



Hotel case study 2

Tower Hotel and Leisure centre



In May 2010 Navitus were commissioned to carry out an analysis of electrical consumption at the Tower Hotel, Waterford. It was explained that there was an unreliable supply of power and at busy times of the year, the hotel's main fuse from the grid cuts out resulting in blackouts. A backup generator is then required to provide power to the hotel. The aim of this study was to identify the most suitable solution for the hotel.

Project results

Navitus identified that to guarantee a reliable and constant supply of electricity the Tower Hotel has the following options:

1. Upgrade the connection to the grid
2. Reduce the total energy demand of the hotel

1. Upgrade the connection to the grid

Navitus analysed the Tower Hotels electricity bills and established that the reason they experienced power outages was because they were exceeding its MIC (Maximum Import Capacity) on some occasions of peak demand. Further investigation revealed that the hotel had received the maximum supply that the external grid could offer. To upgrade this further would require the construction of an ESB substation, thus adding significantly to the cost of upgrading the grid connection and Navitus calculated the full cost of such a strategy for the hotel.

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2.Reduce the total energy demand of the hotel

Within this, Navitus identified two methods in which the hotel could reduce its peak electricity demand and recommended that both methods were considered jointly as an overall strategy.

1. Load management software
2. Reduce the electricity consumed by the hotel.

1. Load management software

The electricity connection is tripping out when many of the large electricity users are switched on simultaneously. The hotel may only breach the maximum import capacity (MIC) for a brief moment, while the large electricity users are in peak demand mode. However this is enough to result in a total power outage. Navitus then identified 15 of the largest electrical loads in the hotel which could be selected for automatic management by the software. The management strategy of each load can be decided by the hotel in advance in a way that will result in minimum disruption and ensure that all critical loads are operating when required.

2.Reduction in Total Energy Demand

In conjunction with the load management software, Navitus recommends that the hotel examines way of reducing its current total load. From the analysis of the current energy profile it would appear that there is considerable potential for a reduction in electricity consumption. Within the 15 largest electrical loads outlined, Navitus identified several appliances which could be either gas operated or replaced with more a efficient solution resulting in an over all reduction of energy consumption of 28 %.

Conclusion

The combination of these two strategies will ensure that further breaches of the MIC should not occur. By adopting an energy efficient approach to equipment procurement and operation, the hotel will benefit in two ways.

Firstly, this solution is less than half the cost of upgrading the MIC and secondly the hotel will continue to benefit from this option in the future through a reduction in electricity consumption.

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