



MPW Quick Study a success for food-production plant in Iowa

Problem

The primary water treatment system located within the cogeneration plant of a specialty-food-production plant experienced increased operation and maintenance costs. The plant contracted MPW Industrial Services to provide its analysis. With MPW's **Quick Study**, experts review system operation and provide technical analysis, including recommended system improvements, in fewer than 10 days.

Solution

An MPW mechanical engineer and application engineer combined to produce the **Quick Study**, which provided a recommendation for a two-step improvement process.

The first step consisted of direct operational enhancements that involved minimal expenditure on the part of the client. These advancements included:

- Specific changes to flows and pressures within the system
- Lowering the pH of the city water before it enters the RO system
- Changing antiscalant dosage to prevent overfeed
- Weekly biocide flush with a DBNPA or Isothiazalone when feed water temperatures exceed 60 degrees F
- A complete overhaul of chemical cleaning processes with an emphasis on proper data recording in order to better understand cleaning effectiveness
- Sensor calibration to manufacturer specs and weekly checks for proper performance
- Deionization (DI) permeate to RO feed line for flush during shutdown
- Specific ion exchange guidelines to increase daily capacity

The second step included recommended equipment upgrades that afforded the system increased automation functionality. These included:

- Individual chemical feed systems for each RO
- Additional sensors
- Chlorine analyzer
- Pressure transducers
- pH probes
- Conductivity sensors
- A new CIP skid
- Flow meters
- Chemical injection pumps



Results

The customer elected to implement the recommendations contained in MPW's **Quick Study** analysis. Almost immediately upon completion of the upgrades, the customer witnessed operational efficiency improvements. The facility realized drastically enhanced reliability and achieved cost savings via reduced operations and maintenance labor.