

CASE STUDY



PROJECT SODIUM CYANIDE EXPANSION PLANT
PRODUCT Brackish Water Reverse Osmosis (BWRO)
INDUSTRY Manufacturing
LOCATION Kwinana, WA

BACKGROUND

A leading manufacturer and supplier of chemicals, fertilisers and related services to the mining, industrial and agricultural sectors faced escalating demand for sodium cyanide. To boost production capacity sustainably, they launched a national tender to appoint an experienced partner capable of delivering a highly customised packaged reverse osmosis (RO) plant.

The solution had to accommodate a unique wastewater composition, ensure resource recovery, support process reuse in cooling-tower make-up, and meet strict discharge compliance requirements, all within the site's comprehensive engineering specifications and preferred equipment standards. Failure to address these needs risked delayed production, increased operational costs, potential non-compliance penalties and unsustainable water usage.

SOLUTION

MAK Water performed extensive preliminary design workshops with all the client's key stakeholders to pragmatically update an existing design to produce a modern fit for purpose plant.

MAK WATER KEY SOLUTIONS

- 175 m³/day, three-pass skid-mounted stainless steel 316 (SS 316) RO plant with custom membrane array and reject recycling for maximised resource recovery
- 187 m³/day, three-pass, three-stage skid-mounted stainless steel 316 (SS 316) RO plant with bespoke array and reject recycling configuration
- Custom mechanical, electrical and instrumentation package
- ClearAccess™ Remote Monitoring and Control enabling remote support from MAK Water's technicians



Skid-mounted stainless steel 316 (SS 316) RO plant

RESULTS AND BENEFITS

- **Bespoke RO plant.** Optimised for sodium cyanide recovery and cooling-tower makeup, boosting production capacity
- **Sustainability.** Water management with significant resource recovery, reduced freshwater intake and lower operating costs
- **Compliance.** Meets discharge regulations minimising environmental risk
- **Technical Support and Routine Maintenance.** 24/7 Expert technical support and routine maintenance



Stainless steel 316 (SS 316) to withstand corrosive environment