



Standby power

> Case History
Westmead Hospital, Australia



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Where:
Westmead, Sydney, Australia

What:
Fully integrated standby power solution incorporating three Cummins Power Generation (C1400 D5) generator sets individually controlled by PowerCommand® digital paralleling PCC3100 controllers; all three generator sets are controlled by a DMC 200 master control system

Purpose:
To provide reliable emergency backup power for the internationally reputed hospital

Primary choice factors:
Cummins Power Generation's ability to supply quality equipment and successfully coordinate with builders, electrical contractors and end users to install, test, commission and cut over emergency power systems

The largest teaching hospital in the Southern Hemisphere relies on Cummins Power Generation

WESTMEAD, SYDNEY, AUSTRALIA — Sydney's Westmead Hospital is the largest teaching hospital in the Southern Hemisphere with an international reputation for medical and scientific research.

Commissioned in 1978, the hospital has around 1,000 beds and each year more than 13,000 operations are performed and 4,000 babies are born here.

Redevelopment of Westmead Hospital began in 2004: Stage 1 is a \$130 million project involving a combination of new and refurbished facilities for intensive care, women's health and newborn care, and cancer and renal treatments.

A new emergency power system is also part of the redevelopment, with generator sets and a master controller from Cummins Power Generation specified for the required standby power duties.

The 3 MW system was selected based on Cummins Power Generation's successful solution several years ago at the Royal Prince Alfred Hospital in Sydney in conjunction with building contractor Thiess and electrical contractor Star Electrical — the companies now involved in the Westmead Hospital redevelopment.



The new standby power system had input from (left to right): Thiess services engineer Les Sorm, David Van Brussel and Mason Kratz from Cummins Sydney, Westmead Hospital maintenance manager John Noble, and Star Electrical's Jim Bushel.



Cummins Power Generation DMC 200 provides plant operators with a touch-screen interface to monitor the gensets as well as system load and status.

"The big challenge is working within, and around, a fully operational hospital," says Cummins Sydney power generation contracts manager David Van Brussel.

"Westmead Hospital has eight substations so we installed temporary gensets at each substation while we were dismantling and removing the old standby power system and installing the new one."

"This reduced the risk of unplanned outages to the hospital's power supply during the work, and allowed us to start from scratch in establishing a functional plant room with excellent access to the new generators for service and maintenance activities."

"The big challenge is working within, and around, a fully operational hospital."

"The use of temporary generators also allowed Cummins' applications engineer and service technicians to fully load test the generators and test and commission the master controller prior to being put into service, further reducing the live facility's exposure to unplanned power outages."

The fully integrated system utilizes three 1,005 kWe C1400 D5 generator sets powered by Cummins 50-liter KTA50G3 engines together with a PowerCommand digital controller.

A Cummins Power Generation DMC 200 digital master control system integrates the standby power system with the hospital's alarm and monitoring system. It provides the plant operators with an easy-to-use touch-screen interface to monitor the generators as well as system load and status during operation.

The site has a SCADA (Supervisory Control and Data Acquisition) system that monitors the eight substations at the hospital and allows the standby system to power individual substations in the event of an outage. For example, if only one substation loses power, the standby system sends power to that station.

The Westmead Hospital project reinforces Cummins' proven track record in power generation, especially its ability to provide a total system solution.

It also highlights Cummins' ability to not only supply quality power generation equipment, but also coordinate with builders, electrical contractors and end users to install, test, commission and cut over emergency power systems that meet the customer's needs with minimum interruption to services.

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

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