



COMBINED HEAT AND POWER FOOD PROCESSING CALIFORNIA DAIRIES, INC.

OWNER

California Dairies, Inc.

LOCATION

Tipton, California, USA

PRODUCT

Centaur® 50 (4.6 MWe) Gas Turbine

CUSTOMER VALUE

Sustainable Energy Production

California Dairies, Inc. is the number one dairy cooperative in the United States. The Tipton facility has a processing capacity of seven million pounds of milk per day, 130 million pounds of powdered milk each year using two evaporator/dryer trains, and 18,000 pounds of butter per hour. Since the plant is located at the end of a long distribution line, they often experienced voltage sag and production losses. Even a short-term loss of power could incur large product and revenue losses. California Dairies concluded that they needed a highly reliable power supply to keep their product from spoiling in the event of a power outage.

A Centaur 50 gas turbine generator set was chosen as the centerpiece of a combined heat and power system. Waste heat from the gas turbine is directed to the heat recovery steam generator to make steam for the plant's evaporator/dryer as well as heating for the plant. The overall plant efficiency exceeds 86% on a lower heating value basis which is significantly more efficient than producing steam in a package boiler and purchasing electricity from the local utility. While California Dairies' highest priority was power reliability and reduced product wastage – which alone paid off the plant in short order – the savings on energy was a nice addition to the overall plant benefits.

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