction crew, which has been responsible for installing 6,787 lengths of pipe between the desalination plant and Berwick.

Installation of the 87km underground power cable has also been completed to supply a dedicated source of power for the desalination plant.

With major construction activities along the pipe and power easement now complete, work has commenced to remove the temporary haul roads that were built to enable direct access along the pipeline.

Once this is complete, truck traffic on local roads will be greatly reduced, enabling permanent road reinstatement works to begin. In the meantime, temporary road maintenance crews remain in place.



POWER CABLE COMMISSIONING BEGINS



Workers install the final lengths of the 87km underground power supply

With installation of the 87km underground power cable now complete, the process to test and commission the power supply will soon commence.

The power supply system consists of a 220kV high voltage alternating current (AC) underground cable and associated fittings that will provide a dedicated power supply for the desalination plant.

Over the coming weeks, a series of tests will be carried out to check that the power cable and its supporting infrastructure, such as transformers, circuit breakers and connection equipment, meet all necessary quality and safety standards.

In the pre-commissioning stage, reduced voltages will be sent through sections of the power cable to check that they perform as expected.

The power assets will then be energised in six stages, starting at the Cranbourne Terminal Station.

SPI PowerNet is proposed to be the licenced operator of the underground power cable and its associated assets.

Landholders along the pipe and power corridor will be reminded to “Dial Before You Dig” before undertaking any work in the vicinity of the power cable.

Contact 1100 or visit www.dialbeforeyoudig.com.au for more information.



Information centre staff explaining the power cable commissioning process.

STATE COAL MINE GETS A BOOST

The Friends of the State Coal Mine in Wonthaggi are celebrating the arrival of new mining equipment that will help them restore this unique tourist attraction to its former glory.

A dedicated group of volunteers meet each week to maintain and restore the underground facilities at the mine, with much of the restoration work being done by hand.

A recent donation from Thiess Degrémont and Thiess Tunnelling has enabled the volunteers to purchase specialist mining equipment, such as rock-breakers and drills, which will significantly speed up repair works and improve the safety of the work they do.

The volunteers were also recently treated to a tour of the desalination plant's seawater intake and outlet tunnels, a great demonstration of how far tunnelling techniques and equipment have progressed since the days of the State Coal Mine.



The State Coal Mine closed in 1968 after providing valuable supplies of black coal to power Victoria's rail network for nearly 60 years. It is now open for tours, giving visitors an understanding of the life of a miner 70 ago.

For more information visit www.parkweb.vic.gov.au

RIDING HIGH AT THE WONTHAGGI PONY CLUB

For 40 years, the Wonthaggi Pony Club has provided a venue for hundreds of young people to safely enjoy their horse riding activities.

The club provides training and encouragement for all members to improve their riding skills and enjoyment of horse riding, and also hosts a number of training clinics, competitions and equestrian events throughout the year.

A recent donation by Thiess Degrémont has facilitated the installation of new arena fencing and recreational facilities, providing a safer riding experience for young people and their families to enjoy.



Pony club members take time out from riding to enjoy their new fencing and recreational areas.

COMMUNITY LIAISON GROUP VISITS DESALINATION PLANT



The Victorian Desalination Project Community Liaison Group (CLG) continues to play an active role in providing community input into the development of Victoria's new desalination plant.

The CLG meets each month to provide feedback and address key community issues or concerns about the project.

Some of the issues addressed by the group to date include traffic management and maintenance of local roads during the construction period, maximising local involvement in the project, environmental management, landholder liaison and reinstatement works, and the future operation and maintenance of the plant site.

The environmental reports of the Independent Reviewer and Environmental Auditor are also regularly presented.

The project's design and construction team are also involved in providing special updates on key areas of work including the green roof, commissioning process, and coastal park revegetation works.

The CLG is run by an Independent Chair, and comprises representatives from Bass Coast, Casey and Cardinia councils, community representatives from these municipalities, AquaSure, Thiess Degrémont and the Department of Sustainability and Environment (DSE).

Members of the community are encouraged to provide any questions or feedback about the project to their community representatives.

Bass Coast Shire – Mr Neville Goodwin
goodwin@aussiebroadband.com.au

Cardinia Shire – Mr Ian Anderson
anviewi@dcsi.net.au

City of Casey – Cr Geoff Ablett
gablett@casey.vic.gov.au

To view the minutes of CLG meetings visit:
www.water.vic.gov.au/desalination



Members of the Community Liaison Group inspect progress on the desalination plant site.

CYCLISTS HEAD FOR THE HILLS



Proud supporters of the Bass Coast Cycle Challenge

The first Bass Coast Cycle Challenge will be held on Saturday 19 November.

This new community charity event aims to connect the community by promoting greater road safety and respect between cyclists and motorists, while showcasing the Bass Coast region.

Participants can choose between 40km, 85km and 121km courses. All routes will start and finish in A'Beckett St, Inverloch, and take in some of the spectacular hills and coastal scenery along the way.

All proceeds from the event will be used to support youth sporting activities within the Bass Coast Shire.

Thiess Degrémont and suppliers Safeman, Coates, and Highway Traffic Control are proud to support the Bass Coast Cycle Challenge by providing a range of safety and traffic management services and equipment to assist with the successful operation of the event.

For more information visit
www.basscoastcyclechallenge.com.au

The Victorian Desalination Project Community Update is a quarterly publication designed to keep you informed of the latest project news and progress.

You can download copies of this newsletter from our website or pick up a copy from the Community Information Centre.

CONTACT US

Visit the Victorian Desalination Project Community Information Centre 33–35 Murray St, Wonthaggi
Opening hours: Tuesday–Friday 9.30am–4.30pm, Saturday 9am–12pm.



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