

Project Case Study

Ascension Island

Client:	Interserve Defence Ltd
End User:	VT Communications
Capacity:	2 x 120m ³ /day SWRO Plants
Contract Value:	circa £270K
Scope:	Design, manufacture & commission.
Contract Completion:	May 2007 to January 2008



General

The existing Reverse Osmosis (RO) desalination plants at the BBC's Atlantic Relay Station on Ascension Island were installed during the Falklands conflict in 1982.

Being 25 years old, the plants had reached the end of their useful life and the decision was made to replace them.

In May 2007, Salt Separation Services were awarded the contract to supply both RO plants.

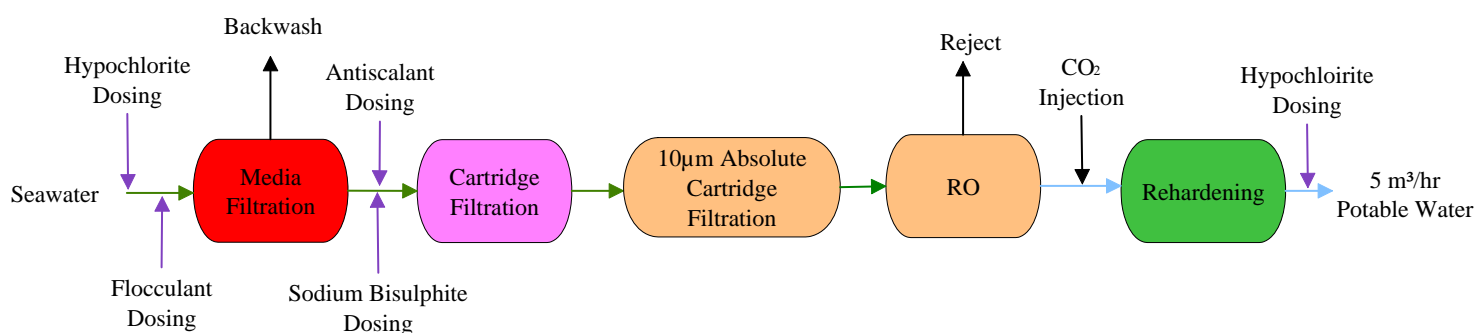
Project Details

Two identical plants were supplied. Each plant comprised of all necessary pre-treatment and post treatment. To reduce energy useage, each plant was fitted with an energy recovery device. These devices utilise the high pressure reject [concentrate] to drive a turbine which in turn boosts the high pressure pump discharge pressure ~ this meant that the pumps only had to deliver the required feed flow at 37 Barg (instead of 59 Barg), thereby reducing pumping energy by around 30 to 40%. However, the pumps were sized to deliver at the full operating pressure should the energy recovery device fail.





Process Flow



Performance Characteristics

Parameter	Design	Actual
Feed TDS	35,000 mg/l	38,800 mg/l
Feed Temperature	25 to 28°C	23.7°C
Feed Flow	16.5 m ³ /hr	17 m ³ /hr
Permeate TDS	181 to 300 mg/l	184 mg/l
Permeate Flow	5 m ³ /hr	5.7 m ³ /hr