**Bundamba Advanced Water Treatment Plant**

**Background:** Bundamba AWTP is part of the Queensland’s Government’s $2.4 billion Western Corridor Recycled Water Project - the third-largest recycled water project in the world. The project delivered by Black & Veatch/Thiess joint venture, features a network of 200km of underground pipelines and three new advanced water treatment plants, and will ensure a secure water supply for the rapidly growing southeast Queensland region for years to come. The AWTP Bundamba project uses the latest membrane and advanced oxidation technologies to provide purified recycled water. The main treatment steps – ultra filtration membranes, reverse osmosis membranes followed by advanced oxidation using UV irradiation and hydrogen peroxide-employed at the plant, comprise the first large scale indirect potable re-use scheme in Australia.

The AWTP was completed in two stages:

Stage 1A: This stage of the project was constructed at Bundamba to treat water supply to the Swanbank Power Station.

Stage 1B: The plant was expanded to incorporate additional volumes of water from existing wastewater treatment plants at Oxley and Wacol. The plant has the capacity to produce up to 66ML per day of treated water, 20ML of which is supplied to the Swanbank Power Station.

**Customer:** Koch Membrane Systems

**Project:** Procure, supply, fabricate, assemble, test, package and deliver to Bundamba 4 first pass MegaMagnum RO skids(MM-13) and 4 second pass MegaMagnum RO skids(MM-6).
**Facilities used:** Carbon steel facility for skid frame manufacture, Stainless steel facility for pipework, skid assembly and testing.

**Testing/Documentation:** Supplied as per Koch Membrane Systems – USA requirements.

**Steel Grades:** Stainless 316 for pipework – various schedules, Carbon steel frames in AS3678-250 and 350

**Physical:** The manufacturing process involved the fabrication and painting of mild steel skid frames, fabrication of stainless pipework, assembly of RO vessels, valves, instrumentation and pipework onto frames. Factory testing was undertaken to client specifications.

**Equipment:** Perfab utilised orbital GTAW welders for the pipework and GMAW machines for the mild steel frame work.

**Project Design:** Koch Membrane Systems – Wilmington USA

**Finish:** Carbon steel frames painted, stainless steel pipework – all fully dipped and passivated in Perfab Engineering’s pickling tank

**Delivery:** To site Bundamba - Queensland