DESALINATION – CASE STUDY

Tarawa

Kiribati

> The customer

Public Utilities Board, referred to as PUB, the state owned Utility, will manage the Reverse Osmosis plant for potable water for distribution.

Avanale Water Solutions– 500 m³/day

- Avanale Water Solutions was successful in tendering for the supply of a 500kl/day containerised reverse osmosis process funded by the Government of New Zealand. The scope involved full design of the process and site layout/preparation. The clients instructions was to design a simple system that would run automatically. A training and an ongoing upskilling program was also specified.
- The seawater desalination plant will use the membrane reverse osmosis process. This is a containerised system utilising an existing sea water Beach well intake for the feed water. The system is capable of producing 18.25 million litres of potable water a year. Whilst the system is automated, the design was kept simplified to enable the local skilled and semi skilled work force to operate and maintain the process.
- Avanale had only one hands on project manager onsite throughout the installation process and trained and utilised trade students from Kiribati Institute of Technology to perform the installation. Several of these students where given positions by the client to maintain and operate the system. This upskilling approach proved extremely successful.
- Over the last decade the cost of producing desalinated water has fallen Significantly, this system utilises a Fedco energy recovery process.
- Avanale continue to provide remote support with an objective to continue to upskill the local workforce.

> The needs

Kiribati has a serious water deficit due to :

- **Drought conditions** ;
- **Limited availability of natural water resources ;**
- Rainfall has been below the annual avarage
- Bore water is increasing in salinity
- **Increase in demand** for water due to population growth and economic development.
- **Prevent saline ingress** into existing water resources.

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Avanale Water Solutions

Tarawa

- Whilst the Islands of Kiribati are unique, cover a vast area and are beautiful, they are remote, and the need for reliable potable water is increasing as climate change affects' the Islands of the Pacific.

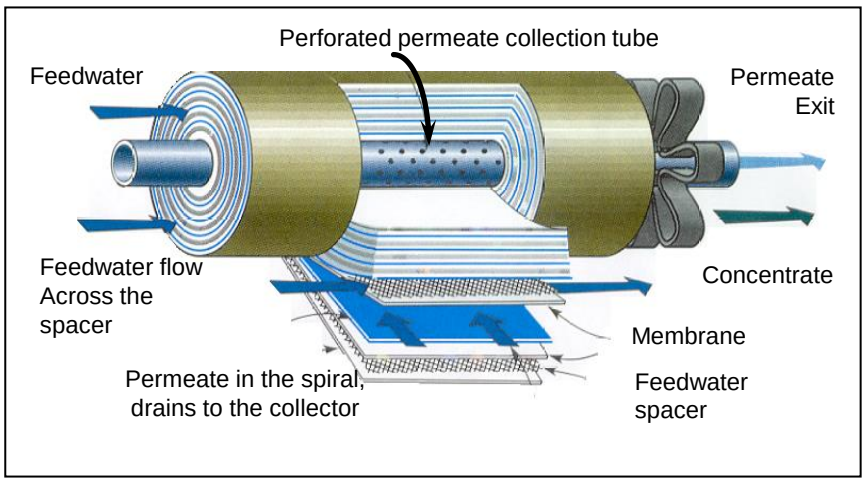
DESALINATION

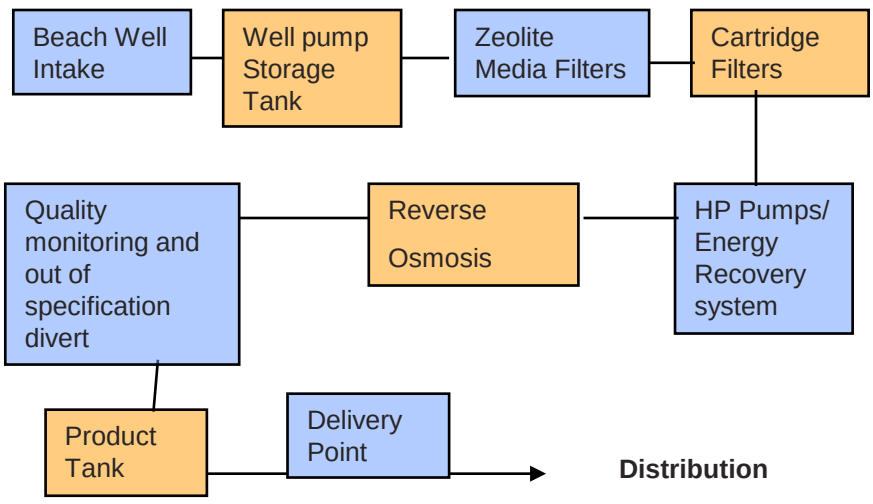
Avanale's PROCESS SOLUTION

> Results

- This is Kiribati's first Sea Water Reverse Osmosis unit of this size
- The unit was installed within a couple of weeks utilising and upskilling students from the Kiribati Institute of Technology
- The Reverse Osmosis process will provide potable drinking water for the people of Tarawa whilst relieving stress on local Bores
- The installation will contribute to Kiribati's water security
- The client as well as the Government of New Zealand were extremely satisfied with the success of the project

Spiral wound membrane used in RO





Simplified Process Flow Diagram

> Contact

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