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Case Study: Reverse Osmosis for Urban Water Provider

Orica was selected to provide a Reverse Osmosis filtration system for the Tertiary Technology Trials Project, at the clients Sewerage Treatment Plant (STP). The project involved “less than full scale” trials on various process technologies to treat STP effluent.

Project History

The objective of the Reverse Osmosis membranes system was to assess the performance of the various Class A and advanced process trains as pre-treatment for RO treatment.

Project Details

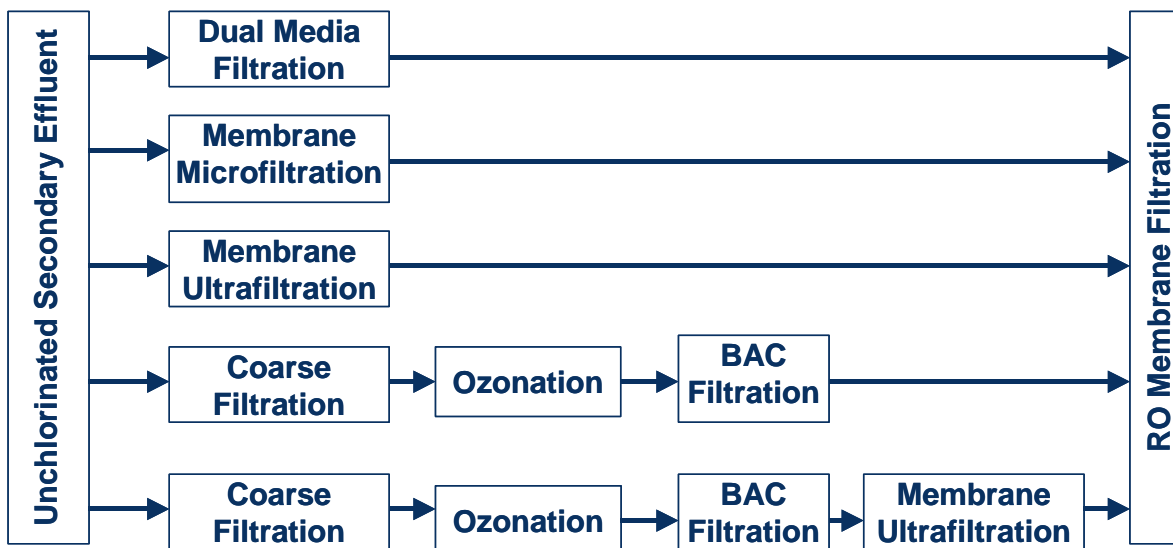
The water source and Reverse Osmosis pre-treatment varied, as shown in the diagram below.

Reverse Osmosis unit:

- 700 kPa feed with variable speed drive
- 2 stage unit with inter-stage booster pump
- 60 m³/day feed flow rate
- 3 pressure vessels (2 in stage 1, 1 in stage 2)
- 15 membranes (Filmtec™)
- Sodium Hypochlorite, Aqua ammonia, Sulphuric acid, Sodium metabisulphite and Spectraguard antiscalent chemical dosing.



Above. Reverse Osmosis Plant, with pre-treatment



Above. Flow chart showing various water source streams to the Reverse Osmosis system