



# Feedwater Quality and Consumption Change Solutions

## Mobile Water Service

Ecolutia Services operates the world's newest and most efficient fleet of mobile water and wastewater treatment systems. Industrial and municipal customers trust our 24-hour, 365 days per year service for emergency, short-term or long-term use.

As your outsourced water treatment partner, we provide a rapid response service that ensures you benefit from the latest technologies and operating techniques. This critical service is available for worldwide deployment, incorporating customised solutions to match your requirements.

## Typical On-site Challenges

- Increased demand during commissioning, peak periods or maintenance intervals
- NO<sub>x</sub> control during dual-fuel operation
- Additional make-up water for boiler blow down
- Precise water quality for manufacturing process
- New environmental or water efficiency regulations
- Unannounced changes to municipal supply quality
- Feedwater contamination (temporary or permanent)
- Extremes of heavy rain or drought conditions

## Impact

Feedwater quality and consumption changes may be temporary but can have lasting impact on your operations if not resolved effectively. Difficulties can include the failure to meet demand for treated water during an extended production period. Another case could be quality changes beyond your control from seasonal variations, which would mean additional water treatment before use at your site.

In such circumstance, the on-site water treatment plant may only be able to manage treatment within a narrow working profile. The limitation could be production capacity or the required treatment may be beyond the design parameters of the permanent plant. This potentially risks the ability to operate in changing conditions, especially during peak demand periods resulting in the loss of infrequent high-margin production opportunities.

While operationally important, investment in a solution may be difficult to acquire. Furthermore, capital outflow for an asset with limited utilisation may be financially inefficient, consuming vital funds from your own operational budget. Therefore, a temporary back-up water treatment service could offer a viable alternative solution to the infrequent requirement.

## Service Solution

Outsourced water treatment solutions available from Ecolutia Services are deployable within a few hours. The matrix of solutions available ensures your difficulty is easily resolved. Proteus Series systems can be setup with an array of multi-media loadings and combined with our range of Triton Series reverse osmosis systems. This allows the mirroring of your permanent plant or allows the trial of a new and updated solution not possible with your existing plant.

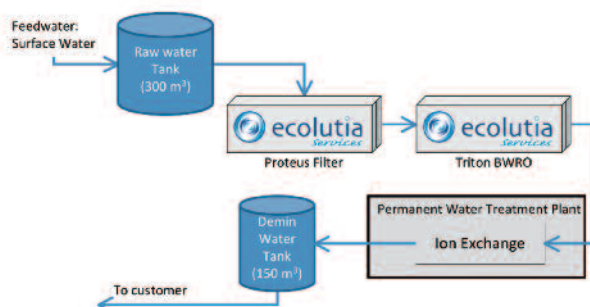
The temporary systems ensure a methodical investigation can take place into the cause of your difficulty. Once the review is complete, the mobile water treatment systems can be modified to suit any changes desired at the site while repairs, refurbishments or a new permanent installation take place.

## Example: Project A

**Challenge:** A prolonged rainy season radically increases the Total Organic Carbon (TOC) and Total Suspended Solids (TSS) levels of the feedwater. Crucial repairs to the on-site water treatment plant at this petrochemical facility may require a temporary plant shutdown. The shutdown would compromise annual targets and an alternative solution is required while the repairs are undertaken.

**Response:** A prompt short-term mobile solution provides a Proteus Series Filter unit as pre-treatment to a Triton Series brackish water reverse osmosis system. This combined setup acts as pre-treatment to the on-site ion exchange plant by decreasing the TOC and TSS in the feedwater.

**Benefit:** The use of the mobile service allows the facility to remain operational while important repairs take place and an investigation determines the long-term action required. The temporary solution offers a more water efficient solution with a higher recovery reverse osmosis system and is incorporated in the refurbished permanent water treatment plant.



## Typical Capacity of Systems\*

Proteus Series Media Loadings:

Softening	300 m³/h (1320 GPM)
Filtration	150 m³/h (660 GPM)
Demineralisation	300 m³/h (1320 GPM)
Condensate Polishing	250 m³/h (1100 GPM)
De-oxygenation	200 m³/h (880 GPM)

Atlas Series Micro-filtration 150 m³/h (660 GPM)

Triton Series Reverse Osmosis:

Seawater RO	60 m³/h (265 GPM)
Brackish Water RO	65 m³/h (286 GPM)

Volturnus Series

Electro-deionisation: 60 m³/h (265 GPM)

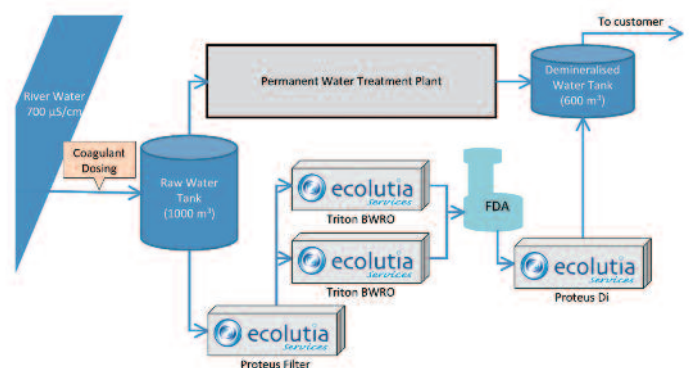
\* Total product water flow is subject to feedwater quality

## Example: Project B

**Challenge:** When switching between distillate fuel and gas, a power station requires an urgent supply of demineralised water for NOx emissions control and for boiler fill. The on-site water treatment plant has limited capacity so is unsuitable for the larger volume requirement.

**Response:** The temporary mobile water treatment systems supplement the on-site water treatment plant and produce demineralised water within hours of arriving. This allows the power station to start operations and meet its generation commitment. The larger flow capacity of the filter media loaded Proteus Series feeds two Triton Series reverse osmosis systems with product water, before final polishing via a Proteus Series demineraliser unit.

**Benefit:** The supplementary supply of demineralised water ensures the on-site water treatment plant is not over-burdened. The power station commences operation with a rapid boiler fill and start generating revenue. The infrequent need means the temporary solution offers considerable economic savings over a larger permanent water treatment plant, which remains under utilised for much of the year.



For a secure treated water supply contact Ecolutia Services