

Location: US



Applied Membranes delivers water treatment solutions for improved agriculture and irrigation

Generating reliable, high-quality water efficiently is key for agricultural and irrigation practices.

Challenge

The water source for a customer in the agriculture industry comprised well water blended with pond water.

Iron reduction was a primary concern, along with the need to lower TDS to below 200 mg/L.

The customer needed to treat water effectively and efficiently for irrigation purposes.

They required a solution to convey treated water back to their irrigation pond at a significantly reduced pressure for efficient water usage.

Solution

Applied Membranes Inc built a **70 GPM (16 m³/h)** Brackish Water Reverse Osmosis (BWRO) desalination water treatment system to meet the customer's needs.

The solution integrated a manual blend line for re-mineralizing water back to a balanced state after primary treatment for iron reduction.

The system included ORP monitoring and pumping mechanisms for chemical injection.

The RO permeate was channeled back to the irrigation pond at a reduced pressure of less than 10 psi, minimizing backpressure and optimizing its usability for irrigation.

Results

AMI system enhanced the irrigation water treatment process.

The AMI system effectively reduced TDS levels to meet the desired irrigation standards below 200 mg/L.

Prefiltration with AMI iron/media filters reduced iron, turbidity, and suspended particles.

Dedicated pumping systems for each injector ensured precise control over chemical dosing.

The overall design provided enhanced control, efficiency, and flexibility, meeting stringent water quality standards required for agriculture industry.

Key Components:

- Clean-in-place system
- Oxidation-Reduction Potential (ORP) monitoring
- Pumping systems for each injector
- Greensand filters

