Heat Management

Moelven Bioenergi

Application: Smoke tube boiler
Efficiency solution: Infrasound Cleaning
Cleaning area: Smoke tube bundles

General info

Mill: Moelven Langmoen
Boiler: URBAS, 2011
Fuel: Biofuel
Capacity: 10 MW_{th}

Installation

Type: 1 x APS150
Year of installation: 2022

Situation description

At Moelven Langmoen, a smoke tube boiler is fuelled using byproducts from production to generate extra electricity.
The preexisting air soot-blowing system could not preventatively clean the tube bundles, which caused unstable flue gas temperature and required regular maintenance and additional stops for manual cleaning.



Figure 1. Completed installation.

The Infrasound system from Heat Management was commissioned in 2022. The goal was to stabilize and lower the flue gas outlet temperature and keep the tubes clean.

The results indicate increased cleanliness on the inside of the tube bundles. The tube inlets still require manual cleaning, but this can be performed during planned revisions, about 2 times per year. Before the Infrasound installation, an additional stop per year was needed for manual cleaning.

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Results

- **Stabilized and reduced flue gas** outlet temperature by ≈25°C.
- **1-2 % higher boiler efficiency** due to reduced flue gas outlet temperature.
- **Eliminated the need for additional stops** for manual cleaning.
- **Reduced demand for service maintenance**, as compared to the preexisting system.
- **Approx. >40 % reduction in instrument air consumption.**

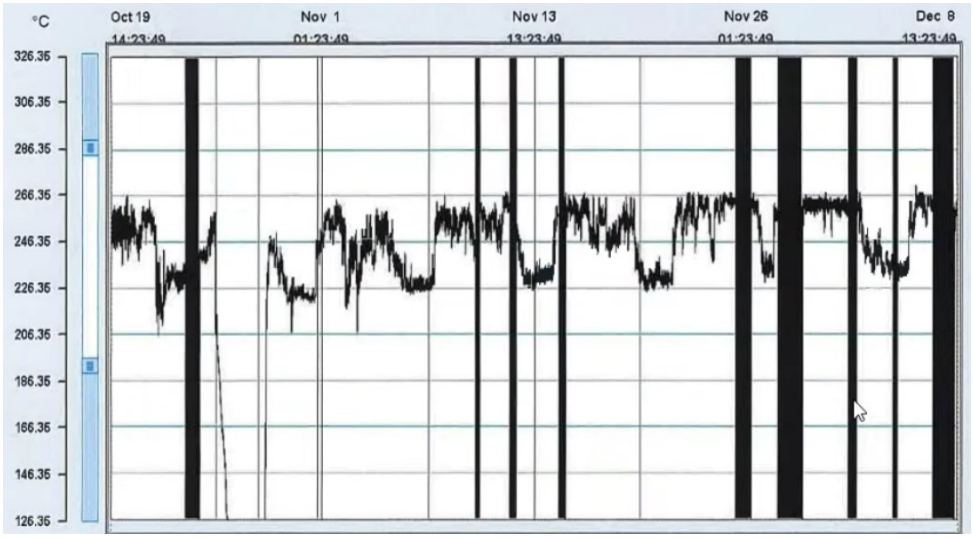


Figure 2. Flue gas outlet temperature before Infrasound installation, large fluctuations can be seen.

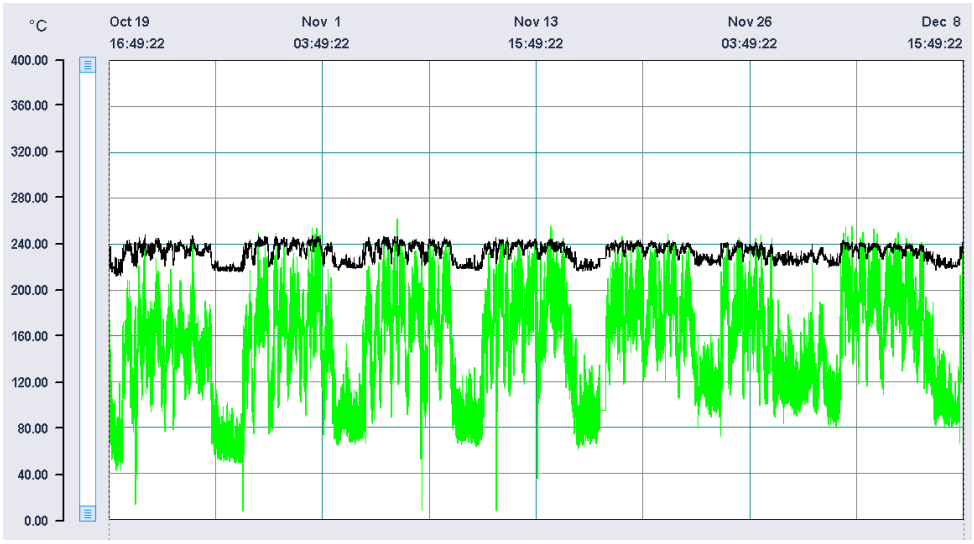


Figure 3. Flue gas outlet temperature (black line) after Infrasound installation with similar boiler load. Outlet temperature has been reduced and stabilized.

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