BACKGROUND
As a long-term supplier to Australia’s largest publicly traded oil and gas exploration and Production Company, MAK Water was invited to bid for the design and construction of a new reverse osmosis (RO) plant for the Goodwyn A (GWA) Platform, located 135 km north-west of Karratha, offshore of Western Australia.

Located above deck in a Zone 2 Hazardous Area, the RO plant was designed to fully comply with the client’s offshore engineering standards and specifications, built using client preferred mechanical and electrical equipment, and supplied with a comprehensive vendor data and documentation package.

SOLUTION
MAK Water designed and manufactured a skid mounted Sea Water Reverse Osmosis (SWRO) Plant, to produce 40 m³/day of potable water, suitable for installation above deck in a Zone 2 Hazardous Area.

PROJECT CHALLENGES
- Limited available footprint
- Zone 2 Hazardous Area (Programmable Logic Controller (PLC) was remote mounted)
- Client preferred mechanical and electrical equipment

ENGINEERING AND DESIGN REQUIREMENTS
- HAZOP, Safety in Design, Constructability and Operability Studies
- Dynamic structural analysis and certified lifting points
- Third party hazardous area certification

QUALITY AND DOCUMENTATION REQUIREMENTS
- Inspection Test Plan (ITP) with witness/hold points, Factory Acceptance Test and Site Acceptance Test
- Material traceability (Positive Material Identification (PMI) reports and mill certificates)
- Comprehensive supplier documentation package

RESULTS AND BENEFITS
- Compact design. Plant was able to fit into the required footprint, and was easily installed on site.
- Fully compliant. High quality plant built to client’s stringent offshore specifications.
- Self-sufficient. Eliminates reliance on bunkering tankers for potable water supply.