CASE STUDY

Protecting Concrete Facility Infrastructure: Prolonged Pipe Life in Sand Heating Systems with Aquaguard 841

CHALLENGES

A concrete ready-mix facility with a steam generator sand bin heating system suffered from high levels of scale build-up and corrosion. Corrosion of steel piping, resulted in pipe replacements every 1.5-2 years while deposit formation in the steam generator, reduced efficiency and increased maintenance costs.

SOLUTIONS

Conventional treatments were replaced with Aquaguard 841 and HR2. Aquaguard 841 treatment resulted in a protective film preventing corrosion on all system surfaces. Scale and deposit formation were reduced by the addition of Aquaguard HR2, improved monitoring and water softener maintenance.

RESULTS

Extended Pipe Service Life

Before Aquaguard 841 treatment, pipes were replaced every 1.5 to 2 years. Four years after starting Aquaguard 841 treatment, the original pipes are in good condition and remain in service.

Reduced Chemical Consumption and Maintenance Costs

Using a filming treatment instead of a conventional water treatment program reduced chemical consumption by 33%. Scale prevention and corrosion control reduced maintenance costs, and eliminated mid-season shutdowns for pipe repairs.

Improved System Performance

Reduced deposit formation and corrosion, lead to a more efficient and reliable steam generator system.

AT A GLANCE

A concrete site using a direct injection steam generator faced issues with high deposit formation, corrosion, and frequent pipe replacements. Guardian Chemicals introduced Aquaguard 841 treatment, which improved the system's performance and extended the service life of the pipes.

KEY METRICS

ZERO
MID-SEASON SHUTDOWNS

ELIMINATED
PIPE REPLACEMENTS

33% DROP
IN ANNUAL CHEMICAL CONSUMPTION

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DATA

Before Aquaguard 841 treatment, high corrosion rates required piping to be replaced every 1.5-2 years.

These pipes were only in service for 1.5 years before replacement.

The direct water injection steam generator system has no ability to blow down solids or remove dissolved oxygen. There is no deaerator or feedwater tank. The previous conventional treatment was overwhelmed in this harsh environment. High dissolved oxygen levels, carbonic acid, and mineral content, resulted in high corrosion rates.

Replacement piping after four years of service with Aquaguard 841 and HR2 treatment program.

System is only operated during the winter months and laid up the remainder of the year.