A Case study from Heat Management

Eskilstuna Strängnäs Energi & Miljö AB

Application: Combined Heat and Power plant

Efficiency solution: High Impact Sootblowing System (HISS™)

Eskilstuna

Application: Combined Heat and Power plant
Efficiency solution: HISS™

General info

Plant: Combined Heat and Power plant
Boiler: Valmet (Metso)
Fuel: Biofuel (wood chips, bark, sawdust)
Capacity: 110 MW_{th}

Installation

Type: HISS™ Advanced
Number of sootblowers rebuilt: 16
Year of installation: 2012

Situation description

Analysis of operational data showed long term fouling in the superheaters (SH) during the operating season. The Economizer (ECO) and the Air preheater (APH) in the back pass of the boiler showed no such signs.

HISS was installed to sootblow more often in the Superheaters, keeping the heating surfasces clean without consuming more sootblowing steam. The goal of for the ECO and APH was to decrease the sootblowing cycle time, in turn reducing sootblower steam by 50% and in turn reduces the time the boiler operates at decreased load, which enables an increased heat and power generation.

Before

- Sootblowing 3 times/day in all cleaning areas.

After (One-way sootblowing)

- 6 times/day in SH
- 3 times/day in ECO/APH

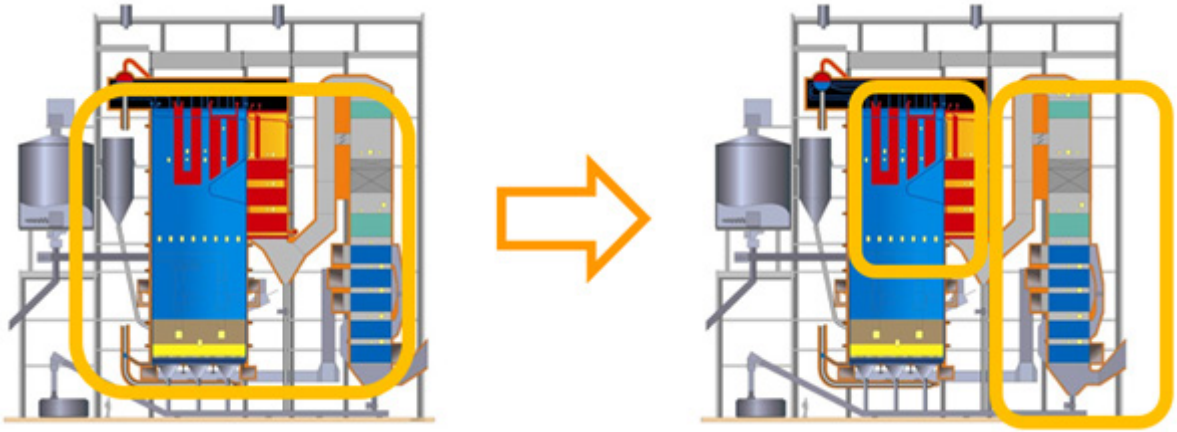


Figure 1 - Boiler design and modes of sootblower operation before (left) and after (Right)

Results

The HISS™ system can run at different settings depending on the customer's needs. In this case, the need for sootblowing in the SH was not the same as the need in the ECO and APH. Instead of sootblowing equally in all parts of the boiler (which is a waste where the need is low and insufficient where the need is high), HISS™ can be adjusted to sootblow just the right amount in each part of the boiler. Some of the results form the installation are mentioned below:

- Increased heat (+12 MWh/day) and power generation (+7 MWh_{el}/day).
- Reduced time at low load during sootblowing (from 249 to 165 min/day).
- Reduced sootblower steam used in the ECO and APH by 50%.
- Reduced (-50 %) sootblower wear of ECO and APH.

Heat Management

Heat Management was founded in 2016 following a merger between Infrafone AB and Soottech AB. The purpose of the merger was to create a world-leading cleantech company with a superior product portfolio in energy conversion adapted for industrial boilers and incinerators.

Heat Management's primary customers include power and heat plants as well as pulp mills and marine companies. Today, Heat Management has patented solutions installed in a large number of applications around the world.

qValify ISO 9001 qValify ISO 14001 qValify ISO 45001

Wave Impact Heat Management AB
Landsvägen 50A
172 63 Sundbyberg, Sweden

E-mail: info@heatmanage.com
Phone: +46 8-661 33 10
Fax: +46 8-661 33 60