

Case Study File

Company: Tempo Plastics¹
Location: Visalia, California
Product: Expandable Polystyrene
Service: Date: 1993; Updated September 1997
Application: Continuous CHP; Heat Recovery; VOC Destruct Air Pollution Control
Patent/Project: AlliedSignal

Overview

The prototype site for developing the ASE8-1000 engine and the patented VOC reaction chamber for the destruction of regulated volatile organic compounds (VOC) was at Tempo Plastics in Visalia, California, an expandable polystyrene manufacturing facility.

The project started in 1993, utilizing an IE831-500 engine (modified ASE81000) and a prototype reaction chamber. The demonstration facility system configuration did not include power generation until 1997, when the system was upgraded with a production ASE8-1000 gas turbine engine and an improved VOC reaction chamber. The demonstration facility operated well over 20,000 hours using the gas turbine/reaction chamber system configuration for VOC destruction. The VOC pentane was successfully destroyed pursuant to the facilities air quality permit requirements and the engine's exhaust heat was recovered and used to generate steam continuously in a heat recovery steam generator (HRSG). The steam was utilized in the production process.

¹ Tempo Plastics APC/CHP facility has been decommissioned.