



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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