Case Study

Feed Manufacturer Installs High Efficiency Recuperative Oxidizer Due to Production Increase

Operating Issue

A global animal feed researcher and producer increased their capacity at their Midwest facility, thus requiring air pollution control technology that addressed their new process. Pollution Systems was sought to provide equipment to effectively reduce odors in 40,000 SCFM of VOC-laden process air, generated by the production of animal supplements. Additional objectives, expressed by the manufacturer, included long term reliability and reduced operating costs (particularly reduced energy consumption).

Project Solution

The system selected was a High Efficiency Recuperative Thermal Oxidizer with an additional, secondary 75% Heat Exchanger.

All of the manufacturer's objectives were considered when selecting and designing the system. The secondary Heat Exchanger was incorporated to substantially reduce the ongoing operating cost. The recovered energy that this incorporation yielded was designed to preheat air for the manufacturing drying process. Other Oxidizer technologies (including Catalytic and Regenerative), were not appropriate for this application due to the potential for particulates in the air stream. Additional energy saving features were integrated into the system to further accomplish this objective, including proportioning air to fuel valves on the gas train and using high efficiency fans with variable frequency drives.

Customer Benefit

Overall, the system reduced fuel consumption by more than 50% (compared to a typical Thermal Recuperative Oxidizer of the same size), and the disruptive odor was successfully controlled.

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