



Biotech Company Reduces NO_x and Excess O₂ Levels With Autoflame Upgrades

Autoflame have recently completed work with a prestigious San Francisco-area based biotechnology company who specialise in using human genetics to manufacture and develop medicines and treatments for life threatening conditions worldwide. The organisation have a strong market presence and have won several awards for their work including recognition as one of the world's 'Top 50 Innovative Companies' in 2012.

Steam is used daily throughout this client's manufacturing process and it is essential they operate with the most efficient boiler system for the production of the steam.

It was decided to take drastic measures to update and improve their existing system, which had many issues including fan vibration (125hp), flame failures and structural vibrations. It was also running very inefficiently (in excess of 8% O₂), all in an attempt to run at sub 9ppm NO_x.

The local Autoflame Technology Centre, One Source Engineering, were approached to provide an engineering solution that would maintain their steam capacity, eliminate all site issues, improve overall reliability and efficiency and reduce emissions. The client commissioned a Steam Reliability Study to look at ways to meet their requirements, and One Source worked closely with on-site engineers to ensure these objectives were met.

Reliability was key, and a complete Autoflame package was installed as well as a high efficiency Limpsfield burner and NO_x emissions reducing system. Emissions could now be monitored using Autoflames innovative Exhaust Gas Analyser (EGA) and the data can be fed back into the Building Management System via the Autoflame Data Transfer Interface (DTI).

As a competitive solution, Autoflame were able to meet all project specifications and provide a robust low NO_x design with a 5:1 turndown ratio, whilst maintaining optimum efficiency levels (sub 3% O₂ at all firing rates). NO_x levels are currently sub 5ppm.

Existing Equipment:

Inefficient system causing fan vibration, high NO_x and flame failures

Solution:

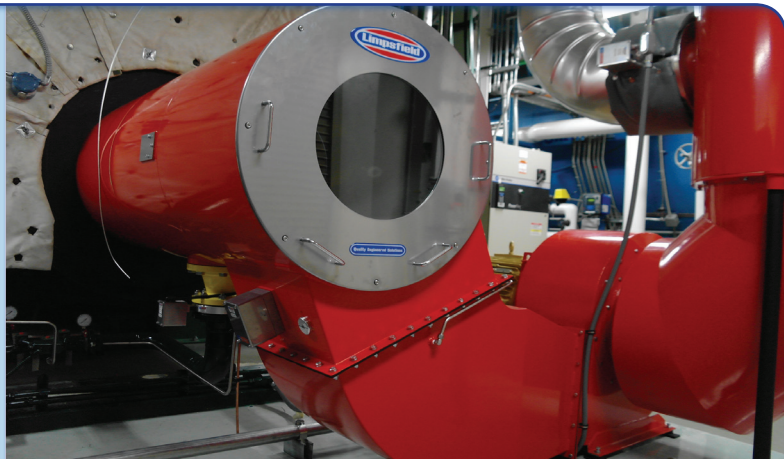
Autoflame MM Controller, DTI, EGA and Limpsfield burner

Benefits:

- Monitored exhaust gasses
- Data feedback into BMS
- Low NO_x design with 5:1 turndown ratio
- Optimum efficiency levels in O₂
- Improved system precision



Above: Induced FGR for low NO_x
Below: Low Emissions Exhaust Stack



Above: New Limpfield burners.
Below: NO_x Reducing System



The client was happy with the results and system precision they can now achieve. Since installation in January the system has operated seamlessly and they are now in the process of looking at updating the remaining two 1000hp boilers.



Autoflame operates worldwide with 60+ technology centres performing installation and support. Founded in 1972, Autoflame is a British manufacturer based near London. It ensures industry-leading quality control and innovation by performing in-house R&D, engineering, software development, manufacturing production, and technical support.

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