

Steam Turbine Generator Project

The CHP System will comprise one 343kW, induction type steam turbine/ generator. The turbine will be fueled by waste heat from the manufacturing process.

BACKGROUND

Borden Chemical, located in the Moreau Industrial Park in South Glens Falls, NY will serve as the host site for this project. This facility was built in 1971 and started production of formaldehyde in July 1998. This site employs 13 people, operates 24 hours a day, 7 days a week and has two formaldehyde plants with a combined annual capacity of 200,000,000 lbs. Borden Chemical, Inc., the parent company of this facility, is the world's largest producer of formaldehyde, a basic building block chemical used in a wide range of applications.

OBJECTIVE

The main objective of this project is to recover currently wasted energy (in the form of vented steam) from the facility, and generate clean and low-cost on-site power. This project is forecasted to provide a minimum peak load reduction of 3,794 KW annually with an estimated energy savings of \$89,300 annually. There will be an additional reduction in water usage and water treatment chemicals.

DESCRIPTION

The production of formaldehyde involves the reaction of methanol and air using a metal oxide catalyst. The reaction is exothermic and requires cooling. This cooling generates 7,500 pounds of steam per hour per plant at 100 psi. A fan condenser, using two (2) 15 HP electric motors, is capable of condensing 7,500 pounds per hour of steam. Thus when both plants are operating the facility vents the other 7,500 pounds of steam to the atmosphere.

Summit Energy Services Inc. has compiled electric use data and determined the cost savings from running a 343 KW generator using the excess steam as the prime mover. The proposed system would create no additional emissions and reduce the electrical costs of this facility a minimum of 17% based on current plant utilization.

BENEFITS

1. Utilize a currently wasted source of energy to produce low-cost and clean power.
2. Support industrial customer in an economic development zone

Funding	Encumb to Date	Pending	Total Anticipated
Borden Chemical, Inc.	\$172,500.00	\$0.00	\$172,500.00
NYSERDA	\$172,500.00	\$0.00	\$172,500.00
TOTALS	\$345,000.00	\$0.00	\$345,000.00

Manager	Torpey, Mark R.
Contracts	STD-7312
Contractors	Borden Chemical, Inc.
Technologies	Cogeneration
Cities	South Glens Falls
Counties	Saratoga