Heat Management

Moelven Edanesågen

Application: Smoke Tube Boiler
Efficiency solution: Infrasound Cleaning
Cleaning area: The whole Smoke Tube Boiler

General info

Plant: Edanesågen, Edane, Sweden.
Boiler: VEÅ, Built 2008
Fuel: Biofuel (tops and branches)
Capacity: 10MW$_{th}$

Installation

Type: APS150
Year of installation: 2017

Situation description

Compressed air sootblowing is installed but is relatively weak due to nozzles being installed on the turning chamber between the two tube passes, far from the inlet of the first tube pass where most of the deposits are found. To maintain acceptable boiler operation 4 stops per year for manual cleaning of the boiler smoke tubes were required.

The smoke tube boiler acts as base load on the saw mill, delivering heat to the drying plant. As part of a capacity increase in the dryer and an increased need for maintenance of the compressed air cleaning system, an improvement of the soot cleaning system was sought.



Figure 1. The infrasound generator installed on the turning chamber.

The need for soot blowing comes from deposits inside the smoke tubes, which clogged up some of them, resulting in decreased boiler efficiency and rising gas differential pressure over the boiler.

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Results

- Increased efficiency of the boiler thanks to reduced amount of deposits. The efficiency of the boiler has been stable the whole season. Air soot blowing has not been used and will be dismounted.
- Reduced need for manual cleaning. There has been no need for manual cleaning during the whole first year with infrasound cleaning. The boiler is cleaned preventively at the summer outage.
- Increased availablity of the boiler leads to more stable production and fewer hours for manual cleaning.
- 100% availability of the infrasound cleaner the whole year. No maintenance has been needed.

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