CASE STUDY

PROJECT	DE-MINERALISED WATER FOR ONSHORE GAS PLANT
PRODUCT	Brackish Water Reverse Osmosis & Continuous Electro-deionisation
INDUSTRY	Oil & Gas
LOCATION	Karratha, Western Australia

mak water
water | wastewater | sewage

BACKGROUND

A Gas Plant in Karratha – home to one of the most advanced, integrated gas production systems in the world, where LNG, domestic gas, condensate and LPG is produced, approached MAK Water to assist with a new demineralised water plant. The water plant was a part of a US$5 billion life extension program, to extend the life of the asset by 20 years.

MAK Water has been a long term and trusted supplier to the client; working cooperatively with their contractor during the budgeting phase, MAK Water was awarded the contract to design, manufacture, supply and commission the new demineralised water plant.

SOLUTION

De-mineralised water plant: 2 x 325 m^3/day trains comprising brackish water reverse osmosis followed by continuous electro-deionisation.

Demineralised Water Treatment Plant (BWRO + CEDI)

ENGINEERING AND DESIGN REQUIREMENTS

- HAZOP, safety in design, operability and constructability studies
- Detailed 3D modelling for human factors engineering
- Client specific drawing & data package, including material certificates/traceability
- Client preferred Form 4A/3B MCCs and PLCs

CONTAINERISED DEMINERALISED WATER PLANT

- Two stage brackish water reverse osmosis (BWRO)
- IonPure continuous electro deionisation (CEDI)
- pH correction, de-chlorination and anti-scalant dosing

Ph Correction and Dosing system

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.