Case History
Al Ahli Hospital in Doha, Qatar

Where:
Al Ahli Hospital in Doha, Qatar

What:
Integrated standby power system including generator sets, paralleling switchgear and digital master control for a multi-building hospital complex

Purpose:
To provide reliable and seamless emergency backup power for critical hospital needs during utility power outages

Primary Choice Factors:
System reliability, performance and efficiency in order to ensure patient safety and excellent service

Hospital in Doha, Qatar, selects Cummins Power Generation Inc. generators, switchgear and controls for standby system

DOHA, QATAR — Doha, Qatar, is a bustling, modern city on the move. With a rapidly growing population comes a need for expanded health care, and the Al Ahli Hospital is the newest and largest private facility in Qatar, and one of the largest in the Middle East. Hospitals worldwide have rigorous standards for their mandatory standby power systems, and the 47,000-square-meter Doha facility selected Cummins Power Generation generator sets, paralleling switchgear and digital master control for its standby power system.

The backup power system for the three-building Al Ahli Hospital complex consists of three 1005DFLC generator sets with a total output of 4,000 kVA. The generator sets, digital master control and switchgear are located on the main floor in the rear section of the main hospital building. A fourth stand-alone 345DFEC generator set from Cummins Power Generation produces 431 kVA and provides dedicated standby power for the administration building.
Prepared for utility outages
“The local utility is quite reliable,” says Kamal Najjar, director of engineering at Al Ahli Hospital. “However, outages do occur nonetheless. Since a lot of construction is taking place in Doha, there are power interruptions from time to time. During these outages, the standby power system automatically starts and provides emergency power.”

Najjar says the power system is designed to supply about 40 percent of the hospital’s total needs, including all of its critical needs as required by international building codes. The loads supplied by the standby system include the intensive care unit, the critical care unit, operating rooms and other treatment rooms as well as the lighting, elevators, computers and a portion of the air conditioning system. The standby power system has a fuel supply for up to ten hours of operation before refueling is necessary.

Switchgear and digital control simplify operation, testing
Synchronizing switchgear from Cummins Power Generation is designed to work with the generators to provide flawless connection and separation with the local utility mains. When the utility power fails and the generators receive a start signal from the digital master control, the first generator to get up to speed will close its breaker to the main bus. Then the two other generators will synchronize with the first generator before closing their breakers to the main bus. Having PowerCommand® digital controls on each generator set eliminates single points of failure and assures that even if one of the generators doesn’t start, the system as a whole will not fail.

With the PowerCommand digital master control and switchgear from Cummins Power Generation, the hospital also has the ability to parallel with the utility during full-load testing. This allows the hospital to phase in the load so as not to cause any noticeable break in power. However, with the generators supplying only about 40 percent of the hospital’s total load, regular monthly testing can be done without utility paralleling or placing a significant load on the generator sets.

“We are very happy that we selected Cummins Power Generation, because the system is very reliable, it ensures our patients’ safety and it is very efficient.”

“As a private hospital, one of our main targets is to provide excellent service, and so, patient safety can’t be compromised,” says Jamal Saleh Hammad, executive director of Al Ahli Hospital. “We have to opt for the very best systems on the market in terms of reliability, performance and efficiency.”

“We are very happy that we selected Cummins Power Generation, because the system is very reliable, it ensures our patients’ safety and it is very efficient. It is also backed up by excellent support services.”

For more information about integrated standby power systems, contact your local Cummins Power Generation distributor or visit www.cumminspower.com.