

CASE STUDY



PROJECT DEMINERALISED + POTABLE WATER FOR ONSHORE GAS PROCESSING PLANT

PRODUCT Brackish Water Reverse Osmosis (BWRO) and Continuous Electro-deionisation (CEDI)

INDUSTRY Oil & Gas

LOCATION Dongara, Western Australia

BACKGROUND

An EPC contractor was engaged to deliver a gas processing facility for one of the largest gas fields ever discovered onshore in Australia. The project required ultra-pure demineralised water for makeup water in gas conditioning as well as potable water for the site. MAK Water worked collaboratively with the EPC contractor through the tender phase to value engineer a bespoke solution and was subsequently selected to deliver the plant.

SOLUTION

A Brackish Water Reverse Osmosis plant followed by continuous electro-deionisation to deliver 240 m³/day of demineralised water and 24 m³/day of potable water to meet the Australian Drinking Water Guidelines

MAK WATER KEY SOLUTIONS

- Insulated and airconditioned 2x 40' containerised plant layout
- Brackish Water Reverse Osmosis 240 m³/day
- Continuous Electro Deionisation
- Specialised iron & manganese removal system
- Client preferred PLC and touch screen HMI
- Premium Instrumentation package
- ClearAccess™ remote access
- pH correction, de-chlorination and anti-scalant dosing
- HAZOP, safety in design, operability and constructability studies and detailed 3D modelling for human factors engineering
- Client VDRL package, specific drawing & data package, including material certificates/traceability
- Delivery, commissioning and operator training

RESULTS AND BENEFITS

- **Informed Buyer Model.** A fit-for-purpose solution that complies with client specifications in a commercially sensible manner.
- **Pre-tested, modular design.** Plants were fully assembled and factory tested, and supplied with prefabricated interconnecting piping and cabling for easy site installation.
- **Lowest operating cost.** Plants were designed to minimise operator intervention, and fitted with remote monitoring and control capabilities
- **Streamlined process.** Demineralised and potable water streams from the same plant.



RO + CEDI and MMF + Chemical dosing containers side-by-side in factory



Reverse Osmosis and Continuous Electrodeionisation plant