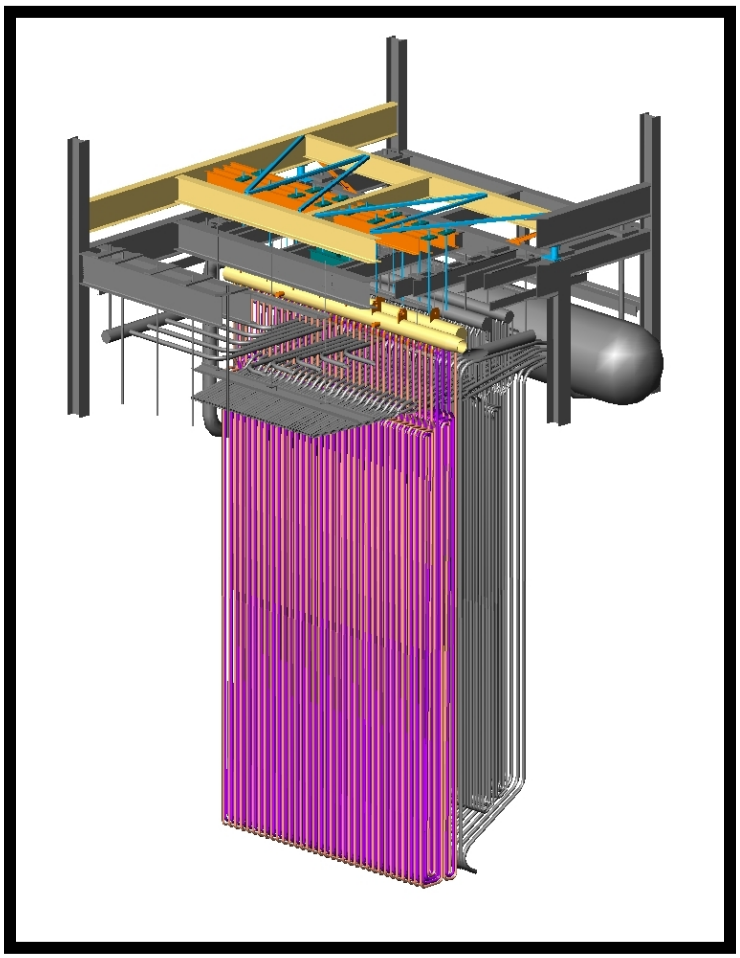
Project Description

JANSEN
Combustion and Boiler Technologies, Inc.

Power Boiler Superheater Upgrade
Confidential Customer
US (New England)



Project Scope

In the fall of 2005, Jansen Combustion and Boiler Technologies Inc. (JANSEN) was awarded the contract to design a superheater (SH) upgrade on a vintage 1968 combination biomass and oil fired boiler. The purpose of the upgrade was to increase the overall power cycle efficiency of the plant. The target was to increase final steam temperature from 790°F to 850°F (at 850 psig) in the steaming range of 350,000 to 600,000 lb/hr (MCR) when firing biomass and/or fuel oil. The original design steam temperature was 825°F, however, this temperature could only be reached directly after a clean start-up.

Various design arrangements were considered and the final configuration involved a nearly three-times increase in the secondary SH surface area and the design and supply of new inlet and outlet headers, as well as modifying steam attemperation equipment to improve steam temperature control. New support steel was designed and supplied to handle the increased weight of the new SH assemblies.

JANSEN provided project management, design, engineering, materials procurement, fabrication, and delivery to the mill. Installation of the superheater modification took place during the boiler outage in May of 2006.

Results

The upgraded superheater has been in operation for well over a year and has performed very satisfactory. Customer is pleased with the higher final steam temperature and greatly improved steam temperature control over a wide range of boiler load conditions. As a result, customer is interested in doing a similar upgrade on a recovery boiler at the same mill and on other boilers in the organization.

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