

Paradise Plastics, CHP Project

Demonstrate the efficiency of a CHP system consisting of a 1,000 kW generator with a 600 kW diesel powered back up generator.

BACKGROUND

There are currently 1,081 plastics manufacturing facilities in New York State that represent a significant opportunity for distributed generation (DG) and Combined Heat and Power (CHP) applications. Plastic shipments in NYS represent a total of \$12 billion in commerce (1999) and the industry employs 70,400 people. New York is the sixth largest state in terms of the number of manufacturing plants, and ranks eighth in employment nationwide. Many manufacturing facilities face stiff competition from regions such as the mid-west that enjoy lower energy costs which are a significant component of their overall production cost.

OBJECTIVE

Plastics manufacture in general requires a stable, reliable supply of electrical power, preferably at low cost due to the energy intensive aspect of its production processes. This is particularly true of LDPE plastic film production. The production process requires fine tuning temperature controls that use electricity for process heating the various types of plastic raw material several times and it also requires cooling of the final product sufficiently so that the plastic bags can become solidified so that they can be rolled, perforated, cut, and folded. The absorption chiller will provide the chilled water necessary for final cooling of the plastic bags.

The facility is located in a critical load pocket within Consolidated Edison's service territory. The CHP system to be installed will alleviate the poor power quality issues affecting this area of Brooklyn.

DESCRIPTION

The proposed project demonstrates CHP co-generation with back-up generation that provides 100% of Paradise Plastics electricity needs and also provides process cooling through the generation of chilled water from waste heat using an absorption chiller. The project goals are to install two new self-contained generators (1000 kW and 600 kW) and one (1) 100 ton York chiller. The facility manufactures recycled low density polyethylene (LDPE) plastic garbage bags from post-industrial waste.

BENEFITS

- Reduced energy costs for plastics manufacturer.
- Improved power quality for local customers in load pocket area.
- Support manufacturing process that utilizes recycled waste materials.
- CHP system fully utilizes waste heat for optimum efficiency.

Funding	Encumb to Date	Pending	Total Anticipated
NYSERDA	\$348,675.00	\$0.00	\$348,675.00
Paradise Plastics	\$348,675.00	\$0.00	\$348,675.00
TOTALS	\$697,350.00	\$0.00	\$697,350.00

Manager	Torpey, Mark R.
Contracts	STD-6829
Contractors	Paradise Plastics
Technologies	Cogeneration
Cities	Brooklyn
Counties	Kings