CASE STUDY

PROJECT	CHRISTIES BEACH WWTP
PRODUCT	UV Disinfection
INDUSTRY	Municipal
LOCATION	South Australia

water | wastewater | sewage

BACKGROUND

As part of a major upgrade to the Christies Beach WWTP in 2011-12, an in-channel Ultraviolet (UV) disinfection system was installed to disinfect the secondary treated effluent from the C-Plant submerged membrane bioreactors. Treated water exiting the UV disinfection plant is discharged to an off-site reuse scheme or discharged to a marine environment, and reticulated for onsite reuse.

The C^{3}500™D UV system supplied by Calgon Carbon UV Technologies, was selected for the project.

SOLUTION

DESIGN FEATURES

- UV system consists of three parallel channels; two to treat the design flow and a third channel for standby providing 50% redundancy.
- UV system consists of 240 low pressure high output lamps, configured into two banks of forty lamps per channel.
- UV system is designed to be expandable for higher flows at lower UVT in future.

DESIGN SPECIFICATIONS INCLUDE

- Design flow of 720 L/s, Future design flow 860 L/s
- Minimum UV Transmittance of 60%, Future minimum UVT of 55%

Calgon Carbon UV Technologies C^{3}500™ D UV system installed at Christies Beach WWTP

Each bank has 40 lamps, expandable to 56 lamps in future

BENEFITS

- **Performance & Efficiency**. Incorporates Delta Wing mixing device that is designed to provide exceptional hydraulic and germicidal efficiency.
- **Lower maintenance cost.** Uses the highest power low pressure horizontal lamps available, which means the system will have fewer lamps, resulting in less maintenance.
- **Compliance.** Validated according to NWRI guidelines using bioassay to assure the performance at design conditions.