

CHP Operation on Biogas at Aurora Dairy

A CHP system fueled by digester biogas will be demonstrated. Recovered heat will be used for water heating and compost drying.

BACKGROUND

Aurora Dairy milks 1250 cows 3 times a day consuming approximately 750,000 kW annually. The proposed facility provides Aurora Dairy with an alternative to provide for the waste of the 1250 adult milking stock that would reduce energy, improve economic conditions and protect water resources.

OBJECTIVE

Aurora Dairy will demonstrate the efficiency of a CHP system with one 135 kW IC Engine fueled by digester biogas. Recovered heat will be used for water heating and compost drying.

DESCRIPTION

Two parallel-track, plug-flow, hardtop digesters will be installed. The digester gas will be used to fuel a 135 kW internal combustion generator set. Recovered heat will be used to heat the digester, dry digester solids and heat water for cleaning.

BENEFITS

This project will result in peak load reduction of up to 100 kW, reduce annual electricity usage by 750,000 kWh/year, and result in over \$73,000 in net annual energy savings. The annual fuel conversion efficiency has been projected to be 69%.

Funding	Encumb to Date	Pending	Total Anticipated
Aurora Dairy Farms, LLC	\$642,000.00	\$0.00	\$642,000.00
NYSERDA	\$207,000.00	\$0.00	\$207,000.00
TOTALS	\$849,000.00	\$0.00	\$849,000.00

Manager	Kear, Edward
Contracts	STD-7323
Contractors	Aurora Dairy Farms, LLC
Technologies	Agriculture, Cogeneration
Cities	Aurora
Counties	Cayuga