



Technology Case Study

Randwick Labor Club saves \$200,000 with innovative power management system

Randwick Labor Club is situated in the heart of Sydney's Eastern Suburbs and provides entertainment facilities including a restaurant, bar, function room, TAB and lounge area for the local community. The Club was opened in December 1972 and has since then played a valuable role in supporting the needs of charitable and sporting organisations from the local area.

In 2007, Randwick Labor Club management undertook a renovation of the entire building, including the rebuilding of the second level gaming area, a fire safety upgrade, including sprinklers throughout the renovated area, a new electricity switchboard with a single supply and a new foyer. The renovation represented a complete reinvention of the Club, to ensure it remained attractive and offered the best levels of service for its members.

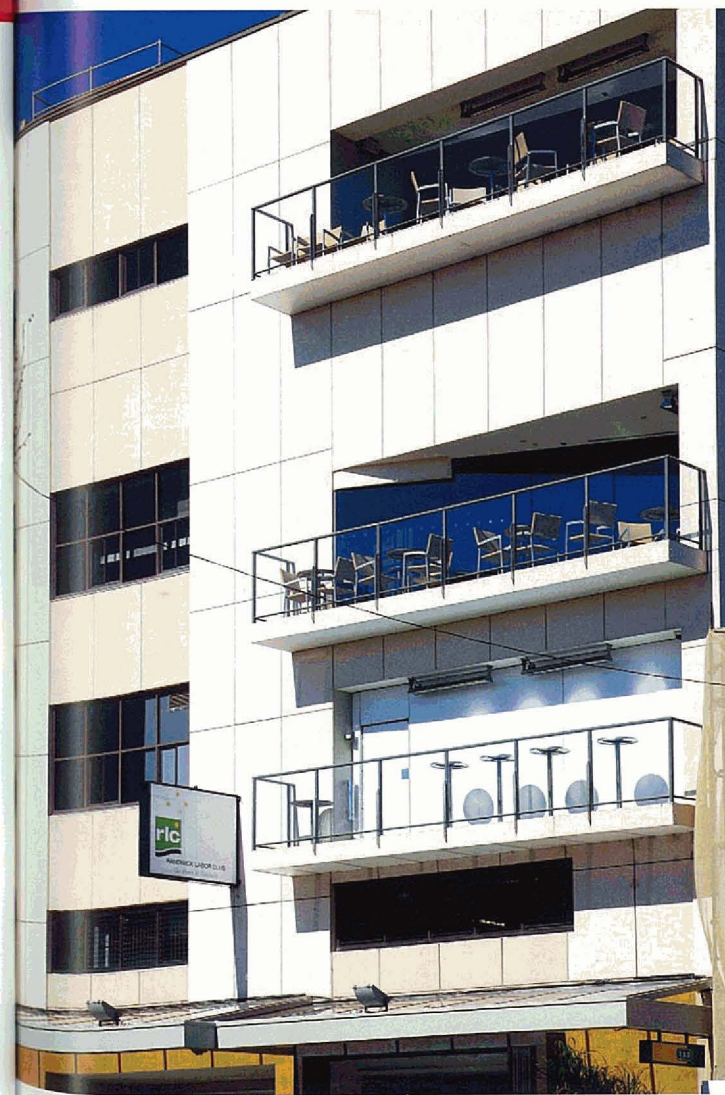
Some time after the redevelopment it became evident that the Club was under-supplied with power.

As a result of this lower supply, Randwick Labor Club was suffering from regularly overloaded fuses, leading to the power dropping out. This was affecting systems that are integral to the Club's business and providing a service to its

members, including lighting, air conditioning and refrigeration, meaning the Club had to close until the fuses were replaced and therefore was losing trade.

Bill Clegg, Randwick Labor Club manager says: "It was just unacceptable to us to keep losing power as we were. Even once we'd bought replacement fuses to keep spare we needed to have a tradesman come to fit them so we still had to keep closing intermittently. Understandably, this was a huge frustration to our members too so we needed to rectify the situation."

While replacing the fuses was a short-term fix, Clegg started looking into long-term solutions for this problem. It transpired that the transformer in the street did not have the capacity for the Club's power supply if it ran over 400 amps



and therefore the transformer would need replacing. The cost of replacement was \$250,000 plus cabling, a new switchboard and other electrical support items.

Deterred by this significant cost, Clegg approached David Anderson, Randwick Labor Club Load Shedding and Monitoring Project at Energy Management Solutions Australia (EMS), to develop an alternative solution to the problem. The best solution was to install live metering equipment to monitor the electricity consumption of the Club. mySmart then supplied the logic control to the interface with the Club's existing electrical systems.

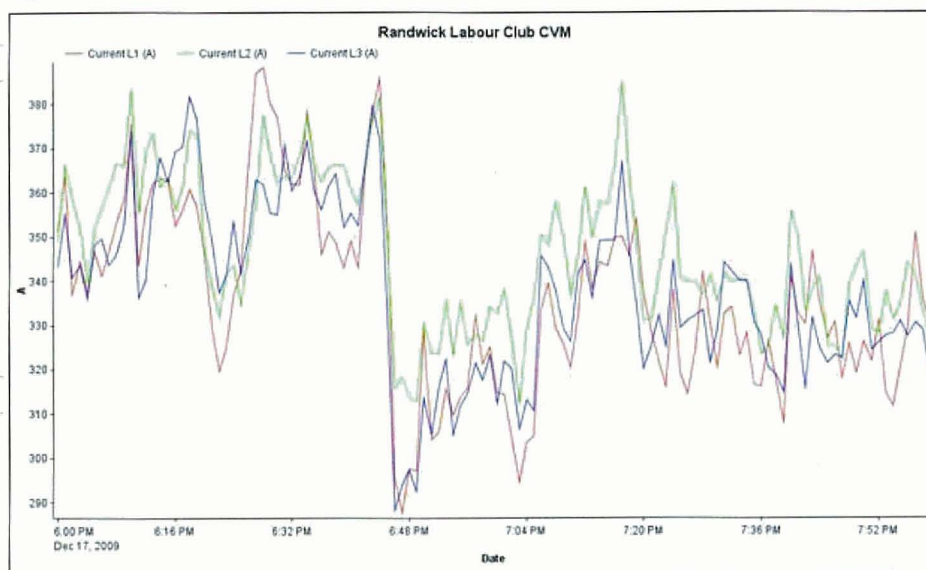
EMS is a consultancy service offering cost-effective energy management solutions and designs to reduce long-term energy consumption and carbon emissions. mySmart is an Australian company that uses the latest technology, consultants and technicians to optimise buildings and outdoor environments so that they use less energy and resources while simultaneously driving down ongoing operational costs.

Using mySmart technologies, Anderson devised a system of live load monitoring whereby the Club can monitor electricity consumption in real-time. When levels reach a critical point (i.e. 370-390 amps) the Club will automatically 'shed' some of the load by turning down the aircon or some of the lights in order to keep the power below the 400 amp threshold and keep everything up and running.

The \$33,000 project involved four components which were enabled by mySmart technology:

1. mySmart provided live metering of the switchboard onto a server which enables the Club to see from anywhere how much power they are using at any one time. As well as these real-time updates, the metering also provides a historical log of energy used.
2. In addition, mySmart technology reads the energy being metered and sends signals when thresholds are met. For example, at 370 amps it sends a signal to the air conditioning to start switching off and at 390amps further products such as lighting start to turn off.

Figure 1



Since the introduction of EMS' program at the end of 2009, the Club has had many occasions where load shedding has been required. However, stage two has rarely been utilised and there has been no disruption to trade and only minor discomfort to patrons for about an hour while stage two load shedding is in place. The reduction in air conditioning has on these days made the Club hotter than normal, however there has been no loss of power and the Club has been able to continue trading and providing top quality service to its members.

Clegg says, "The program EMS and mySmart provided for us has not only saved us a significant amount of initial financial outlay but has also been able to provide us with a better understanding of how we're using our power. This has also helped us save money on energy bills."

"Most important, however," continues Clegg, "is the fact that our members know they can rely on us again to provide a quality service and always have our doors open when they should be."

3. The last piece of technology provided by mySmart is attached to the infrastructure such as the air conditioning control system and is programmed to receive those signals and therefore know when to start shedding loads.
4. Text messages are sent every time load shedding occurs to keep the management immediately informed and up to date.

Figure 1 shows that between 6.00pm and 6.30pm, stage one of load shedding occurs three times, and at both 6.45pm and 7.18pm, stage two commences. The aim of the load shedding is to keep the power usage below 400amps, which is demonstrated here.

