

SPECIAL HEATER REPLACEMENT PROJECT SAVES \$\$\$

ABSTRACT:

The 10 million BTU (duty) thermal fluid heater at a specialty chemical manufacturer had reached the end of its useful life. Extensive use of sulfur-containing No. 6 heavy fuel oil had resulted in corrosion of the heater shell as a result of flu gas infiltration through the internal insulation. The heater was also partially fouled because the original specification did not include soot blowers in certain critical areas. Heat transfer efficiency and overall capacity was diminished, which was affecting batch cycle times inside the plant.

In prior years, the plant had spent monies on re-tubing the combustion air pre-heater and had also executed a project to replace an antiquated burner and combustion controls. The plant wished to salvage as much of that investment as possible.

To further complicate the project, the original heater manufacturer had been bought and sold several times and the current owner was unable to respond to an inquiry to supply a new duplicate heater body and fluid coil.

SERVICES PROVIDED:

Through review of the drawings supplied with the original heater, and by networking within the industry, Hudson & Associates was able to locate the design engineer and project manager who had worked for the original manufacturer years earlier. Both individuals were still working, and at the same thermal fluid heater manufacturer, although different from the original manufacturer.

A project was developed, based upon a sole source, negotiated price contract whereby the second manufacturer would manufacture a replacement heater shell and coil, making modifications to their standard design to match certain critical connections and external envelope restrictions, so that the new replacement item could be installed to re-use the combustion air pre-heater and combustion equipment from the older equipment.

INSTALLATION AND IMPROVEMENTS NOTED:

The new heater shell and coil was installed during a scheduled plant shut-down. Hudson and Associates provided on-site support of the project during installation.

ALL critical nozzles and connections matched the existing equipment.

The new heater was started up without incident and has operated (at this point) for five years without problems.