

Al Najdah Desalination Plant

Modern Water was awarded the Al Najdah desalination plant contract in October 2011 following a competitive tender. This followed on from initial forward osmosis (FO) desalination pilot trials in Gibraltar in 2008 undertaken by Modern Water and the subsequent FO desalination plant built by Modern Water at Al Khaluf, Oman in 2009.

Project Description

This Al Najdah plant is world's first commercial forward osmosis desalination plant.

The site is located approximately 450km south of Muscat in the Al Wusta region of the Sultanate of Oman and is in a harsh and hostile environment for plant and equipment as well as the operations staff. In addition, the source water is poor quality and has a TDS of 55,000mg/l making it difficult to treat.

The site is owned by the Public Authority for Electricity and Water (PAEW) and prior to the award of this contract housed a small, conventional reverse osmosis plant (still operating today). The new plant is located within a fenced compound and is fed from its own beach well water intake as well as having its own treated water storage. Accommodation for the operations staff as well as plant offices and a laboratory were also provided under the contract.

The plant was designed by Modern Water's engineering team in the UK and was built under a sub-contract agreement in Oman with Modern Water engineers supervising construction, before being shipped to the site for final construction and commissioning. Following successful commissioning and acceptance tests the plant was then transferred to a rolling 12 month operating contract also undertaken by Modern Water.

KEY FACTS

- » Country - Oman
- » Client - Public Authority for Electricity and Water (PAEW)

