Project Profile: AEMERGE REDPAK

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Medical Waste Processing Facility Hesperia, CA

Challenge:

Aemerge Redpak required an air pollution control system for their Hesperia Medical Waste Processing Facility in Hesperia, California. The purpose of this system was to remove hydrochloric acid gas (HCl) and particulate matter from the exhaust gas. As the project progressed, SEI was asked to provide solutions for the capture and routing of combustion gas streams from multiple sources to a common stack. Considerations also included explosion venting, emergency high temperature purge, bare dampers and a Continuous Emissions Monitoring system. SEI field crews performed the mechanical installation of all SEI-supplied equipment.

Southern Environmental's Solution:

SEI's initial scope of supply included a Dry Sorbent Injection (DSI) system capable of injecting 7,000 lbs/hr of hydrated lime during maximum operating conditions, three (3) module Pulse Jet Fabric Filter, isolation dampers, draft control system, stack, a byproduct handing system, equipment support steel and access, interconnecting ductwork from the waste heat boiler outlet to the stack, ductwork support steel, a compressed air system and PLC programming.

Project Duration

PO Received:	May 2016
Primary equipment delivered to site:	2nd quarter 2017
Mechanical completion:	3rd quarter 2017
System check complete:	4th quarter 2017
Start up:	1st quarter 2018

Detailed Engineering in the following disciplines:

- Structural
- Mechanical
- Electrical
- Process

Scope of Work:

Engineer, fabricate, deliver, perform mechanical installation and commissioning of an Air Quality Control System for the Medical Waste Processing Facility in Hesperia, CA.

After the initial project release, the following equipment was added to SEI's scope.

- High temperature (1000˚F) ductwork, draft control and duct supports related to the combustion gas streams.
- Explosion vent blast shield: The explosion vent locations were jointly determined by Owner and SEI personnel. The explosion vents were supplied by the Owner.
- Purge and flare dampers designed for high temperature (1000˚F), high pressure and high concentrations of HCl. Purge was performed by either nitrogen or steam. These dampers included internal surface heating and a positive pressure nitrogen seal.
- Skid-mounted CEMS enclosure capable of monitoring and creating a report of all process conditions.

SEI was responsible for the mechanical installation of all of the above-listed equipment with the exception of the high temperature ductwork. The Owner also selected SEI to install the economizer and heat rejection equipment associated with this project.

Performance Guarantee:

Particulate emissions:

Less than 1.5 lbs/hr or 0.01 gr/dscf, whichever was more stringent *(1.5 lbs/hr equated to 0.004 gr/dscf and was therefore the controlling emission limit)*

HCl emissions:

Less than 1.65 lbs/hr (equated to 99.6% removal during maximum conditions)

LIME USAGE

The hydrated lime injection rate will not be greater than 3,500 lbs/hr. based upon SEI's approval of the lime specifications.

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