

Combined Heat and Power Demonstration Project Arr

Demonstrate the efficiency of CHP with a system consisting of three 1250kW Natural gas fired recipricating engine/generators with exhaust heat rec and low temperature heat recovery.

BACKGROUND

Arrow Linen Supply Company is a commercial restaurant linen service located in Brooklyn. The facility uses significant electric power year round for lighting, general power and laundry cleaning and processing operations. A significant amount of the laundry processing equipment utilizes high-pressure steam for cleaning, drying and pressing the linens processed within the facility. Many of the laundry processes utilize the steam directly resulting in only a small percentage of the steam produced being returned to the steam boilers as condensate. As a result, the steam boilers consume large amounts of make up water. An existing pre-heating scheme utilizing wastewater from the laundry processes preheats the boiler make up water.

OBJECTIVE

The Arrow CHP plant will be comprised of two Coast Intelligen 180 kW Induction Generators. Waste heat from the units and combustion exhaust will be recovered and used to preheat the make up water for the domestic hot water tanks and steam boilers (offsetting existing gas usage). A portion of the waste heat will also be used to drive a new 15 ton absorption chiller to provide space cooling to the office spaces during the summer months.

DESCRIPTION

This project will design, install and monitor a 2 150kW induction generator CHP system. It will generate approximately 80% of the electric energy utilized at the site.

BENEFITS

This project will result in the removal of up to 355 kW peak load reduction, approximately 1,204,153 kWh/year of annual electrical usage from the grid and result in over \$171,215 in net annual energy savings. The annual fuel conversion efficiency has been projected to be 86%.

SCHEDULE AND STATUS

This project is underway.

Funding	Encumb to Date	Pending	Total Anticipated
Arrow Linen Supply Company, Inc	\$417,831.00	\$0.00	\$417,831.00
NYSERDA	\$417,831.00	\$0.00	\$417,831.00
TOTALS	\$835,662.00	\$0.00	\$835,662.00

Manager	Ritchey, Jaime R.
Contracts	STD-7318
Contractors	Arrow Linen Supply Company, Inc
Technologies	Cogeneration
Cities	Brooklyn
Counties	Kings