

A POWER GENERATION CASE STUDY

UNIT: 750 kW Gemini[®] Twin
Pack Diesel Genset

LOCATION: Stanfield, Arizona

JOB: Providing Standby
Power for a
Commercial Dairy
Milking Operation

PROVIDING BACKUP POWER 'TIL THE COWS COME HOME



Talk about a company with great taste! Shamrock Farms, founded in 1922, is the largest family-owned and operated dairy in the Southwest. Under its own label, the company produces and distributes a full line of delicious dairy products, including fresh milk, ice cream, cottage cheese, sour cream, whipping cream, and specialty items. For years, Shamrock Farms has been the number one milk processor and distributor in the region, serving major grocery chains, schools, hospitals, and institutions. Today, its brand stands for innovative, high quality products and packaging.

Arizona's rapid population growth has created an increasing demand for Shamrock Farms products, and the company has been expanding its operations to fully serve its burgeoning market. One of the most impressive examples is a new milk harvesting facility in Stanfield, Arizona, approximately 50 miles south of Phoenix.

The Stanfield spread encompasses approximately 1000 acres, of which 240 are in use for the maintenance of the company's own herd of dairy cows (primarily Holsteins). The remainder of the land is devoted to agricultural use, for growing alfalfa, corn and cotton.

The herd at Stanfield is self-propagating and numbers approximately 14,100 cows. That count includes 8,300 milking cows, as well as 2,000 calves and 3,800 heifers. The animals are on a thirteen month calving cycle, which results in eleven months of milk production, with a portion of the herd (about 1,100 cows) out of production at any given time. Every one's history is recorded and monitored on the computer system, which keeps track of the entire herd.



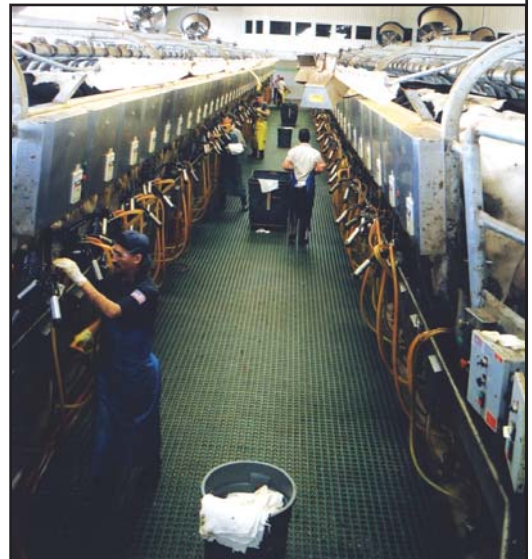
The 7,200 producing cows are milked twice a day, around the clock, in rotating groups. The open air milk barn, a marvel of efficiency, is a state-of-the-art facility with four milking lines. As soon as the prior group is released and gone, the next cows come in and take their places. Each cow's milking apparatus is connected from below and behind by workers who are on a sunken walkway, and the milking proceeds automatically until completed.



This steady production of milk is essential to the smooth operation of the entire facility, which supplies ten tanker truckloads of raw milk every day to the main dairy processing plant in Phoenix.

"Regular milking of the cows is crucial," say Frank Boyce, general manager of the Stanfield facility. "If we miss a milking, it's very disruptive, not only to the affected animals, but to our entire operation. It's a huge cost to us."

To ensure that the milk harvesting continues without interruption, Shamrock Farms invested in a 750 kW Gemini® Twin Pack diesel genset from Generac Power Systems to provide standby power for the milk barn and milking operation. The Gemini unit is actually two 375 kW generators in one enclosure, with onboard paralleling technology that combines their output, and allows them to back up each other for redundant coverage of the critical load.



The standby power system was purchased through Arizona Generator Tech, the Generac dealer serving Arizona and the Southwest, and was installed in February of 2003. Since then, it's provided backup power on a number of occasions, most notably during a four to five hour utility outage. "Our cows really need to stay on a consistent schedule, day in and day out," says Frank Boyce. "Without the generator, our production during that outage would have been totally disrupted. Instead, we were able to keep operating until the utility power was restored. We've definitely been happy with how it's performed for us."

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