

Maintenance and Upgrades



for Existing Air Pollution Control Systems

A large safety products corporation recently contacted Catalytic Products International, Inc. to provide help with several air pollution abatement systems. The client has many regenerative thermal oxidizer (RTO) systems in operation on complex testing chambers and other processes. Some of these RTO systems are installed in complicated exhaust circuits that have to deal with particulates, acids, and other non-traditional hazardous air pollutants.

These systems are many years old and have been supplied by several different vendors. Some of these vendors are no longer in business or have not been supportive with maintenance activities. The client requested help with maintenance and consultation about repair options.

The Process

The Service Group at Catalytic Products International, Inc (CPI) worked with the client to identify the various processes and the associated air pollution control system. Working with the client's maintenance and environmental groups we set up a systematic plan to identify safety risks, compliance analysis, and long-term plans to extend the assets' service. This was accomplished following these basic steps:



A severely corroded and unsafe combustion chamber

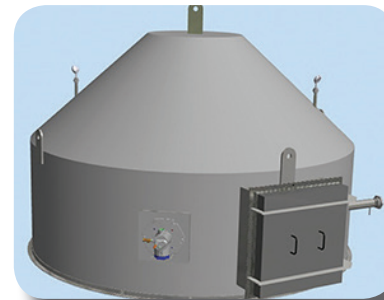
- Collected all the appropriate information about the process and the control device. We conducted a thorough analysis of each process by studying the operations and comparing the current operations to the capabilities of the control device.
- Conducted a complete process inspection starting with the process, the exhaust ducting and damper system, control device inspections and audit. Created updated process flow diagrams and operational summaries.
- Presented reports about each process and control device:
 - Identified the most critical components on each system that required immediate action to meet safe and compliant operational status.
 - Identified longer term actions that should be considered to improve operation and extend the useful life of the system.

- Identified process modifications that could be considered to lower operational costs and eliminate certain operational headaches.
- Presented suggested maintenance plans specific to each process and control device.

The Results

As a result, the CPI Service Team uncovered immediate quick updates that eliminated several safety risks and allowed the air pollution control system to operate more consistently. More importantly, we were able to head off looming catastrophic damage and effect immediate repairs to maintain safe operation without adding risk to personnel, equipment, and production.

Currently, CPI's Service Group is engaged in an annual service agreement that includes monthly inspection and maintenance. The client benefits are:



Newly fabricated replacement combustion chamber with improved access.

- Greatly improved uptime reliability – The process and control device are ready for production at will. Before, many systems required substantial input just to start production.
- Production personnel feel a sense of relief that the systems are safe and being well maintained. They appreciate the client company looking out for their safety.
- Planning for continued optimization that looks to integrate new controls and automation. Further extending compliance metrics and safety.
- Overall reduced operational and capital expense leads to increased ROI.
 - Consignment spare parts inventory saves the client from keeping and holding costly spare parts while improving accessibility when parts are required.
 - Production is reliable, thus lowering the input costs and raising the profitability.