



Water & Wastewater Solutions for Defence

 **Clearmake**[®]
a mak water company



mak
water

Defence Applications

Secure, compliant and rapidly deployable systems for reliable potable water, wastewater and contaminated water treatment, including PFAS removal.

MAK Water provides robust and dependable advanced water and wastewater treatment solutions tailored to meet the unique requirements of defence facilities, training camps, and remote deployments.

As an International Traffic in Arms Regulations (ITAR) registered company, MAK Water is authorised by the U.S. Department of State's Directorate of Defense Trade Controls (DDTC), ensuring compliance with international defence standards.

Our experienced team works collaboratively with defence engineers, environmental specialists, and project managers to deliver robust, compliant solutions for every stage of the defence infrastructure lifecycle.

- ◆ **Potable Water**
Safe drinking water that meets Australian Drinking Water Guidelines
- ◆ **Sewage Treatment Plants**
Compliant sewage discharge or reuse
- ◆ **Hire of Water and Wastewater Treatment Plants**
Short-term or emergency response solutions for defence operations
- ◆ **Oil Water Separators and Dissolved Air Flotation (DAF) Plants**
Meeting compliance for vehicle wash bays and wastewater treatment
- ◆ **Deminerised Water Production**
Portable desalination units for high purity water on demand
- ◆ **Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Removal**
Mobile PFAS removal plants for temporary or permanent use



HEALTH, SAFETY & ENVIRONMENT

MAK Water places the Health and Safety of our people, clients and contractors, and care of the Environment as our highest priority.

Why Choose MAK Water for Defence Projects?

ITAR REGISTERED - Compliant with international defence trade regulations

PROVEN EXPERTISE - Decades of experience delivering water solutions for remote and high-security environments

RAPID DEPLOYMENT - Modular and mobile systems for fast installation and commissioning

CUSTOM ENGINEERING - Tailored solutions to meet defence-specific requirements and standards

24 HOUR SUPPORT - Service teams across Australia for total peace of mind

Selected Defence Projects

Since 2007, MAK Water has been proudly supporting Australia's defence force, delivering innovative approaches to water and wastewater solutions in Australia and overseas.

1. ULTRA-PURE WATER FOR NUCLEAR-POWERED SUBMARINES

Challenge: Dock side military-specification water generation for Nuclear-powered submarines.



SOLUTION

- ◆ Containerised BWRO-030 with MAKPAK de-ionisation, 9,240L 316 SS Storage Tank.
- ◆ Security-cleared, built in Malaga, Western Australia.
- ◆ Built to stringent NAVSEA, US Navy and Australian standards.

BENEFITS

- ◆ Rapidly deployable, modular and transportable.
- ◆ Submarines can berth for maintenance and generate demineralised water without returning to sea.
- ◆ Avoid costly, time-consuming submarine movements.

2. POTABLE WATER FOR PNG DEFENCE BASE

Challenge: Durable potable water system with variable feedwater built to withstand tropical conditions.



SOLUTION

- ◆ Lamella clarifier, multimedia filtration, granular activated carbon, UV and chemical disinfection.
- ◆ AS1210 vessels with ClearAccess™ remote monitoring.
- ◆ Formal on-site training delivered for local operators.

BENEFITS

- ◆ Potable water system designed for tropical conditions.
- ◆ Dual treatment trains and premium instrumentation.
- ◆ Reliable in-field operation with minimal maintenance.

3. WASH BAY UPGRADE FOR MILITARY COLLEGE

Challenge: Improve oil and solids removal, lower rewash time and costs, and meet compliance.



SOLUTION

- ◆ Gravity Clarification (GC) 3000 L/day treatment system.
- ◆ Upgraded chemical dosing system.
- ◆ Enhanced waste management and process efficiency.

BENEFITS

- ◆ Removed free floating oil and suspended solids.
- ◆ Reduced rewash frequency, improving operational efficiency.
- ◆ Lower chemical consumption and controlled dosing.

4. MOBILE PFAS REMOVAL PLANT FOR DEFENCE

Challenge: Treat contaminated stormwater and secondary effluent for off-site discharge.



SOLUTION

- ◆ Containerised Multimedia Filter treating 240 m³/day.
- ◆ Chemical dosing, media filtration, GAC and specialised resin.
- ◆ AS1210 vessels with ClearAccess™ remote monitoring.

BENEFITS

- ◆ Road transportable, rapidly deployable containerised plant.
- ◆ Turnkey plug and play solution for multiple sites.
- ◆ Reliable in field operation with minimal maintenance.

5. DEMINERALISED WATER FOR DEFENCE

Challenge: Demineralised water with conductivity below 5µs/cm for naval vessel batteries.



SOLUTION

- ◆ Containerised BWRO-B-010 with MAKPAK de-ionisation.
- ◆ Fully mobile plant servicing two sites.
- ◆ Simple design with fast turnaround.

BENEFITS

- ◆ Rapid deployment.
- ◆ Permeate conductivity well below specification.
- ◆ Reduced risk of batteries losing capacity and extended battery life.

MAK Water is the only water treatment supplier globally with RSAT 239349 Amendment 8 Category D (Systems Expert) approval.

This the first time this level of OEM access has ever been granted outside the United States and marks a significant milestone in Australia's industrial capability under AUKUS. The approval grants access to the required information to support AUKUS sustainment activities in Australia, the US and UK.

For full details of all MAK Water defence projects visit makwater.com.au/defence



MAK Water Solutions

BRACKISH WATER REVERSE OSMOSIS

Treat brackish ground, or surface water to achieve potable water quality. Standard process includes pre-treatment, RO desalination and a clean-in-place (CIP) system for membrane cleaning.



SEA WATER REVERSE OSMOSIS

Sea water or high salinity ground water is processed to achieve potable water quality. The standard process involves pre-treatment, RO desalination, auto flushing, and a clean-in-place (CIP) system for optimal membrane cleaning.



CLARIFICATION

Clean water prior to reuse, or discharge to the sewer or environment to minimise the use of potable water or water supply while protecting users and the environment from contaminants in the waste stream.



SEWAGE TREATMENT

Sewage is processed to achieve Class C or Class A+ effluent suitable for reuse. The standard process involves screening, biological degradation, clarification, and sterilisation..



ULTRAFILTRATION

Treat ground water, surface water, tertiary treated effluent, storm water or wastewater with turbidity <300 NTU. Treatment process includes pre-screening and capillary ultrafiltration modules.



OIL WATER SEPARATORS

Remove free floating hydrocarbons (diesel, hydraulic fluid, oil) and heavier solids from wastewater for wash bays where hydrocarbons are present. Add additional treatment steps for reuse as required.



MULTIMEDIA FILTRATION

Treat ground, surface, storm and wastewater with suspended solids to achieve potable or process water. Standard processes include auto-backwashing multimedia filtration. Additional filtration, sterilisation or pH correction, can be added as required.



DISSOLVED AIR FLOTATION

Counter-current system designed to achieve maximum treatment efficiency in a compact footprint. Removes a variety of contaminants to meet trade waste, environmental or reuse requirements.



WATER DISINFECTION

Automatically maintain the correct amount of free chlorine in a potable water storage tank, or use ultraviolet sterilisation to disinfect water, in accordance with Australian Drinking Water Guidelines.





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Delivering a sustainable water future

When you choose MAK Water, you partner with a team experienced in water, wastewater and sewage treatment across Australia and overseas.

We use innovative technologies to design, build, operate and maintain water and wastewater treatment plants and equipment.

Smart water solutions for a sustainable water future.

- ◆ Over 6,000 systems installed
- ◆ Established 2003
- ◆ Australian designed and built
- ◆ ISO 9001 & 45001 certified
- ◆ Customised designs

Design, Build, Support: The MAK Water Approach.

Our engineering team designs solutions aligned with technical and regulatory needs, backed by an Australia wide Service & Maintenance team.

- ◆ Scheduled maintenance
- ◆ Technical support
- ◆ Operator training

We keep your plant efficient, reliable and compliant.