



Location: UAE

AMI system transforms high brackish water to high-quality water for potable and non-potable use.

High brackish water and desert conditions pose unique challenges that require robust water treatment solutions.

Challenge

A client in an arid desert region required an urgent solution for their customer. They needed a water treatment solution to treat high brackish water with total dissolved solids (TDS) level exceeding 15,000 ppm.

The product water is intended for potable and non-potable use for development property and hotel. The client needed a reliable system that could operate effectively even under direct exposure to the intense desert sun.

The primary challenge is the high TDS level of the source water, which necessitates a robust and efficient treatment system to meet the client's permeate quality requirement of less than 500 ppm.

The system needs to withstand the harsh desert environment, including direct sunlight exposure. The client needed the system on a rush order basis and reached out to Applied Membranes for a solution.

Solution

Applied Membranes engineered, built, and shipped a robust water treatment system with a capacity of **15,000 GPD (70 m³/d)**.

The AMI system is fully skid-mounted and containerized inside a 20-foot ISO climatized container with pretreatment.

The containerized system is painted desert sand color, insulated, finished for installation, and suitable for mobile operation. Interconnected plumbing and electrical for all enclosed equipment is included.

The system was manufactured and tested at Applied Membranes ISO:9001 facility in Vista, CA, USA to verify performance and functionality before deployment.

Key Components:

- 20-foot climatized container
- Pumps including backwash pump, booster pump, RO pump
- Antiscalant
- Clean-in-place system
- Media filter
- Chemical injection system
- System controller

Results

With advanced engineering and after-sales support, Applied Membranes built and delivered a reliable and efficient water treatment solution as a rush order to the client.

Quality: Permeate quality measures at ~300 ppm, meeting the client's requirement of less than 500 ppm. The system elevates the guest and resident experience by providing high-quality potable and non-potable water for human consumption and property amenities.

Durability: AMI system has been operating reliably for several years even in harsh desert conditions. The robust container design and equipment is durable, and the system is optimized for performance.

Ease of Operations: Positive feedback was received from the client regarding system performance and ease of operations and maintenance.

The successful deployment of AMI system for treating high brackish water in a short timeframe reflects Applied Membranes' commitment to providing reliable solutions in a timely manner.

