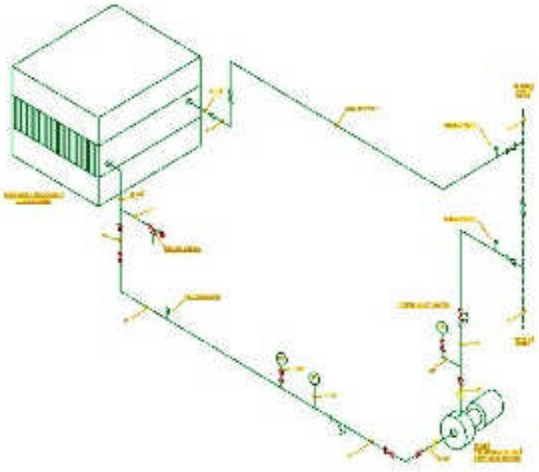
RECENT PROJECT FOR CONTROLLED ENVIRONMENT:

HEATING PROCESS WATER WITH OXIDIZER EXHAUST: 9 MONTH PAYBACK and ENVIRONMENTALLY GREEN.

Controlled Environment's latest Energy Recovery Project involves recovery of exhaust from a Regenerative Oxidizer with a temperature of 250^0F using an air-to-water energy recovery system.

Several years ago this customer purchased a regenerative oxidizer form Controlled Environment to control VOC emissions from their coating process. The quantity of VOC's in the airstream is sufficient to allow the oxidizer to be self-sustained (it did not need auxiliary fuel to operate.) The final exhaust from the oxidizer is 250^0 F and the unit is rated at 35,000 scfm. As natural gas prices started to increase in cost our customer called us in and asked if there was any way they could save energy and reduce their fuel bills.

Controlled Environment did and engineering study and determined that the customer used large quantities of hot water for several washing processes in production.



The process is wash water of **130 gallons per minute** being heated from 70^0F to 140^0F. The system that we designed used one water coil in an enclosure at the stack of the oxidizer with dampers to direct the airflow through the coil and control the heat being recovered. The system as engineered, recovered enough energy to meet the requirements: heating 130gpm from 70F to 140F with out adding any additional fuel. This saved the customer 4,550,000 btu's/hour and they operate 8700 hours per year which saved the customer **$450,000 per year** at $1.10 per therm of natural gas. The payback for this system is **9 months.** In addition, since the existing burners for heating the water were no longer needed, this energy recovery system reduced their CO2 production by 4,698,000 pounds per year. Needless to say, the customer is quite pleased with their return on investment and the system is Environmentally Green.

WHO IS CONTROLLED ENVIRONMENT EQUIPMENT:

- Environmental Engineers ---

  CEE is an engineering-design firm that specializes in industrial air pollution control. Working with customer's personnel, CEE analyzes the requirements of the industrial facility and designs a pollution control system that integrates the process with the control device. Where possible, we recommend changes in the process that would increase process efficiency, reduce the size of the control device and lower costs.

- Experienced ---

  CEE has been in business since 1955 and since 1975 we have been involved in the implementation of over 500 industrial, air pollution systems: oxidizer systems, scrubber systems, concentrator systems, particulate collection systems.

- Turn-key Solutions ---

  CEE acts as a general contractor, taking charge of the entire project and coordinating the installation of the new system. Some of the equipment is manufactured in-house and some of the equipment is purchased on an OEM basis. However, all of the engineering and drawings are done in-house; control systems are done in-house as well as PLC programming.

- Service After the Sale ---

  CEE has an in-house field service group that travels the world to monitor system performance, resolve issues and recommend actions that can increase system reliability and maintainability. Systems are diagnosed using telemetry systems minimizes the delays in responding to customer concerns.

- Industry Leadership and Recognition ---

  As industry leaders, CEE is often sought out for its' insight regarding air-quality issues and their resolution. Pollution On-Line is one of the more recent trade journals that have included CEE-authored articles.. Another example, CEE developed the first 100% Total Capture system in 1988 that was officially approved by EPA Region 5.

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