Case Study 6

The Institute of Medical & Veterinary Science

EFFICIENT ENERGY SYSTEMS

Located in Adelaide, South Australia the Institute of Medical and Veterinary Science provides a comprehensive range of diagnostic and consultative services in all branches of pathology for the Royal Adelaide Hospital, private and public hospitals, medical practitioners, specialists and research organisations.

The Project

The building space under review was established in the late 1930's and is currently used as pathology and research laboratories. The building best described as a rabbit warren, had been added to from time to time resulting in a non standard lighting grid layout and various types of lighting fitted throughout the premises.

The Challenge

The challenge here was to provide a lighting solution that was both energy efficient and one that resulted in uniform lighting levels throughout the premises. A secondary criterion was to reduce maintenance costs, which were quite high at the time due to the age of the equipment and high failure rates.

The Solution

Although, the lighting fixtures found in the building varied from location to location, the main type of luminaire was found to be a 2 x 36W, 1200 x 600mm recessed troffer fitted with a framed prismatic diffuser and low loss magnetic ballast.

The existing light fittings had an energy consumption of 84W, resulting in a lighting power density of 19.4W/m^2.

The most cost effective solution saw a combination of new and retrofit luminaires deployed at this site. New luminaires were used at those locations where the existing lighting fittings were deemed too old, or of non standard design and retrofit kits were used to upgrade the recessed troffers indentified earlier.

The new light fittings featured a 1 x 36W 840 colour fluorescent lamp, KW/2 specular reflectors and Osram QTP ballasts. At the same time the cable loom and lamp holders were upgraded for maximum reliability.

The new light fittings had an energy consumption of 35W, resulting in a lighting power density of 8.1W/m^2.

The work was carried out by the in-house maintenance staff, under instruction from Efficient Energy Systems and the final installation easily met all the targets from the onset.

The Cost Savings

The energy saving as a result of the lighting upgrade was estimated at 375,000 kWh per annum, while greenhouse gas emissions were reduced by 368 tonnes with an annual energy cost saving of $30,000.

The Facts

Annual energy savings	375,000 kWh
Annual greenhouse gas savings	368 tonnes
Annual energy cost savings	$30,000
Annual maintenance cost savings	$28,000

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