

POWER PROFILE

Customer: American Hospital Dubai

Location:

Dubai, United Arab Emirates

Customer Business Issue:

Reliable emergency standby power for a hospital

Solution:

- Two Cat® C175-16 generator sets
- One Cat 300 Series Uninterruptible Power Supply (UPS)

Cat® Dealer:

Mohamed Abdulrahman Al-Bahar



Because more than 80 percent of its patients are expatriates, the American Hospital Dubai was designed, built and equipped to meet American standards of healthcare.



Two Cat® C175-16 generator sets and a Cat 300 Series UPS system combine to ensure a critical, continuous power supply to the patients of the American Hospital Dubai.

POWER NEED

The American Hospital Dubai (AHD) is a general medical and surgical hospital providing high-quality healthcare to the people in Dubai, the United Arab Emirates (UAE) and the surrounding Gulf States. All the physicians are North American Board Certified or have equivalent Western training.

In response to a strong increase in demand for its services, AHD announced expansion plans in 2009. These plans included adding a new seven-story, in-patient tower including eight state-of-the-art operating rooms, 47 intensive care unit (ICU) beds, 178 patient beds, a new radiation therapy center, an expanded regional center for diagnostic and interventional radiology and a reference laboratory. The new center was completed in February 2010.

To ensure a reliable, high-quality power supply for the hospital facilities, AHD required emergency backup power from an integrated system consisting of an uninterruptible power supply (UPS) and diesel generator sets.

SOLUTION

The local Cat dealer in the UAE, Al-Bahar, has a strong relationship with AHD. Therefore, AHD chose Al-Bahar to install two Cat C175-16 generator sets as standby power and a Cat 300 Series UPS (250 kVA).

“We trust the quality of Cat products and the ongoing support we receive from our representatives at Al-Bahar,” said Stephen Fenn, director of the facilities management department at AHD. “It was logical for us to select them to provide the right products for this important power need.”

The C175-16 generator sets offer a variety of benefits for the hospital, including longer oil change intervals, improved component life and reduced fuel consumption, all of which result in lower operating and maintenance costs.

Cat C175-16 generator sets combine high power density with efficient operation and low emissions. With power capabilities of 2 to 4 MVA (2 to 4 MW at 60 Hz) and a compact footprint (127 square feet or 11.8 square meters), the Cat C175-16 diesel generator set delivers more power in less space than any other high-speed generator set in the industry.

For the installation at AHD, the cooling systems of the generator sets were connected to remote radiators, allowing them to operate efficiently even in the harsh heat in the UAE.

To ensure the safety of patients, it is critical that backup power is available within 20 seconds of a power failure. The Cat UPS system in place at AHD uses an integrated, high-speed flywheel kinetic energy storage system to ensure that sufficient energy is immediately available to power up a critical load in the event of a grid outage. Combined with a Cat generator set, this integrated system can provide continuous power generation in the event of an extended power outage.

RESULTS

This hospital project was of great significance to Caterpillar and Al-Bahar, as it represented the first installation of a C175-16 unit at 50 Hz in the region. Following installation, Al-Bahar has been providing on-going services, including technical support, maintenance and parts delivery.

As AHD continues to expand to meet the healthcare needs of the people in Dubai, UAE and the surrounding region, the Cat generator sets and UPS system will play an integral role in ensuring the hospital provides quality, uninterrupted care, even in loss-of-power situations.

For more information, please visit cat.com/powergeneration