



Pollution System Solutions



Ethanol Plant Modifications Result in Capacity Increase

When the production capacity of a Mid West Ethanol plant was limited to 80% by their air pollution control equipment, Pollution System Solutions industry knowledge and resources were tapped to identify the underlying cause and implement a cost effective solution.

The key operating parameters of the Thermal Recuperative Oxidizer performance were evaluated. Careful consideration was given to the system design, airflow patterns, pressure drops and the air moving equipment.

Issues were identified with the configuration of the system that significantly affected the performance of the main exhaust fan and impacted the heat exchanger and burner downstream. It was determined that the fan and other equipment were adequately sized and that modifications to the ductwork and equipment location would correct the problem. Interestingly, two other companies had recommended increasing the size of the fan which was significantly more expensive and would take 8 to 12 weeks to implement.



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A new evase (right) was designed and constructed for the outlet of the main exhaust fan. This enabled better airflow through the heat exchanger and reduced static pressure in the system. With the evase in place and several other relatively minor mechanical changes to the ductwork, system performance exceeded its original expectations. Overall system capacity was increased 25% without the major expenses associated with purchasing and installing larger equipment.

Within six weeks of the initial site visit, the problem had been correctly identified and a cost effective solution had been implemented resulting in tens of thousands of dollars a day in increased operating profit.

Pollution System Solutions is the total solution provider for Industrial Air Emission Compliance.



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