

Case Study:  
**TOWER HAMLETS COUNCIL**



**A UNIQUE VOLTAGE OPTIMISATION SYSTEM**



T: +44 (0)1709 836200  
E: [powerstar@ems-uk.org](mailto:powerstar@ems-uk.org)  
F: +44 (0)1709 821276  
[www.powerstar.co.uk](http://www.powerstar.co.uk) | [www.ems-uk.org](http://www.ems-uk.org)

EMSc (UK) Limited  
7 Genesis Park  
Sheffield Road  
Rotherham, S60 1DX

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



### INTRODUCTION

Tower Hamlets Council in London is committed to sustainable development and is continuously improving its services, policies and practices to contribute to a better quality of life for its inhabitants. The Council commissioned Powerstar to survey its facilities at Albert Jacob House – the offices for its Homeless and Housing Advices Services – to determine the effectiveness of voltage optimisation on the site.



### THE CUSTOMER

Tower Hamlets Council is in London's East End. It is one of the five host boroughs for the 2012 London Olympic Games. The Council has an environmental strategy and is undertaking a number of initiatives to reduce its energy consumption and to lower carbon emissions. Its vision is to become a council with progressively lower environmental impacts and which sets an excellent example of leadership in environmental good practice to the community.



### THE CHALLENGE

Following an onsite survey by Powerstar at the Council's Albert Jacob facility and an analysis of their Half Hour Data and electricity bills the annual electricity consumption at the site was determined to be 540,745kWh. The largest consumption areas were found to be the switch start lighting, air handling units, air conditioning (small VSD), pumps, IT (with UPS) and lift motors.

Powerstar were challenged to demonstrate the level of savings in electricity costs and carbon emissions that voltage optimisation could achieve for the Council at this site.



*"installing the Powerstar will support the Asset Management drive to reduce carbon and energy consumption in Tower Hamlets, always striving to be lean, flexible and green"*

Tower Hamlets Energy Services Team



[WWW.POWERSTAR.CO.UK](http://WWW.POWERSTAR.CO.UK)

**POWERSTAR.**  
**THE SIMPLE SOLUTION.**  
**CALL THE EXPERTS NOW**  
**ON 01709 836200**

## A UNIQUE VOLTAGE OPTIMISATION SYSTEM



### THE SOLUTION

Powerstar identified that a minimum saving of 12% in electricity consumption could be achieved through voltage optimisation and as a result a 226kVA Powerstar unit was recommended and subsequently installed at Albert Jacob House.

Powerstar is the only voltage optimisation system designed and manufactured in the UK and is the highest rated with an efficiency of 99.91%. At its heart the system lowers current and voltage harmonic distortions to reduce energy consumption and operating temperatures.

### THE BUSINESS BENEFITS

An annual saving in electricity consumption of 54,065kWh will be achieved following the installation of the Powerstar voltage optimisation unit. This equates to a saving of £6,411 on the annual electricity charges. Carbon emissions will also be reduced by 30 tonnes per annum.

The real time monitoring system – a standard feature with all Powerstar units - will also assist the Council to identify overall electricity consumption and take further steps on their own to make savings through more efficient use of lighting and general equipment.

### QUOTATION FROM CUSTOMER

The Council Energy Services team said: "installing the Powerstar will support the Asset Management drive to reduce carbon and energy consumption in Tower Hamlets, always striving to be lean, flexible and green"



*"installing the Powerstar will support the Asset Management drive to reduce carbon and energy consumption in Tower Hamlets, always striving to be lean, flexible and green"*

Tower Hamlets Energy Services Team



[WWW.POWERSTAR.CO.UK](http://WWW.POWERSTAR.CO.UK)

**POWERSTAR.**  
THE SIMPLE SOLUTION.  
CALL THE EXPERTS NOW  
ON **01709 836200**