

High Efficiency Thermal Oxidizer Abates Odor for Feed Manufacturer

Initial Operating Issue

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

Proposed Solution & How the Technology Works

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

The secondary heat exchanger was used to reduce the ongoing operating cost; the recovered energy that this yielded was to preheat air for the manufacturing drying process, meaning less external energy was needed. Other oxidizer technologies, such as 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 accomplish this objective, including proportioning air to fuel valves on the gas train and high-efficiency fans with variable frequency drives.

Implementation & Results

Overall, the system reduced fuel consumption by more than 50% (compared to a typical Thermal Recuperative Oxidizer of the same size), and odor emissions were minimized.

