Case Study

MPW's automated lance improves safety and efficiency of boiler cleaning

Problem

An energy-from-waste plant in the Midwest faced the challenge of hiring an industrial cleaning partner that could improve the safety and efficiency of boiler-cleaning processes during outages.

Previous contractors encountered malfunctions and failures with their pumps in previous attempts to clean the boiler. This led to delays that interrupted other scheduled outage services and ended up being costly to the customer.

The plant contacted MPW Industrial Services to develop a superior boiler-cleaning system.

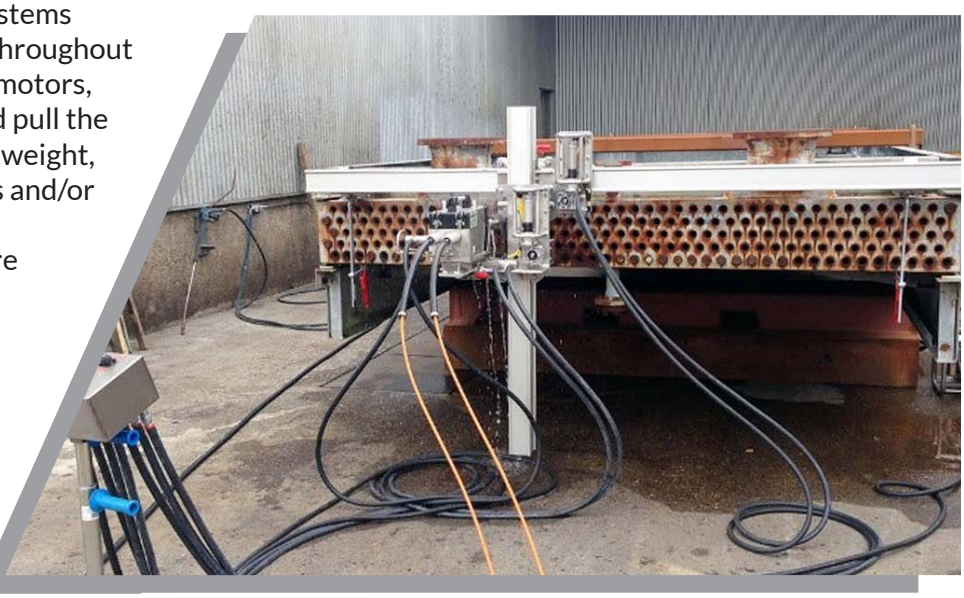
Solution

MPW performed a boiler wash with 2D heads at 20,000 psi and a flow rate averaging approximately 75 gallons per minute.

MPW employees raised a cable over the boiler and set up an automated single lance that began cleaning within 12 hours of the beginning of the scheduled outage. This system is capable of cleaning boilers with little or no delay after the boiler reaches offline status because its automated capabilities allow work to begin before complete cool down. Since it eliminates confined space entries and water blasting by hand in the boiler, this is the most important aspect of automated cleaning.

The use of 2D nozzles was also more effective. While previous contractors utilized 3D heads, MPW operations personnel pointed out that 2D nozzles are a better fit for this project because 3D heads sprayed in directions that were unnecessary inside this boiler. MPW's 2D nozzles provided a more consistent clean in some of the harder-to-reach areas of the boiler.

MPW's SAL-1 (single automated lance) systems produce a constant and consistent clean throughout the entire length of the tube. Utilizing air motors, these systems drive the lance forward and pull the lance back under pressure. SAL-1 is a lightweight, hand-held device for smaller tube bundles and/or more confined spaces. Internal back-out preventers and external lance stops ensure safe cleaning.



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Results

Operations personnel modified the automated lancing procedure in order to complete the project more efficiently. They found that adding extensions to the lance resulted in a more productive spraying radius.

MPW workers were also able to complete additional cleaning responsibilities beyond what was originally planned. For example, MPW used its state-of-the-art vacuum trucks to clean a debris-filled trench in the basement of the facility.

Results

The entire project, including the unscheduled cleaning, took eight days. During this time, MPW achieved a 100-percent clean with no entry into the boiler and encountered zero safety incidents on this project.

MPW used advanced equipment that is less likely to fail and kept a mechanic onsite throughout the project to eliminate potential delays that might be caused by equipment failures.

The client was pleased with the results of the cleaning and impressed with the company's equipment, innovation and communication processes. Plant personnel commented that MPW was a "one-stop shop" for any type of cleaning service they might need.