

Location: Caribbean



AMI advanced desalination systems boost island's water capacity for growing tourism

Rising tourism and limited availability of clean drinking water poses a challenge in on islands. AMI desalination solutions solve this challenge.

Challenge

A private island in the Caribbean is committed to providing a memorable experience for its visitors.

As the island experienced a surge in tourism and an increasing number of visitors, the need for a sustainable and reliable clean water supply was top priority.

The island's growing population, higher water consumption, and rising energy costs demanded an innovative solution. Ensuring compliance with stringent drinking water standards was also imperative.

Impressed by two other AMI reverse osmosis (RO) desalination systems on the island, they looked to Applied Membranes again to expand their water production capacity.

Solution

Applied Membranes designed and built an innovative, energy-efficient seawater desalination system tailored to the island's specific requirements.

The AMI system utilized advanced reverse osmosis technology, producing **50 GPM (12 m³/h)** of permeate water.

Seawater was sourced from beach wells and underwent a filtration process before being pressurized through the RO system.

Key Components:

- Energy recovery system
- Antiscalant
- Sodium bisulfite injection
- Calcite filter
- ORP monitor
- Clean-in-place system

Results

By ensuring a consistent supply of water while minimizing environmental impact, Applied Membranes contributed significantly to the sustainable development and thriving community on the island.

Engineering excellence – AMI system consistently produces high-quality potable water. Piping design ensures optimal flow rates throughout the desalination process.

Energy efficient – Energy recovery systems improved efficiency and reduced energy consumption. AMI system minimizes water wastage and maximizes output.

Ease of maintenance – The skidded system allowed for efficient testing, service, maintenance, and monitoring.

AMI desalination solutions not only addressed immediate water needs—they also laid a foundation for a sustainable and prosperous future for the island.

