CASE STUDY

Power Plant Reduces Treatment Costs and Improves Reverse Osmosis Efficiency with ChemTreat CL3000 Technology

Background

A power plant in the Northeastern United States installed a grey water reverse osmosis (RO) system to save on cooling tower makeup water costs. The RO system experienced increased differential pressure and decreased flow because of microbiological fouling, even when nonoxidizing biocide CL206 was fed. This resulted in the need for frequent cleanings and downtime to maintain design performance. The nonoxidizing biocide alone could not economically control the microbiological levels.

Solution

ChemTreat supplemented the nonoxidizing biocide with CL3000, a chlorine dioxide aqueous solution. Feeding this chemistry at recommended levels resulted in good microbiological control, few pressure increases, and improved flow loss. The system was then fed with CL3000 and CL206 on an alternating schedule for optimal microbiological control, minimal pressure gains, and flow loss.

Results

The application of CL3000 and CL206 has extended the change out of cartridge filters elements from once a week to every other week, and reliably produced water at a consistent pressure and flow with long run times between cleanings. The power plant now performs cleanings as preventative maintenance on a scheduled basis, as they are no longer necessary for maintaining plant operation.

Applying CL3000 at this facility has reduced the total cost of operation by delivering the following savings:

- **40% reduction in biocide usage**
- **25% reduction in chemical cleaning frequency and associated downtime**
- **50% reduction in annual cartridge filter replacement costs**

Results are examples only. They are not guaranteed. Actual results may vary.

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