Polish Customer

Application: High Dust SCRs
Efficiency solution: Infrasound Cleaning
Cleaning area: SCR Reactors

General info

Boiler: Rafako
Fuel: Polish bituminous coal
Capacity: 225 MW_{el} (x2)

Installation

Type: 4x APX7000
Year of installation: 2015

Situation description

The Infrasound generators were installed when retrofitting the boilers with SCRs. Due to high dust load a cleaning method more powerful that regular (audible frequencies) acoustic cleaning was sought. The customer had experiences with low cleaning effect from acoustic cleaning. At the same time, noise emissions had to be very low since located in the outskirts of a town.

An acoustic model was performed to predict cleaning result and noise emitted. The simulated results showed sufficient cleaning effect for all layers, also if a 3rd spare layer will be installed in the future, and low noise levels

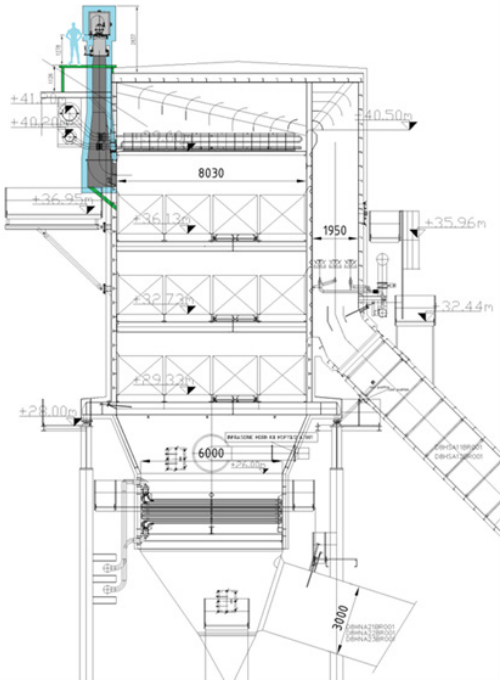


Figure 1. The Infrasound Generator (dark grey) installed above the first layer in the SCR Reactor.

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Results

- **Stable differential pressure the whole year (see trends below).** No need for manual cleaning/vacuuming. The pressure drop is practically stable for a certain load. The SCR manufacturer allowed up to 0.5 mbar = 50 Pa increase of pressure drop.
- **No noise emission issues**, thanks to the low sound frequency, resulting in low dB(A), together with Infrafone's vibration damper solution and short operating time (1 second every 4 minutes).
- **100 % availability of the Infrasound generators**

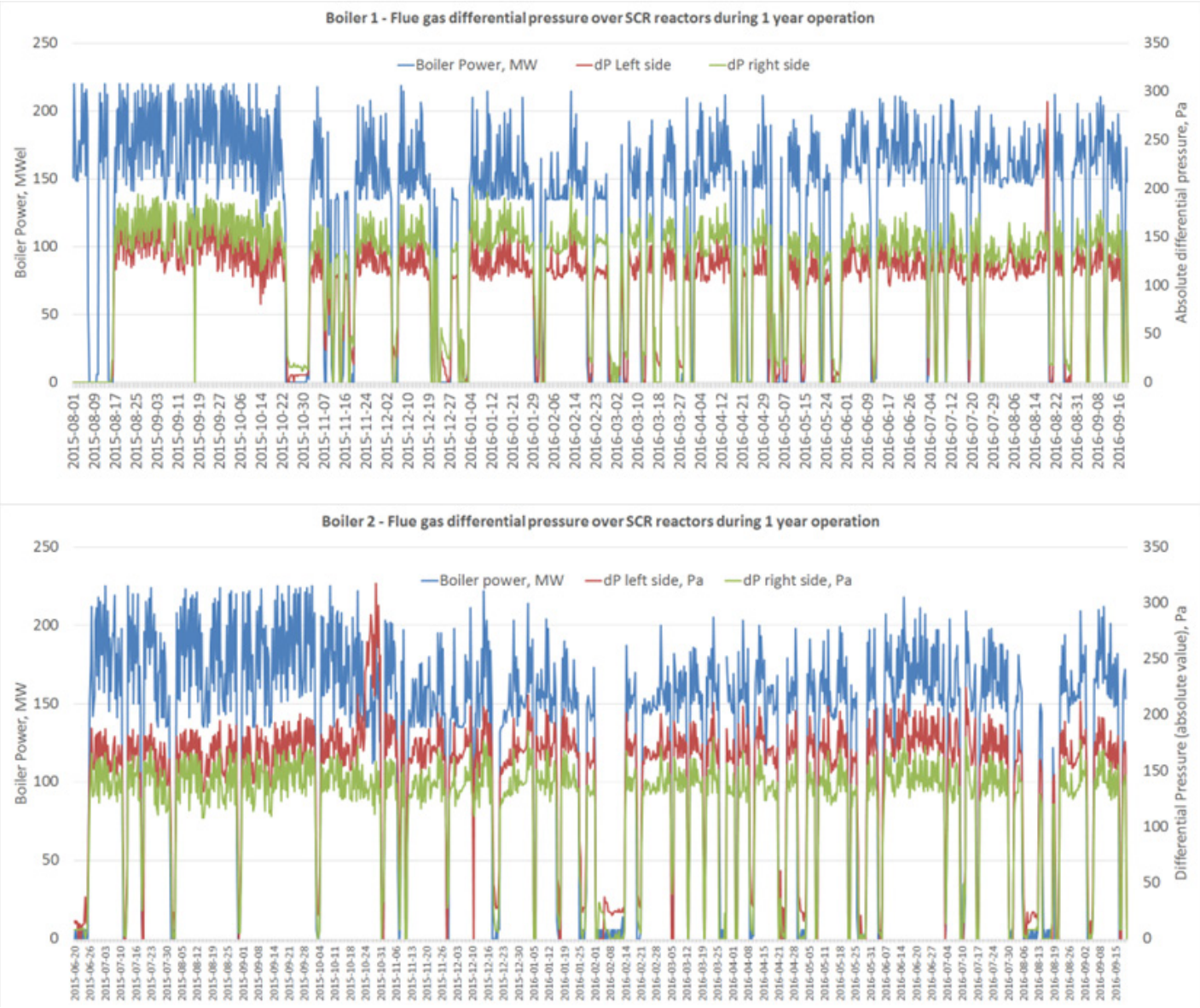


Figure 2. Differntial preassure and load for Boiler 1 (top) & 2 (bottom)

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Figure 3. After 14 months of operation with infrasound generators as only cleaning method:

Under references at www.heatmanage.com/references, you can read about our technical and economical results for our technical solutions; infrasound cleaning, optimized steam soot blowing, big data operation analysis and CFD (computational fluid dynamics). White papers comparing our solutions to competing technologies are available under knowledge base at our homepage.

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