



# Kwajalein Atoll Joint Utilities Resources, Inc.

**LOCATION**

Ebeye, Marshall Islands

**ENGINEER**

The Staff of  
Sea Level Systems, LLC

**CAPACITY**

760 m<sup>3</sup>/d

**FEED QUALITY**

49,000 TDS

**FEED SOURCE**

Seawater

**IN OPERATION  
SINCE:**

March 2001

The Marshall Islands' only source of water is the ocean and the cost of power is relatively high because of the remote location. When Sea Level Systems (SLS) was asked to provide a proposal for a desalination system to provide high quality drinking water to the 12,000 residents of Ebeye, these factors were taken into account.

Two proposals were submitted, one based on standard technology and one based on obtaining the highest level of efficiency. The benefits of high efficiency were selected due to the long-term savings on energy cost. The standard technology design allows for power consumption rates of around 5+ kWh/m<sup>3</sup> and the state-of-the-art Sea Level Systems (SLS) design allows for a projected power consumption rate of < 3 kWh/m<sup>3</sup>. This is achieved by the use of high efficiency pumps and energy recovery devices which transfer the energy from the concentrate (discharge) stream to the intake of the system where this energy is used to produce more water. Virtually no energy is loss in the concentrate stream with this design.

The total daily capacity is 760 cubic meters (200,000 gpd). Two units were provided each producing 50% of the daily capacity. The product water quality greatly exceeds the requirements which are based on the WHO standard.

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