Customer Success Story

Location: Mexico

Applied Membranes builds ultra-high recovery BWRO system

Achieving ultra-high recovery requires a combination of engineering expertise and a deep understanding of water quality and the client's objectives.

Challenge

The client, a prominent engineering firm in Mexico needed a solution for its client's application.

The source water is pre-treated with biological wastewater system, Ultrafiltration (UF) to less than 0.05 microns, softened and polished with carbon filters for dechlorination.

The client wanted to achieve higher quality water and reduce waste. The water to be treated is considered high salinity, over 3000 ppm with up to 60,000 ppm TDS in the concentrate.

The RO permeate must be less than 500 ppm and less than 200 ppm chloride for an ultra-high recovery RO application.

Having successfully partnered with Applied Membranes in the past, the client reached out for a solution.

Solution

Applied Membranes designed, built, and shipped robust ultra high-recovery (UHR) high salinity Reverse Osmosis (RO) system producing **55 GPM (13 m3/h)**.

The packaged skid-mounted system features powder coated aluminum frame for a durable corrosion resistant surface. The attractive finish is easy to maintain and clean.

AMI UHR BWRO system is completely assembled, wired, piped, and tested before shipment. It includes integrated clean-in-place (CIP) system with heater for improved effectiveness.

Key Components:

- Antiscalant
- Clean-in-place system
- Chemical injection system
- High pressure RO pump
- Programmable Logic Controller (PLC)

Results

AMI UHR BWRO system processes pre-treated wastewater, to produce water quality of less than 500 ppm with a **recovery rate of 95%**. The system delivers permeate meeting the client's quality requirements.

Engineering expertise: Through engineering and manufacturing expertise, the AMI system integrated seamlessly into the client's infrastructure.

Quality: Permeate from AMI system consistently measures TDS levels below 500 ppm and chloride levels below 200 ppm at 95% recovery rate.

Ultra-high recovery: The ultra-high 95% recovery AMI system delivers significant cost savings and minimizes water wastage. The recovery rate also mitigates discharge to support sustainable water management practices.