

CASE STUDY



PROJECT RO Unit Hot water membrane CIP cleans
PRODUCT Drinking Water for Town Water Supply
INDUSTRY Tourism
LOCATION Northern Territory

BACKGROUND

For over 15 years MAK Water has, , maintained and serviced a Reverse Osmosis (RO) plant that for the largest off-grid tourism location in the Northern Territory supplying up to 5,000 staff and tourists drinking water.

We were asked to provide a solution to lower the Permeate Conductivity and Feed water pressures. MAK Water provided design and application advice on using hot water while carrying out routine CIP cleans. The concept was accepted, and we fabricated a 5m³ stainless steel tank to suit the pipework on site without any significant changes to the site layout.

SOLUTION

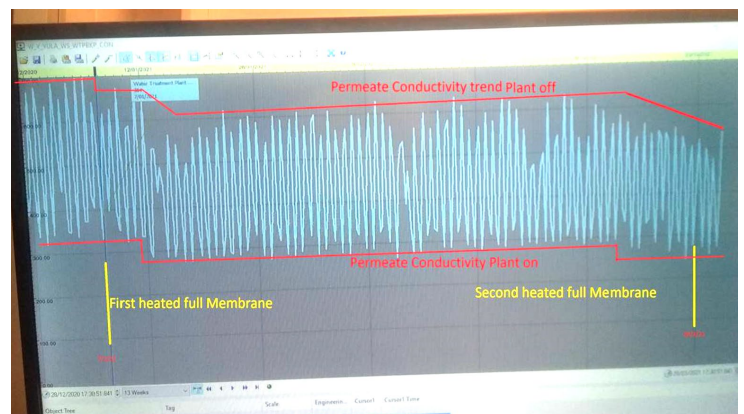
- MAK Water used past knowledge to design and specify a suitable solution.
- A stainless steel 5,000litre tank, with an immersion element unit was fabricated in Melbourne, local to the MAK Water Victoria facility.
- MAK Water shipped the tank direct to site for installation/commissioning, replacing the existing plastic cleaning tank.

RESULTS AND BENEFITS

- Performance.** Conductivity levels decreased by 30% by applying heat during the CIP process, Feed pressures dropped by 25%.
- Longevity.** Prior to the changes, the membranes were lasting up to 3 years, the membranes are now reaching 6 years, with no current need for change.
- In house design.** Experience allowed us to engineer the solution, and have it fit into a tight location.
- Knowledge.** Servicing the plant continually allowed us to design the system to fit direct into the location without pipe/skid modifications.
- Locality.** MAK Water has the capability to build plant locally to ensure direct oversight, then attend site to complete the work.
- Downtime.** Pre-planning the installation, caused minimal interruption to the site, with no stoppage to production of water.



CIP tank in fabrication prior to testing and shipping



RO Membrane Heated Clean Result