Customer Success Story

Location: California

AMI innovative RO system transforms water pollution control

Power generation facilities need to deal with potential water pollution and the threat of saltwater intrusion into local wells.

Challenge

A large municipality faced increasing demand for high-quality water and the need to minimize water pollution control at a power generation facility. By optimizing the facility's steam cycle, it aligned with more sustainable energy practices.

The municipality sought a new water treatment solution that could effectively be used within the facility's processes. Permeate would need to have a minimum overall recovery rate of 85%.

The water treatment system must comply with federal, state, and local codes and regulations. The system also had to meet noise level limitations and fit within a highly confined footprint.

Meeting these stringent requirements added complexity to the project, requiring a detailed understanding of regulatory standards and operational expectations.

The project demanded expertise and an innovative approach. Applied Membranes was selected for the project.

Solution

Applied Membranes designed and built a state-of-the-art, innovative **50 GPM (12 m3/h)** package RO system using exceptional engineering practices.

AMI system was fully skid-mounted and shop assembled for easy shipment and installation. Three (3) parallel skid mounted carbon filters were integrated to remove chlorine.

The AMI system was designed to operate under a custom designed canopy structure that met client's aesthetic and functional requirements and protected the system from environmental elements including sun, rain, humidity, dust, and wind-blown particulate matter.

Applied Membranes' engineering team collaborated with a structural engineering firm to ensure successful installation. The foundations and anchorage were designed to resist seismic forces and withstand related stresses, in adherence to the latest building codes. Noise level limitations were defined and incorporated into the system design.

Key Features:

- Antiscalant
- Chemical injection system
- Carbon filters
- Recycle control valve
- Programmable Logic Controller (PLC) with touchscreen control panel

Results

By addressing modified steam cycles at the power generation facility, AMI system contributed to the sustainable conversion of waste into valuable water resources.

Excellence in engineering: AMI system successfully met rigorous criteria throughout the design and implementation phases.

Simplified installation and operation: AMI package system was pre-piped, pre-wired, and assembled on structural steel skid for easy operation. This approach not only expedited installation but also ensured compliance with applicable federal, state, and local codes and regulations.

Innovation: AMI system design reflects innovative, modern engineering and high-quality craftsmanship. A distinctive feature of the project included an innovative canopy concept proposed by Applied Membranes.

Operational training: AMI delivered operational training courses, accompanied by proof of experience for instructors. Detailed test procedures, field test results (including samples), and comprehensive manuals were provided.

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