

CASE STUDY

PROJECT POTABLE WATER FOR REMOTE COMMUNITY

PRODUCT Brackish Water Reverse Osmosis (BWRO)

INDUSTRY Infrastructure

LOCATION Pilbara Region, Western Australia



BACKGROUND

Water services for Western Australian remote communities are managed by the Department of Communities (Housing), under the Remote Essential and Municipal Services (REMS) Program. Local Regional Service Providers (RSP's) are engaged by the department for the delivery of essential services to these communities.

Parngurr (Cotton Creek) is a community located approximately 375 km from Newman in the Pilbara Region. Parngurr has had a history of water quality issues associated with potable water supply, including non-compliance with the Australian Drinking Water Guidelines (ADWG) limits for health at times.

The existing water treatment plant (EDR system) needed replacing due to excessive maintenance requirements and reduced reliability. Based on the success of other similar RO plants in the region, the decision was made to change to ultrafiltration (UF) followed by reverse osmosis (RO).

SOLUTION

Containerised Brackish Water Reverse Osmosis (BWRO) to produce 120 m³/day of potable water.

MAK WATER KEY SOLUTIONS

- Ultrafiltration (UF) pre-treatment with conservative flux rate
- Optimised RO design with high recovery rate
- RO bypass (blend) line with remote control FCV
- Duty standby process pumps and chemical dosing pumps
- Containerised (1 x 40') with steel floor, insulation, air conditioning, vandalism protection and safety shower
- Auto plant restart on power outages
- High level of instrumentation with online monitoring of conductivity, pH, temperature, flow and pressure
- ClearAccess™ Remote Monitoring and Control
- Onsite commissioning and training of local RSP operators

RESULTS AND BENEFITS

- **Plant Reliability.** MAK Water's high quality equipment and robust design will provided reliable operation with minimal maintenance
- **Compliance.** Achieves required potable water compliance with ADWG
- **Technical Support.** Expert advice and consultation with the department's consultant and RSP throughout the process



Front view of plant in MAK Water's factory testing bay



Rear of container with RO system