

Kwinana Desalination Connection

An Australian First



Project Need

As Western Australia braced their worst two-year drought on record, the local community were becoming extremely concerned over the states dwindling water supplies. In response, the West Australian Water Corporation produced Australia's first operational desalination plant. Located in Kwinana 25km south of Perth, this \$387 million dollar desalination plant supplies 17% of Perth's potable water supply needs.

Steel Mains was honoured to be supplying the first operational desalination plant in Australia and as a result far exceeded expectations when supplying the required the 23km of Mild Steel Cement Lined, SINTAKOTE[®] DN1400 & DN1200 pipelines. Steel Mains also supplied the DN 200 Ductile Iron pipe and fittings for the fire service ring main at the Desalination Plant Site. All of Steel Mains products were supplied with the sort of quality and reliability that helps to enable a breakthrough project such as the Kwinana Desalination plant to become such a resounding success.

Solution

The West Australian Water Corporation called on a joint venture between contractors Multiplex and Suez (Degrémont), to build and operate a desalination plant for the next 25 years. Steel Mains was called upon to assist with the manufacture and supply of the trunkmain pipeline connection. Steel Mains provided the pipelines required to connect the Desalination plant to the Thomson reservoir and to connect the reservoir to the Integrated Water Supply Scheme.

Achievements

Western Australia becomes the first state in Australia to employ desalination as a major public water source. The salt water reverse-osmosis (SWRO) plant was the first of its kind in Australia and covers several acres in an industrial park near the suburb of Kwinana. The new plant currently has a capacity of 140,000m³/day with designed expansion to 250,000m³/day. Electricity for the plant is generated by the 80 MW Emu Downs Wind Farm located in the state's Midwest region near Cervantes. The wind farm contributes 270 GWh/year into the general power grid, more than offsetting the 180 GWh/year requirement from the desalination plant. This makes Kwinana the biggest plant in the world to be powered by renewable energy. With committed contractors and reliable suppliers such as Steel Mains, Western Australia's water supply now looks to be secure.

Project: Kwinana Desalination Connection

Principal: West Australian Water Corporation

Location: Kwinana, Western Australia

Completion: 2006

Supplied: 23km of 1400OD & 1200OD Sintakote Steel Pipe, Fittings & Valves