

Case Study

# Industrial Water Delivered Quick in Curaçao



SEVEN SEAS WATER GROUP  
Water-as-a-Service®

## Project Details

**Location:** Curaçao

**Customer:** Curaçao Refinery Utility

**Technology:** Sea & Brackish Water Reverse Osmosis

**Capacity:** 1.45 MGD (5,510 m<sup>3</sup>/d)

**Market:** Industrial / Oil & Gas

## Water Production Handled by Water Professionals

With Water-as-a-Service®, Seven Seas takes on all the duties of water and wastewater treatment with no upfront investment, charging clients only for delivered water under performance-based contracts. We offer variable-year arrangements and can buy and upgrade existing infrastructure. Our modular equipment can be efficiently scaled up or down to meet changing demand.

Contact Seven Seas. Our water professionals are ready to share our many problem-solving options.

## Overview

Curaçao Refinery Utility (CRU), located in the Caribbean, was experiencing difficulties meeting the water demand of their client, Isla Refinery. It was challenged to keep up with production of the large quantity of water required to operate the refinery due to unscheduled maintenance and down-time of existing thermal distillation and seawater reverse osmosis (SWRO) units that are owned and operated by CRU. Insufficient water supply had caused unplanned shutdowns which resulted in millions of dollars a day in lost revenue.

CRU requested that Seven Seas Water Group provide an emergency supply of industrial quality-water of 1,454,700 gallons per day (GPD) (5,510 m<sup>3</sup>/d) in the shortest time-frame possible to supplement shortfalls and provide a buffer so it could execute a required maintenance program to return their units to the designed capacity.

## Flexible Solutions

Seven Seas responded to the client's requirements with a two phased solution consisting of an immediate supply of 451,000 GPD (1,710 m<sup>3</sup>/d) of containerized capacity delivered to site within two weeks and an additional 1,003,200 GPD (3,800 m<sup>3</sup>/d) of land based capacity. The Seven Seas RO units are a two pass design which produces a product water quality of 25 uS/cm, a significantly higher quality than that used for potable purposes, from Caribbean seawater feed.

Additional pretreatment challenges were resolved by Seven Seas. The refineries existing feed water supply is from a slow-moving marsh in a busy harbor with significant oil, grease, and biological content.

## No Capital Investment

Under a build-own-operate (BOO) arrangement, which required no upfront capital investment from CRU, Seven Seas is providing the supplemental water supply for a five year term. Seven Seas financed, designed, built, operates, and maintains the units on a daily basis and provides a guaranteed quality and quantity of water at a fixed cost with no surprises. The client only pays for the water it uses.

## Fast, Guaranteed Results

In less than one (1) week from contract signing, the first phase of the project consisting of 451,000 GP D (1,710 m3/d) of reverse osmosis capacity was shipped to the site. The emergency supply was flowing in less than 2 months. The second phase of 1,003,200 GP D (3,800 m3/d) was supplied in less than 12 months for a total supply of 1,454,200 GPD (5,510 m3/d).



**“With containerized seawater reverse osmosis units in stock, we were able to execute quickly for our client. Each 250,000 GPD unit consists of two 40’ containers, one houses the media tanks and the reverse osmosis racks are in the other. This set up consisted of a 2 pass system to ensure we delivered the guaranteed industrial water quality.”**

**Allan Pott, VP Design & Engineering**

