Heat Management

Laanilan Voima

Application: Heat and power plant
Efficiency solution: Infrasound Cleaning
Cleaning area: Superheater, economizer and tubular air preheater

General info

Plant: Laanilan Voima Oy, Oulu, Finland
Boiler: Foster Wheeler, CFB (1983)
Fuel: 70 % peat, 30 % wood chips
Capacity: 50 MW_{th}

Installation

Type: 1 x APX7000
Year of installation: 2013

Situation description

Steam soot blowers were used 1 time/24 hours in the Superheater (SH), Economiser (ECO), and tubular Air-preheater (APH). The steam soot blowers were starting to get old so Laanilan Voima had two options:
-Installing new steam soot blowers and continuing with the same steam consumption.
-Reducing or eliminating the use of the existing steam soot blowers.

Laanilan Voima also wished to have a cleaner ECO, SH, APH, and duct between SH and ECO, which would allow for a larger variety of fuel mixes and/or increase the boiler's efficiency.

The decision was taken to install an Infrasound generator from Heat Management. The Infrasound generator was installed in the summer of 2013, standing on top of the ECO/APH pass, as can be seen in the drawing on the right.

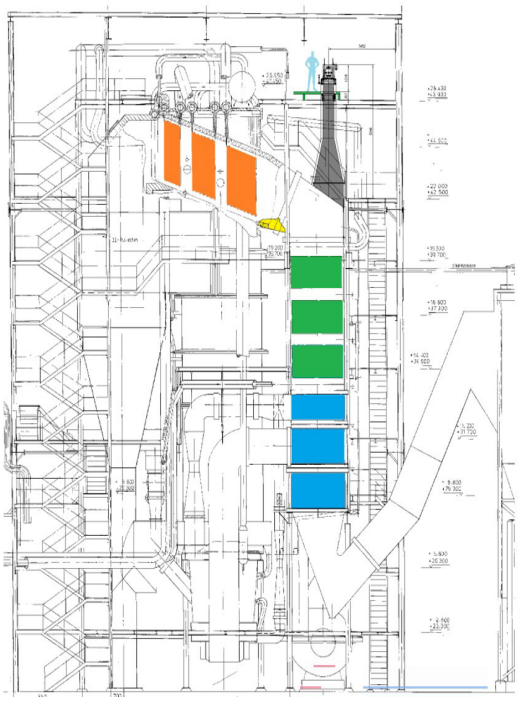


Figure 1. Overview showing superheater(orange), eco (green) and air-preheater (blue) and the Infrasound generator standing above the eco.

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Results

- **Eliminated steam soot blowers in SH, ECO and APH**, resulting in reduced wear on tube bundles, reduced maintenance costs for steam soot blowers and higher efficiency of the boiler.

- **Stable flue gas temperatures**. The boiler is operating smoothly and the outlet flue gas temperature and the differential temperature over the tube bundles are kept stable.

Under references at www.heatmanage.com, you can read about our technical and economical results for many of our projects.

We have gathered our knowledge based on our long experience of infrasound technology compared to conventional methods such as steam soot blowing, shot cleaning, compressed air soot blowing and audible sound (sonic or acoustic horns) in several "white papers" available under references.

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