



LONDON'S EMERGENCY SERVICE

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London's Emergency Service provides 24hr support and assistance from a diverse building stock of approximately 100 locations. The buildings are in constant use and due to critical equipment within, have significant electrical baseloads. The ongoing COVID pandemic has added to the complexity of the situation as the ventilation plant has been set to run continuously throughout the buildings in a full fresh air configuration. The comfort conditions and amenities within the buildings are also served by gas heating systems.



THE REQUIREMENT

Following a down selection process and the creation of an energy performance league table, the Significant Energy Users (SEU) sites were visited to finalise the changes that could be made to the BEMS controls. The site surveys also highlighted operational issues that needed remedial action and where additional maintenance was required.

We needed to reduce the energy consumption and reliance on the immediate power networks whilst ensuring the critical and essential services within each of the buildings was not compromised.

Should a control system not be serviced, supported and reviewed on a regular basis to ensure that the plant services are controlling as required and that the control parameters reflect the building user's needs, operational inefficiencies caused by excessive and incorrect plant operation can occur.

These inefficiencies manifest as; increased maintenance requirements, decreased plant longevity and life-cycle, the potential for downtime of the plant services becomes a hazard, occupant comfort is compromised along with unwarranted financial expenditure that is likely to fall outside of the allocated operating budget.

THE SYSTEMS

The buildings use TREND controllers that form both a site and portfolio wide Building Energy Management System that extensively controls and interfaces with the heating, ventilation and air conditioning plant services.

The control systems are serviced on behalf of the Emergency Services by another service provider and remotely supported by a BEMS Bureau. Kendra Energy Solutions provided a BEMS Consultancy service with focus being given to identifying, validating and implementing optimised BEMS control strategies, bespoke to each location.

OUR SOLUTION

Utilising our PROActiv Energy offering, during the first phase of the BEMS optimisation project a total of 18 buildings were targeted, no additional hardware was required for the optimisation and control strategy revisions to be implemented.

A total of:
2,141,856.13 kWh, £90,089.68 and 406.80 tonnes CO₂ were saved with a return-on-investment period of less than 1 year for the BEMS optimisation works!

Numerous energy conservation measures (ECM) that required capital expenditure were identified and suggested with the intention that the money already saved could support these ECMs.

BENEFITS OF OUR SOLUTION

The Emergency Service uses a remote BEMS Bureau to monitor and support their operation, additionally, an extensive aM&T system is employed to manage and validate their energy usage. With access to both platforms Kendra was able to establish an energy performance league table to focus on sites that were Significant Energy Users (SEU) with a remote BEMS connection to aid visibility and support.

The improved energy performance is monitored using the BEMS Bureau and the aM&T system for visibility, continual performance and to ensure that the environmental and financial benefits realised are sustained.