

Market Segment: Health Care

POWER PROFILE

Sharp Metropolitan Medical Campus

POWER NEED

For the staff of Sharp Metropolitan Medical Campus, continuous improvement isn't a goal, it's a way of life. The campus is part of Sharp HealthCare, a not-for-profit, regional health care delivery system in San Diego. As the region's single-largest health care provider, Sharp Metropolitan Medical Campus offers a complete range of specialty hospitals and medical services. The campus is home to three hospitals – Sharp Mary Birch Hospital for Women & Newborns, Sharp Mesa Vista Hospital and Sharp Memorial Hospital – as well as other facilities. More than 1,100 physicians and another 3,800 employees work on the campus that encompasses 2.87 million square feet (266,630 square meters) of facilities over 36 acres (14.6 hectares).

To ensure the campus has a continuous supply of power, even in crisis situations, four Cat® 3512 diesel generator sets serve as emergency backup power for the life-safety systems and other essential operations.

"Of course, our intention is not to use them, but in a hospital setting we need to have the capability to maintain the facility in the event of a major catastrophe," said Armando Montes, operations manager for the central plant facilities. "We need to have the confidence that those generators are going to work when we need them. Whenever we've had to call on them, they've been there – they've been reliable."

SOLUTION

To ensure the ongoing reliability of the generator sets, Montes and the facility management team work closely with

Cat dealer Hawthorne Power Systems to properly maintain the system. The decision to use Hawthorne for maintenance was based on the hospital's goal of continuous improvement. Who better to service the hospital's power systems than trained experts? For that reason, Sharp signed a two-year, comprehensive Customer Support Agreement with Hawthorne, which includes regular service and inspection, load bank testing, oil servicing, ATS maintenance and more.

According to Central Plant Shop Lead Toby Henry, three of the generator sets are more than 20 years old and the newest was installed in 2009. Keeping those standby units – and other equipment in the central plant – in tip-top condition is key. Other hospitals in the organization have been directed to make their central plants look and operate like Memorial's.

"We're really proud of our central plant. Our guys have put a lot of effort into it and, best of all, it runs as well as it looks," Henry said. "If you were to walk into our plant, you'd never guess that it is 20 years old and, if you saw the generator room, you'd think it was brand new."

A rigorous preventative maintenance program ensures that the generator sets do not fail. "We invest the resources to make sure we don't have any loss of service," Henry said. "That's how we prove our value."

"We thoroughly inspect the entire power system and try to be proactive, checking for hoses that may have deteriorated, batteries that need to be replaced, and parts on the generator set that could cause problems in



The Sharp Metropolitan Medical Campus is San Diego's single-largest health care provider, offering a complete range of specialty hospitals and medical services that encompass 2.87 million square feet of facilities over 36 acres.

CUSTOMER

[Sharp Metropolitan Medical Campus](#)

LOCATION

San Diego, California

CUSTOMER BUSINESS ISSUE

Standby emergency power systems for the region's largest health care provider

SOLUTION

[Four Cat® 3512 diesel generator sets](#)
Customer Support Agreement

CAT DEALER

[Hawthorne Power Systems](#)



the future,” explained Emilio Parra, EPG product support sales representative. “We have a lot of respect for what they do, and they have a lot of respect for our technicians. Our goal is to find any problems before they come up so we don’t compromise the safety of the patients.”

RESULTS

According to Henry, redundancy is vital to the organization’s success. They plan and train for emergencies on top of emergencies to ensure that all life systems are continuously in service.

“Our goal is zero failure. We have backups for backups for backups. I don’t do anything without four plans, with another four plans waiting in the wings,” Henry said.

“And our Cat generators are part of those plans – a critical part – because we’re talking about life safety,” Montes added.

Henry said the entire campus can be run “with some capacity to spare” on three of the four generators. If there’s an interruption of power from the main grid, the Cat generator sets will be powering the system within eight seconds. To ensure the system will be available in an emergency, the campus stores 30,000 gallons (113,560 liters) of diesel for the generator sets, enough fuel to keep them running for two and a half days.

“The goal with our plant is to be an island, to be self-sufficient in case of an emergency,” Montes said. “We know our biggest risk here in California is earthquakes. We know that if there’s

an earthquake, trucks might not be able to reach us to refuel our tanks.”

A recent water main break put the hospital’s planning – and the Cat generator sets – to the test. On January 2, a water main on the campus failed, sending hundreds of thousands of gallons of water coursing through the campus. A primary, below-grade loading dock, adjacent to the hospital’s main switchgear room, took the brunt of the deluge.

“At that point, we were concerned we could have an explosion, or at the very least a system failure,” Montes said. “So we shut it down.”

The Cat generator sets were put into service, providing power to the campus for several hours while the water main and the flooded areas were repaired. Henry was named “Employee of the Month” for his efforts during the crisis.

“The water main break gave us the opportunity to prove to the administration what we can do,” Montes said. “And our Cat generators are key components for letting us do our jobs well. Just as the administration can count on us to make sure our patients are kept safe and comfortable, we can count on Hawthorne to keep us powered.”

“We’ve actually been told by members of the hospital administration that they can sleep at night knowing they won’t get a phone call, because we’re running the plant,” Henry added.

For more information, please visit www.catelectricpowerinfo.com/pp.

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Four Cat 3512 diesel generator sets serve as emergency backup power for the life-safety systems and other operations of three hospitals and smaller facilities, ensuring a continuous supply of power.