

POWER PROFILE

Customer: OSF Healthcare System

Location:

Peoria, Illinois

Customer Business Issue:

Standby emergency power

Solution:

Equipment:

- 15 Cat® generator sets ranging from 400 kW standby to 900 kW standby

Services:

- Site evaluation and permitting
- Delivery, setup and installation
- Load testing and commissioning
- Equipment testing

Cat® Dealer:

Altorfer Power Systems
Peoria, Illinois



POWER NEED

Teamwork is an important element of any successful power project. Just ask Ed McKenzie, corporate facilities engineer for OSF Healthcare System, a network of six acute care facilities, one long-term care facility and two colleges of nursing. McKenzie has been heading up the OSF Healthcare System's power team, which consists of OSF Healthcare System engineers, local Cat dealer Altorfer Power Systems and outside engineering/consulting firms. This team of power professionals has been working together for years, installing additional standby power systems in a number of OSF Healthcare System facilities.

"Within the healthcare industry, we are experiencing a greater demand for standby generation," explains McKenzie. "Standby generation was historically installed to support critical life safety loads, but in recent years there has been more demand for standby generation to support non-critical loads, including operational (computer and laboratory systems) and creature comfort (air conditioning and air handling) systems.

A recent addition to the National Fire Protection Association (NFPA) code provides an allowance for such demand. "We're taking full advantage of this code allowance and installing additional standby power at several of our facilities," notes McKenzie. "All OSF Healthcare System facilities have both utility and emergency power generation in place, ranging from 120- to 4,160-volt, three-phase power. We aren't replacing existing standby power systems — but rather we're adding additional standby power," he stresses.

The addition of standby generation is all a part of future OSF Healthcare System power planning. "We always plan for future expansion needs with regards to construction and design," notes McKenzie. And although space is always at a premium, OSF Healthcare System's advance planning has paved the way for smooth power installations.

SOLUTION

OSF Healthcare System has been relying on their local Cat Dealer, Altorfer Power Systems for additional standby generation for years.

But location isn't the only reason McKenzie calls on Altorfer and power sales representative Tim Scheuermann. "We always go through our local dealer — Tim and his team provide a one-stop shop. From routine maintenance to service contracts to purchasing to design specs, our dealer is an invaluable part of our team."

The OSF Healthcare System teamwork approach has smoothed the path for recent power projects around the system. "We work closely with OSF Healthcare System during every phase of a power project," says Scheuermann.

McKenzie agrees. "We rely on our dealer for everything, from design to installation to testing of power generation, synchronization and bus gear. Altorfer is involved during every step of the way and they bring reliable solutions to the table," he adds.

The two most recent installations — three Cat 3508 gen sets at St. Francis Medical Center in Peoria, IL, and two Cat 3508 generator sets at St. Joseph Medical Center in Bloomington, Illinois — have gone without a hitch thanks to the cooperation of all parties involved.

The three Cat 3508s at St. Francis Medical Center each provide 700 kW standby power to support the 1.4-million sq.-ft. major medical center with Level One trauma and two helicopter pads. The units are also used for load shedding approximately 200 hours a year. "By contract we are required to pick up 1.25 MW for load shedding," explains McKenzie. "However, we normally load shed at about 1.5 MW." The two Cat 3508s at St. Joseph Medical Center are rated at 800 kW and 900 kW standby and support the 500,000 sq.-ft. facility. Utility power is less stable in this area and to compensate more redundancy is built into the system. "Actual standby load is

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about 750 kW which is why we have an 800 kW and 900 kW generator in place,” he notes.

OSF Healthcare System has been participating in a load shedding program for the last seven years. (All units at St. Francis Medical Center and St. Joseph Medical Center participate in this program.)

“We take part in load shedding for the economical benefit as well as for dependability,” McKenzie offers. “Our philosophy is if the host utility is having power issues, we would rather transfer our critical loads during a scheduled transfer than to experience a brownout or an unscheduled outage due to overload.”

The OSF Healthcare System also incorporates smaller power installations, such as the Cat

3406 generator set at the OSF Center for Health in North Peoria. The 3406 supports the 144,444 sq.-ft. facility and provides up to 400 kW of backup power in the event of a utility interruption.

RESULTS

The standby systems in both Bloomington and North Peoria have proven reliable in recent months. “The Caterpillar units operate very efficiently with zero maintenance issues,” notes McKenzie. “The power systems have been trouble free and for us that’s a huge plus. The most important factor for a healthcare organization is reliability. We can’t afford surprises.”

For more information, please visit cat.com/powergeneration



Three Cat® 3508 generators provide 700 kW of standby power each to the St. Francis Hospital complex in Peoria, IL.