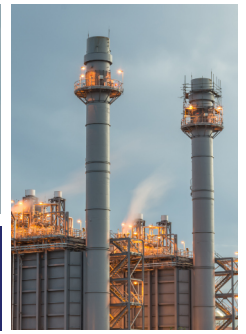


ProDecon® Case Study

Waste to Energy Plant - Europe

Online Boiler Cleaning



PROJECT HIGHLIGHTS

- ▶ ONLINE CLEANING SOLUTION
- ▶ INCREASED PLANT EFFICIENCY
- ▶ FOULING DEPOSITION SIGNIFICANTLY REDUCED
- ▶ REDUCED SHUTDOWN FREQUENCY
- ▶ REMOVAL OF HISTORICAL FOULING

THE CHALLENGE

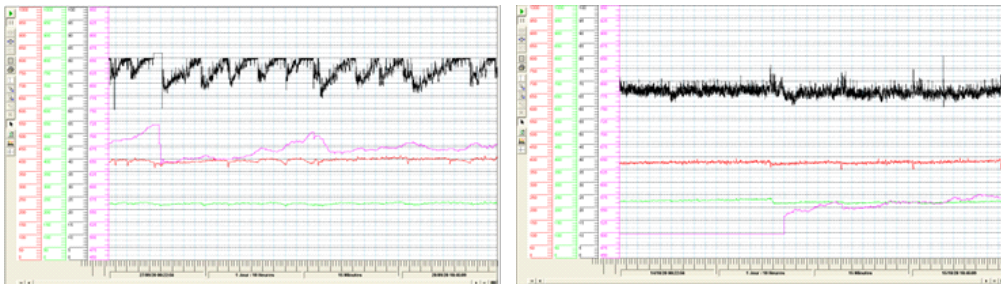
The team's expertise was sought to support a trial at a waste to energy plant which drew air by utilizing a fan designed to operate at 65% power. A design issue led to the fan power rapidly rising to 80%, leading to the boiler shutting down for a total clean. This shutdown would happen every quarter, despite the use of micro-explosions twice a quarter.

THE SOLUTION

The team's remit was to inject the chemistry for one month, two months into the cycle when the boiler was already running at roughly 73% and getting worse. The initial scope was to clean the economiser where chemical was injected directly into the chamber utilising a lance that is permanently installed and continuously cooled.

THE RESULTS

Data from the maintenance team demonstrated the boiler regularly peaking at 80%, almost all the time prior to the clean. The extract to the right shows the boiler during the clean, with stable power at around 70%, decreasing within days of starting.



Following the successful clean of the economiser, the trial was extended for six months to include the superheaters without the plant needing to stop operations; running between 65-67% power as per the plant design before eventually stopping for scheduled maintenance.

The team learnt that during the six month dosing period the plant decided to re-start micro-explosions which would typically loosen around 2-300kgs of fouling. After six weeks of Polarchem injection, the client carried out the first micro-explosion, dislodging six tonnes of fouling, due to the chemistry modifying the fouling deposits, making them more friable.

The pictures to the right shows the superheater before and after Polarchem injection. The client commented that the superheater was cleaner than they normally achieved during a full shutdown clean.



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