

# Bundamba Advanced Water Treatment Plant Stage - Queensland, Australia

## Challenge

Tarong and Swanbank Power Stations supply electricity to a large portion of South East Queensland. These stations (and in particular their cooling towers) draw heavily on precious water resources, and in particular, Wivenhoe Dam. However Wivenhoe Dam is also a source of drinking water for the region. Severe drought placed extreme pressure on available water supplies. In addition to implementing tough water restrictions in the region, the Queensland State Government also sought to create long term sustainability through use of alternative water sources for power station cooling water.

The Western Corridor Recycled Water Project (WCRWP) was fast tracked by the Queensland State Government to supply up to 232 ML./d of recycled water to industry , agriculture and the Wivenhoe Dam itself. The Bundamba Advanced Water Treatment Plant is one part of the Western Corridor Project.

## Solution

Bundamba actually contains two Advanced Water Treatment Plants, 1A and 1B. 1A was commissioned in 2007. 1B was commissioned in 2008, with all units expanded to their full capacity.

A multi-barrier approach was used to purify the waste water for Power Station makeup and indirect potable use. Memcor's CP Membrane Filtration technology was chosen as a fundamental element due to its high quality result, small footprint and ease/speed of installation.

The Bundamba Project was executed by Black & Veatch, Theiss and Western Corridor Recycled Water Pty Ltd. as key members of an Alliance.

Snapshot	
Location	Australia
Source	Secondary Effluent
Application	Power Station makeup + Indirect potable reuse
Technology	Pressurised CP Membrane Filtration
Capacity	94 ML/d Memb. Filtrate
Commissioned	2007(1A)/2008(1B)



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Operational Data (1A and 1B)	
Number of cells	10
Modules per cells	240
Total capacity	94 ML/day and (CP filtrate)



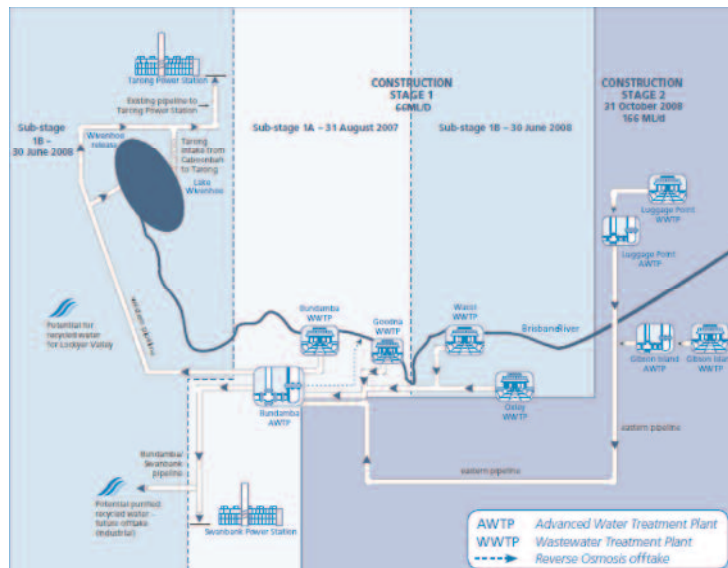
Membrane Racks

### Results

The Bundamba Plant uses Memcor Pressurized CP Membrane Filtration Technology. The CP system is supplemented by upstream coagulation/clarification (for nutrient removal), and downstream salt reduction using reverse osmosis (RO) followed by advanced oxidation (Peroxide+UV), residual disinfection by chlorine and stabilization.

### Awards

The 1A plant was the winner of the “Global Water Project of the Year Award” from Global Water Intelligence in 2007. The project team also won the 2008 International Public Relations Association Event Management Award. In addition they were awarded with a silver award in the International Association of Business Communicators special events communication management division



The Western Corridor Recycled Water Project

### Membrane Solutions

Memcor® membranes from Siemens Water Technologies represent the broadest range of low-pressure membrane filtration products -- submerged, pressurized, large capacity or small systems. They continue to be successfully employed in applications as diverse as wastewater reuse, potable water, RO pretreatment, high solids and sand filter retrofits.

Memcor® Membranes								
Product	Pres-surized	Sub-merged	Water Reuse	Potable Water	High Solids	Sand Filter Retrofits	Large Capacity	Small Systems
CP	■		■	■	■		■	
CS		■	■	■	■	■	■	
XP	■		■	■	■			■
XS		■	■	■	■			■

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MC-BUNDAMBA-dr-CS-0909  
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