

# MELBOURNE DESALINATION PLANT

## PROJECT DETAILS

CLIENT: THIESS DEGRÉMONT  
JOINT VENTURE (TDJV)

LOCATION: MELBOURNE, VIC

DATE: JAN 2010 – MAY 2011

PROJECT VALUE: AUD4BILLION

REFERENCE: NO LONGER AVAILABLE



# MELBOURNE DESALINATION PLANT



## DESCRIPTION

AWMA were engaged by the Thiess Degrémont Joint Venture to design, manufacture, supply and commission over 100 flow control structures with associated lifting mechanisms and storage solutions for Melbourne's Desalination Plant.

## PRODUCT

AWMA were engaged to design, manufacture, supply and supervise the installation of:

- 4 sets off 2300mm wide x 4000mm high, 15m head, marine grade aluminium guard gates with 25m long super duplex embedded frames
- 86 of various size marine grade segmented stoplogs up to 6000mm wide x 4000mm high with super duplex embedded frames
- 2 off 3000mm wide x 4000mm high super duplex stainless steel decanting penstock gates
- 6 off 1500mm wide x 1500mm high super duplex stainless steel drip tight isolation gates
- Epoxy coated steel stopboard self-engaging lifting frames and storage rack trailers

## SERVICES

AWMA provided 100% of the design, manufacture, installation and commissioning process to the total value of over AUD2.5million.

Additionally, AWMA provided extensive documentation, training and support.

## MANAGEMENT

**Early Contractor Involvement:**  
Initial site visits by AWMA sales and engineering staff to contribute to conceptual design development (24 weeks).

**Design and Drafting:**  
AWMA in-house engineering team (6 weeks)

**Manufacture:**  
AWMA in-house manufacturing team including purchasing, fabrication, QA, administration (8 weeks).

**Installation:**  
Mobilisations by the installation team as per program schedules.

**Commissioning:**  
AWMA Operations Manager (2 days).

**Documentation:**  
Including Safety In Design, ITP, QA, MDR, O&M Manuals, Installation Manuals etc, managed by AWMA in-house administrative and QA departments.

**Training:**  
Onsite by our Operations Manager (1 day), plus documentation and on-phone support as required.

## DELIVERY

AWMA successfully delivered the project on-time with scope extensions including supply of miscellaneous fabricated super duplex stainless steel flanges, screens and seal replacement kits.

## DELIVERY

The intake guard gates feature 20m deep guide frames which were installed using an innovative engineered polymer upper portion to reduce installation time and cost. The stoplogs are transitioned from the polymer upper frame to the primary lower frame (fabricated from super duplex) with funnels.

The frames are subjected to weekly shock chlorination and sea water, and have a design life of 100 years. This was achieved by using a fully encased design that is free of crevices, the frames were also immersion pickled prior to installation.

## RELEVANCE TO FUTURE PROJECTS

The Melbourne Desalination project was one of the largest desalination projects in the world at the time, with the completed investment exceeding AUD4billion.

AWMA was contracted directly to TDJV the constructor and was subject to some of the most stringent commercial and QA specifications and conditions ever developed within the Australian water infrastructure sector.

The equipment supplied had multiple processes and operational interfaces throughout the plant, the AWMA design team ensured a seamless interface throughout this process.

The Stopboards/bulkheads designed for this project are stored and deployed from a depot separate from the desalination plant. Mobile storage and transport for quick deployment were key considerations on this project, as well as innovative approaches to reduce installation time.



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