

CASE STUDY

Riverbank Park Plaza, London

11– 25 October 2006

Trial Venue

The Riverbank Park Plaza (18 Albert Embankment, London, SE1 7TJ) is one of over 50 Park Plaza 4-star hotels worldwide. It opened in March 2005 and provides superior service, luxury guestrooms, modern meeting facilities and fine restaurants for both leisure and business guests. It has 6 kitchens, 3 bars and many other areas where refrigeration equipment is used.

Objective

The trial was held to evaluate the reduction in electricity consumption that might be achieved with regard to refrigeration equipment by using the energy-saving device known as the **eCube** .

Trial Equipment and Conditions

The refrigeration equipment selected for the trial was a Williams Under Counter Two Section Refrigeration Unit that had been installed in early 2005. Still virtually new, this fridge is located in the Minus 1 Room Service Area where working conditions are those normally associated with a busy food preparation area.

The trial ran for a period of two weeks (11-25 October 2006). During the first week (Week 1) of the trial the fridge was controlling temperature as normal, based upon air temperature. For the second week of the trial (Week 2) an **eCube** was fitted to the sensor inside the evaporator in the refrigerated return air. This resulted in the fridge controlling temperature based on food temperature rather than air temperature.

An electricity meter was used to measure the amount of electricity used (kWh) during each week of the trial.

The temperature of the food / drink (up to a depth of 15mm from the surface) was also recorded throughout the trial by means of a gel-based thermometer that is in use with chilled and frozen food manufacturers, food retailers, hoteliers and caterers.

Fluctuating ambient air temperatures were not recorded, but would have been similar during both Weeks 1 and 2 of the trial. The fridge was in constant use, both day and night, with the door being opened on a regular basis.

Trial Personnel

The trial was overseen by: Dave Bell (Chief Engineer Riverbank Park Plaza), Harry Banham (H2C Refrigeration), Guy Lamstaes (Universal Master Products)

Observations

During Week 2, with an **eCube** fitted, it was evident that the fridge was producing less noise and that the compressor appeared to be working more efficiently. Due to the high level of activity and the heat and steam produced from various sources within the Minus 1 Room Service Area, it was not possible to confirm whether or not the fridge was emitting less heat.

Comments from Riverbank Park Plaza personnel included:

"As a Group, we feel very strongly about saving energy. We want to contribute as much as possible to the protection of the environment and have already significantly reduced energy consumption on our boilers and lighting. The eCube now offers us the exciting opportunity to make equally dramatic savings with our refrigeration."

Dave Bell, Chief Engineer

"After the eCube had been fitted I soon noticed that the fridge was not as noisy as it usually is. The compressor wasn't working as hard. Less noise is a really important benefit – more important than most people think."

Room Service Manager

"Energy saving is important but, above everything else, food has to be stored at the right temperature. It's no good cutting refrigeration costs by risking food safety. The eCube makes refrigeration more efficient, protects food better and saves you money. It's a win-win-win situation."

Executive Chef

Results

Throughout Week 1 the temperature of the food / drinks in the fridge remained at a constant + 1°C. Energy consumption for Week 1 was 27.6 KWh.

During the first 5 days of Week 2 the temperature of the food / drinks in the fridge was -1°C. Although it was not necessary to maintain this lower temperature, it was maintained in order to demonstrate the improved performance of the fridge brought about by the **eCube**