



Standby power

> Case History

NSW Police Headquarters, Parramatta, Sydney



**Power
Generation**

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Where:

NSW police headquarters, Parramatta, Sydney

What:

Standby power with control system that incorporates mains paralleling with multiple utility supplies

Purpose:

To provide state-of-the-art emergency power for complex police computer and operational systems

Primary choice factors:

Cummins Power Generation's ability to provide a total system solution for the customer, including design, manufacture, installation, commissioning and ongoing maintenance

Australia's largest police force calls on Cummins Power Generation for emergency backup

SYDNEY, AUSTRALIA — Meeting the complex needs of Australia's largest police organization was the challenge Cummins Power Generation faced recently when it was chosen to design and install a new emergency power system.

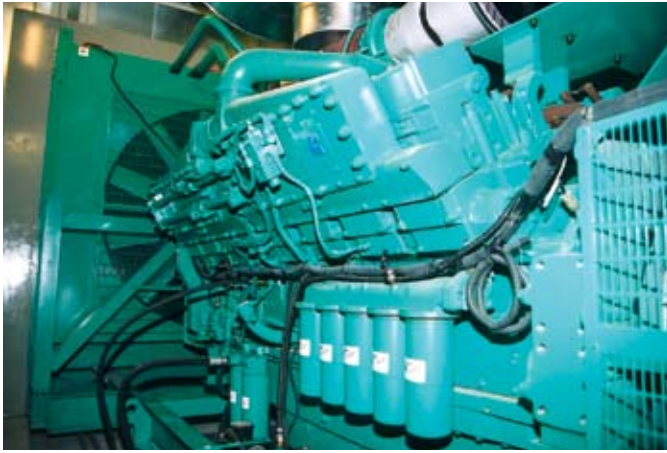
The Cummins Power Generation system was installed in the new headquarters of the New South Wales police at Parramatta, the geographical center of Sydney.

The complex computer and operational systems of the NSW police demanded state-of-the-art backup power for absolute system reliability in the high-security, twin towers facility.

Cummins Power Generation supplied and installed the system utilizing its own standard PowerCommand® generator sets and PowerCommand digital paralleling control equipment.

Challenging project

The Cummins Power Generation team in the South Pacific designed a control system incorporating mains paralleling with multiple utility supplies. It was another example of Cummins Power Generation's ability to provide a 'total system solution' to the customer including design, manufacture, installation, commissioning and ongoing maintenance of the emergency power system.



Cummins Power Generation supplied and installed the emergency system utilizing its own standard PowerCommand generator sets and PowerCommand digital paralleling control equipment.

The Cummins Power Generation installation was part of the electrical and communications services package provided by Star Electrical to the project builder, Multiplex Construction.

Star Electrical operations manager Robert Sundercombe says "Cummins Power Generation reacted positively to all the challenges of the project."

"The design and construct project method allowed Cummins Power Generation to use its expertise in providing the end user with a fully functional system that is customized from technology developed by Cummins Power Generation," says operations manager Robert Sundercombe.

"During the project Cummins Power Generation successfully worked to Multiplex's extremely tight construction program."

The emergency power system involved the supply of a Cummins Power Generation DMC300/2 Master Control System for two 1340 kWe generator sets which are powered by Cummins 50-liter KTA50G3 engines.

The DMC300/2 performs a number of critical functions:

- The system responds to mains failure signals from three independent incoming utility supplies. The controller operates all the required circuit breakers at the respective main switchboards.
- The controller is capable of providing emergency power to each switchboard individually, or multiple boards depending on the status of the utility supplies.
- The system seamlessly transfers the building loads back to the three independent incoming utility supplies when they have returned after a mains failure outage. This means

there is no noticeable transition from generator supply to utility supply.

- The system allows the operator to parallel the generator sets to any one of the three independent utility supplies for maintenance test runs. This allows the generators to regularly exercise with the true building loads without interrupting the building power supply, eliminating the need for a load bank to be installed.
- The system controls 32 levels of load throughout the building during mains failure conditions.

The DMC300/2 is split into two physical cabinets. One is located on the ground floor and the other on the 10th floor. The two controllers are connected via a data cable, reducing installation costs.

Easy-to-use touchscreen

All controls are performed through a 256 color touchscreen located at the controller on the ground floor. This touchscreen is easy to use and animates the system statuses, allowing the operator to make all changes required for optimum system performance.

Two Cummins Power Generation gensets are installed in individual purpose-built acoustic enclosures designed to meet a noise level requirement of 70 dBA at seven meters.

Fuel is stored in a 30,000-liter bulk storage tank on basement level three of the building. Cummins Power Generation supplied and installed the fuel transfer system comprising transfer pumps, fuel risers, day tanks and control panel to provide fully automatic operation of the fuel system.

The generators, controllers and fuel transfer system are remotely monitored by the building management system (BMS).

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

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