

Case Study:
ISG TOTTY



A UNIQUE VOLTAGE OPTIMISATION SYSTEM



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Powerstar is an approved energy savings system. This product may qualify for an interest-free Energy Efficiency Loan from the Carbon Trust. Powerstar® is a registered Trademark by EMSc (UK) Limited.

Registered with the DTI MAS as a Centre of Expertise in Manufacturing.

A UNIQUE VOLTAGE OPTIMISATION SYSTEM



ISG Totty Construction – based in Bradford, England – is a heavy user of lighting and Information Technology equipment. The company identified the cost of electricity as a major concern and set out a project scope with Powerstar to find out if voltage optimisation could provide an answer to reducing the amount of energy used, but without compromising output.



THE CUSTOMER

ISG Totty is a main contractor that works across a comprehensive range of industry sectors through its Public and Private divisions. The business is one of the largest construction and property development groups in the North of England, carrying out new and refurbishment projects up to £10 million in value.



Clients include: Whitbread Plc; Persimmon Homes; City Lofts; Universities and Health Trusts; and a number of major institutional clients with interests in the North and Midlands. ISG Totty is part of the Interior Services Group Plc (ISG), a construction services specialist with an £800 million turnover. In ISG's sustainability policy, the business aims to progressively increase resource efficiency, to reduce dependence on non renewable resources and to reduce their carbon footprint.



THE CHALLENGE

The primary source of power at the ISG Totty building is for lighting and IT equipment, with the incoming power being supplied through a 100A per phase (three phase supply). Initially the voltage coming into the site was recorded, showing at 247V, with a minimum of 244V. The Company was keen to identify consumption during weekday working hours and at weekends. The challenge was to see whether a reduction in the voltage would achieve the savings required for both time periods and with no adverse effect on performance.

"The Installation of the Powerstar systems has cut our energy cost by nearly 18%. This is a fundamental step towards our efforts to minimise our Carbon Footprint."

Phil Mason
Facilities Manager, ISG Totty



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THE SOLUTION

Powerstar effectively reduces the incoming voltage into a building to more accurately meet the needs of equipment and machinery which is designed to operate at a lower voltage than that supplied. Stopping the excess voltage enables an organisation to reduce consumption and as a result lower electricity bills and CO2 emissions.

The initial surveys at ISG Totty identified that a 20V or 8.1% reduction in the incoming voltage would achieve a minimum saving of 16% and so a 125kVA Powerstar unit was installed.



THE BUSINESS BENEFITS

Following installation, Powerstar achieved the following results:

Average weekday reduction in electricity consumption of 18.52%

Average weekend reduction in electricity consumption of 20.06%

A reduction in carbon dioxide of 36.47 tonnes of CO2 emissions.

The total amount saved by the business (based on 7p/kWh) is £5,938 and when the savings from the reduced Climate Change Levy (CCL) are added to the direct savings the total exceeds £6300, representing a 19.4% reduction in the total electricity consumption.



QUOTATION FROM CUSTOMER

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