

Heathrow Airport Building Management Systems Takes Flight



After Government sanctions were imposed on Heathrow regarding energy usage, we were asked to fine tune the Compass Centre building as part of on-going energy works across the site.



The Compass Centre BMS had been upgraded in 2013 by third party contractors but the software wasn't correctly installed and was causing the plant to run inefficiently and ineffectively.

BMSI have re-written the buildings control strategy to accommodate the specific needs of the building. This includes preventing conflict and unnecessary operation of plant. The control has been streamlined, with all areas trying to achieve the same results.

BMSI have also visited every item of plant and repaired any faults found on the field devices, and replaced every sensor on the primary plant as very few were accurate.

The Compass Centre Building comprises of the plant below.

West Block

2 Boilers, 2 Chillers, Multiple Pumps, 4 Fresh Air AHUs, 8 Extract Fans, HWS Plant and approximately 150 FAT Box units

Meridian Block

2 Boilers, 2 Chillers, Multiple Pumps, 8 AHUs, 8 Extract Fans and approximately 250 FAT Box units

East Block

3 Boilers, 2 Chillers, multiple pumps, 2 AHUs, 4 Extract Fans and approximately 120 Fan Coil Units

As a result, the building environment is a much more pleasant place to work and there has been a lot less complaints over temperature within the building.

The works have involved optimising the Heating, Ventilation and Air Conditioning systems which have resulted in Year on Year savings of 25% off the electric cost and 50% off gas, whilst maintaining occupant comfort.

This is great news for Heathrow as it continues to reduce operational costs and reduce energy consumption to work towards the annual and 2020 CO₂ reduction target."

Stuart Smith, Utilities Performance Manager, Engineering, Heathrow Airport

As a flagship building at Heathrow Airport and their management staff, this work has provided an example to the rest of the airport demonstrating they already have most of the tools needed to reduce their carbon footprint.

BMSI are still looking for further energy saving initiatives and there are plans to install bigger AHU Recirc dampers to increase heat recovery capacity. There are also plans to do further strategy changes in the East Block to incorporate a 3rd party installed separate BMS.

| | Gas Usage | Electric Usage |
|-------------------------|------------------|------------------|
| Year Before Works (kWh) | 2,141,461 | 4,689,807 |
| After Works (kWh) | 1,132,512 | 3,882,897 |
| Reduction (kWh) | 1,008,949 | 806,911 |
| Saving | 47.15% (£43,147) | 17.21% (£77,945) |

Total Dual Fuel saving of £121,092 on December to November calendar year 2013/14.