



Westmead Children's Hospital

Sydney, Australia

Westmead Children's Hospital in Sydney, Australia, is the largest hospital for children in the southern hemisphere.



Each year it treats over 25,000 inpatients and more than 500,000 outpatients. In addition to providing community medical care and emergency pediatric services, the hospital also serves as the State of New South Wales' main liver transplant and burns unit, and houses the national poisons information center.

Opened in 1995, Westmead Children's Hospital caters primarily to the needs of sick children. Its ambition is to create a comfortable "home away from home" environment both for children and parents who have access to onsite accommodation. Consequently, when the four-building complex was originally designed, the architects wanted to avoid an "institutional feel" yet retain all the features of a modern hospital.

TAC experts worked closely with them right from the beginning to assess their special needs and offer practical advice. The result was a Building Management System that fulfilled all design criteria and cut operating costs.

Customer Benefits

- Ability for technicians to receive system warnings via hospital paging network
- Safe 24-hour monitoring without expensive, large onsite maintenance staff
- Streamlined control of systems for four-building complex
- Reduced operating costs

Healthcare

The Challenge

The four buildings are integrated into one complex. Chilled water, heating water and emergency power are supplied from a central plant. Because of high summer temperatures, it was imperative that indoor air ventilation functioned perfectly at all times even in cases of main power failure. The system also had to monitor chemical treatment, diesel, electrical, fire, hydraulic and medical gases, and control approximately 10,000 light fittings.

The Solution

TAC installed a Building Management System to control air conditioning, emergency power and an array of different sensitive energy, mechanical and electrical systems. The TAC system monitors and controls the 74,000 m² hospital complex via data collected from 7,000 measuring points.



It also interfaces to the hospital internal paging network, allowing engineers and technicians to program in and receive immediate warning messages. In the event of main power failure, the system monitors the back-up diesel generators to avoid overloading and ensures they provide the maximum available power.

Healthcare Profile

Healthcare facilities operate 24/7 and require 24/7 system reliability and precision. Environmental conditions must adjust quickly and uniformly to the needs of each patient. Particular areas, such as surgery suites and laboratories, must maintain specific temperature, air filtration and ventilation requirements.

Managing energy usage without compromising life critical environmental needs is a huge challenge faced by maintenance and engineering personnel. For both patients and staff, TAC's open systems solutions mean a total quality healthcare environment and efficient facility operation.

The Bottom Line

“Without TAC's building management control system, we would need an army of people to run our facilities,” says Westmead's Chief Engineer, Hieu Phan. “In fact, this may be the only hospital of its size in Australia to operate without a 24-hour operator onsite.”

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