MPW PRODUCTS DIRECT

Case Study

MPW retrofit upgrades efficiency of chlorination system at Texas power plant

Problem

A natural gas-fired power plant in Texas needed to upgrade its outdated sodium hypochlorite injection delivery system to a schematic process that would include five bay-intake screens with automated indexing of chemical delivery to each screen.

The sodium hypochlorite system is necessary for the control of macro and micro fouling of the circulating water systems for the power-production units and auxiliary cooling water. Plant personnel knew that replacing the manual injection process with an automated process would increase the safety and efficiency of the plant.

The facility's corporate office recommended MPW Industrial Services for the job. Two main reasons for the selection were MPW's 45 years of experience in equipment design/fabrication and MPW's success with automation at other sites.

Solution

Experts from MPW's engineering and fabrication groups collaborated to design and implement the new system.

Although the customer requested the use of fiberglass reinforced plastic (FRP) piping, MPW evaluated the system requirements and proposed a superior component. Proline PE, a polyethylene-fused product, is produced specifically to function with sodium hypochlorite. This type of piping provides a longer service life and no maintenance, as opposed to the FRP piping that is prone to failure.

Results

This job showcased MPW's ability to handle multiple aspects of a plant's industrial needs, including retrofit projects that some clients may consider outside the scope of MPW's typical expertise.

A plant chemistry specialist wrote: "the new MPW chlorination system is far superior to our old chlorination system. We have dramatically reduced the minimum inhibitory concentration (MIC) in our condenser tubes, enabling us to maintain our heat transfer. We are currently on a three-year schedule for line-mole cleaning the condenser tubes ($16,000 per unit) because of moderate fouling, but we may consider extending the cleaning frequency to five years if the condenser cleanliness numbers hold up."

The installation took about 10 days and there were no safety incidents during this project.

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