

CASE STUDY

PROJECT DEMINERALISED WATER FOR POWER STATION

PRODUCT Brackish Water Reverse Osmosis

INDUSTRY Manufacturing

LOCATION Port Hedland, Western Australia



water | wastewater | sewage

BACKGROUND

The South Hedland Power Station Project is a 150 megawatt (MW) combined cycle power station in the Pilbara region of Western Australia. It was built under an Engineering Procurement Construction (EPC) contract with an international power station specialist.

A customised Brackish Water Reverse Osmosis (BWRO) plant was required to treat bore water and provide demineralised water to both Combustion Turbine Generator (CTG) Evaporative Cooler Skids and the Steam Section. Achieving the required treated water quality, plant reliability, strict plant footprint, client engineering specifications and delivery time were critical factors for this project.

SOLUTION

- Custom design and manufacture of a 480 m³/day containerised BWRO plant
- Two 50% Reverse Osmosis trains for improved plant reliability
- Containerised (1 x 20') with insulation, non-slip floor, air conditioning (N+1), chemical segregation and safety shower to meet the strict plant footprint
- Pressurised feed used to remove low pressure feed pumps and reduce the cost and footprint
- Free chlorine removal system, permeate blend line, and calcium hardness dosing
- Three 50% containerised evaporative water supply pumps
- Premium instrumentation and remote monitoring
- Client specified engineering and documentation
- Fast 12 week delivery time
- On site commissioning and training of local operators

RESULTS AND BENEFITS

- **Quick response.** The BWRO plant was delivered in 12 weeks and on budget to meet the required client specifications.
- **Footprint.** Custom designed to fit into a 20' container and meet the strict footprint requirement
- **Compliance.** Maintains compliance with the required treated water quality.



Containerised Brackish Water Reverse Osmosis Plant



Brackish Water Reverse Osmosis Plant on site in South Hedland