

Demonstration of Cogen in the Dyeing Industry

Install CHP system with 350kW generator, water jacket heat recovery system, and full diesel backup.

BACKGROUND

Compudye, Inc., is a 51,000 square-foot New York City textile dye plant that serves the knitwear and apparel industries. They use large amounts of energy and process water. The current operation results in tens of millions of gallons of hot wastewater being discharged to the municipal sewer system annually. The installation of a Combined Heat and Power (CHP) System will provide economical and environmental benefits. Low-cost power to be produced from this CHP System will make it economical for Compudye, Inc., to install and operate a reverse osmosis system to filter and reclaim 80% of the wastewater for reuse in the dyeing operation. Reclaiming this hot water will enhance the energy efficiency improvements at the facility, and drastically reduce the purchase of potable water as well as the discharge to the municipal sewer system. The electric-driven pumps, which will be used to pressurize the wastewater in order to force it through the reverse osmosis filter membrane, re

OBJECTIVE

Compudye, Inc. will install and demonstrate the efficiency of a CHP System with a 350 kW natural gas engine as the prime mover, and a 350 kW diesel generator as the backup. The recovered heat from jacket water will be used to preheat boiler feedwater. The boiler produces steam that is used to heat water in the textile dyeing process and subsequent hot water rinses, and operates 50 large commercial tumble dryers.

DESCRIPTION

Install, commission, operate, monitor, and report on the performance of a CHP System consisting of one (1) 350 kW natural gas engine as the prime mover and one (1) 350 kW diesel generator as the backup, and Balance of Plant (BOP), including a system to provide recovered heat from jacket water that will be used to preheat boiler feedwater.

BENEFITS

Project partners include The Industrial & Assistance Corp. of New York City (ITAC), and H&W Management Science Consultants of New York City. Technology transfer and publicity will emphasize wide dissemination of the project results. This project has been sized based on preliminary calculations performed by KeySpan Energy, and as such is forecasted to provide peak load reduction of approximately 325 kW, and result in almost \$300,000 in

Funding	Encumb to Date	Pending	Total Anticipated
Compudye, Inc.	\$486,250.00	\$0.00	\$486,250.00
NYSERDA	\$486,250.00	\$0.00	\$486,250.00
TOTALS	\$972,500.00	\$0.00	\$972,500.00

Manager	Levy, Dana
Contracts	STD-6827
Contractors	Compudye, Inc.
Technologies	Cogeneration
Cities	Maspeth
Counties	Queens