

CASE STUDY

PROJECT DEMINERALISED WATER FOR TECHNICAL AMONIUM NITRATE FACILITY

PRODUCT Seawater Reverse Osmosis and Brackish Water Reverse Osmosis

INDUSTRY Manufacturing

LOCATION Karratha, Western Australia



BACKGROUND

Yara are the world's largest producer of ammonia, nitrates and NPK (nitrogen, phosphorus and potassium) fertilisers and owns and operates the Technical Ammonium Nitrate (TAN) facility, adjacent to an existing liquid ammonia plant on the Burrup Peninsula. During commissioning of the TAN plant, Yara needed additional demineralised water for boiler feed water and hired a plant from MAK Water for short term, high quality water supply.

MAK has a large hire fleet of reverse osmosis (RO) plants, and was able to customise available plants to meet the urgent requirement. This was not a normal RO application as the feed was seawater and demineralised water was required.

SOLUTION

- In-house design and manufacture of a custom RO hire plant including 720 m³/day (three trains) Seawater Reverse Osmosis (SWRO) and 480 m³/day Brackish Water Reverse Osmosis (BWRO) plants
- Extensive client consultation and technical support throughout the process to guarantee a successful project outcome
- Custom scope of work included: transfer tank, permeate surge tank, permeate transfer pump, supply and onsite installation of interconnecting pipework and electrical
- Additional site installation works to achieve the required time frame
- Extremely fast modification of existing equipment to meet the strict two week delivery time
- Onsite commissioning and training of local operators, with ongoing service and maintenance



The Seawater Reverse Osmosis plant

RESULTS AND BENEFITS

- **Quick response.** MAK Water delivered the plant within two weeks.
- **Technical Expertise.** MAK water provided in-house process design and ongoing technical support.
- **Compliance.** The plants maintain compliance with the strict water quality requirements for boiler feed water.



The Seawater Reverse Osmosis plant on route to site