

CASE STUDY

Containerised Waste Water Treatment Package

OUR CLIENT:	Scott Base, Antarctica (Armatec Environmental)
INDUSTRY:	Water
VALUE:	NZ\$50K
OVERVIEW:	<p>Antarctica New Zealand's WWTP was commissioned into service in the 2001/02 Antarctic summer season. The plant was the result of over two years of work by Antarctica New Zealand operations and environmental staff with the help of external specialists including ECL. While the technology used is not unique, the plant was specially designed to meet the particular needs of wastewater treatment at Scott Base in Antarctica.</p> <p>Scott Base produces 17,000 litres of wastewater per day. The wastewater plant treats all human waste and grey water (eg. washing water) produced at Scott Base by a process of screening, clarifying, biological treatment and finally disinfecting. In future some of the treated water produced by the plant may then be recycled for use in flushing toilets.</p>
ENGINEERING:	A small footprint, high reliability CompactLogix PAC was selected as the backbone of the containerised UV Technology WWTP. As time on the ice was limited, a high degree of testing, pre-FAT, FAT and pre-commissioning of equipment was implemented prior to commissioning at Scott Base. Fully documented systems, training, and O&M manuals ensured the site team could be self-sufficient during the winter when no flights were available.

- The new system exceeds the requirements of international agreements for environmental protection in force in Antarctica. The very small risk of uptake of pathogens or genetic material from wastewater by native organisms was considered potentially serious. Ultraviolet disinfection before disposal of treated wastewater will mitigate this risk.
- 100% uptime and no maintenance issues relating to the robust controls design.

