MISSION HOSPITAL

Mission Hospital
Mission Viejo, California
Burner Retrofit

CUSTOMER APPLICATION AND KEY CHALLENGES

In response to overcrowding and consistently operating at or above capacity levels, Mission Hospital recently approached R.F. MacDonald Co. after embarking on construction of a four-story, 94,730 square foot facility that would offer an additional 64 private patient beds, as well as become the new home for trauma services, the surgical intensive care unit, neuroscience center, diagnostic imaging and hospital chapel. At the time, the hospital was running off of two Kewanee 250HP H35-250-G Boilers which are responsible for heating, hot water, humidification, and sterilization in the current tower. One of the current units was operating at 30ppm NOx with an older and obsolete Vitatherm burner. With their inability to obtain parts for this outdated system as well as the burners inability to keep up with the demand of the second tower, Mission Hospital required a solution to allow an overall increase in efficiency as well as keep up with the additional demand that the extra tower would now be placing on the existing systems.

THE R.F. MACDONALD CO. ANALYSIS & SOLUTION

The project required the supply and installation of a burner retrofit package (gas train, panel, and burner) designed to operate at 9ppm and increase overall combustion and operational efficiency. R.F. MacDonald Co. proposed replacing the Vitatherm burner with an Industrial Combustion Ultra Low NOx 9ppm burner.

The NTH series burner is a forced draft packaged burner system designed to fire natural gas and amber oil. Combustion efficiency is achieved by entering gas through ports ahead of the diffuser providing superior mixing of gas/air/FGR (flue gas recirculation). The burner utilizes parallel positioning Fuel-Air Ration Control (FARC), with excellent flame retention assured at all firing rates.
PROJECT RESULTS

The new burner system installation was completed in early 2009, before the opening of the hospital's second tower. After completion of the project, R.F. MacDonald Co. conducted training on the new equipment. The unit was tested on natural gas and fuel oil demonstrating compliance with each. Current measurements show the unit operating at 70psi steam around-the-clock with a 60% firing rate. Joe Ortiz, Assistant Director of Facilities, noted that since the installation he has seen an obvious overall increase in efficiency, which he estimated at 25-30%.

Ortiz reported being very happy with the service, stating, “R.F. MacDonald Co. is very professional, do good work, and their technicians are very knowledgeable.” Mission Hospital is currently working with R.F. MacDonald Co. to determine possible rebates and incentives they may be eligible to submit for since completion of the project.