

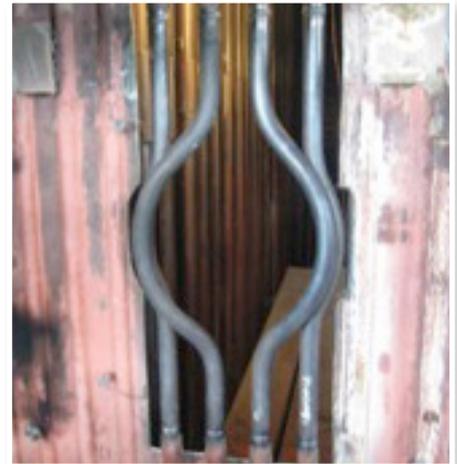
Sochagota Acoustic Success Story

Challenge

Compania Electrica de Sochagota (Termopaipa IV), a coal fired power plant north of Bogota, Colombia experienced reoccurring boiler tube failures in their primary super heater and reheat sections of the boiler. The root cause of the failures was determined to be abrasion and eventual breakage of the tubes due to high pressure erosion from the steam soot blowers in those areas of the boiler. In a ten year operating period three events were directly tied to this problem. An economic impact study was completed that showed that lost operating hours, additional parts, labor and resulting penalties exceeded \$300,000.00 USD. Termopaipa IV needed to resolve this issue so they could avoid this costly situation and become a more reliable supplier to their customer base.

Solution

CLARCOR Industrial Air recommended the installation of 6 DC 75 acoustic cleaners to replace the existing soot blowers. The DC-75 generates low frequency (75 Hz) high energy (147dB) sound. These high-energy sound waves act to resonate and dislodge ash in the entire zone thus preventing buildup and thereby improving heat transfer. Boiler tube modifications were required to complete the installation.



Results

Prior to installation, a highly conservative analysis concluded they would reduce overall costs by greater than 50%. Since installation in 2011 there have been zero tube leaks, thus eliminating the unplanned outages. This has also allowed them to become a much more reliable service provider!

Based on the complete success in this part of the boiler, Termopaipa IV decided to also install acoustic cleaners in the economizer section of their boiler. Here they experienced significant regular buildup since they had no cleaning system installed in the zone. The results proved highly effective leaving the tubes clean and greatly improving the heat rate of the boiler.