Staff at Redbridge Council have a brighter future thanks to the installation of a voltage optimisation system that has not only reduced its running costs and carbon footprint but also cut the number of office lights fusing on a regular basis.

The Voltis voltage optimiser from Marshall-Tufflex Energy Management has been installed in four locations across the council as part of a programme of energy efficiency measures implemented by the authority. Post installation the voltage of each location dropped by up to 25Volts.

This reduction had an instant and positive effect on lighting, as council Group Manager (Environment) John Mitchinson explained: “We had a problem with 10 to 15 lamps blowing a day, which has ceased. They are no longer stressed by high voltage and a surge in current when switched on. Poor lighting effects productivity of staff and Voltis has delivered an immediate improvement for us. Reducing the voltage has also had an impact on other electrical equipment downstream of the meters.”

Not only does Voltis step-down power supply to better match the requirements of users, saving money on power bills and reducing carbon emissions, it also helps prolong the life of electrical equipment (by up to 90% according to some studies). All three benefits were of great importance to Mr Mitchinson, who researched the market before putting the contract out to tender.

“As a public body we have to lead the way in terms of our own use of energy in order to encourage others to do the same. If we can reduce rising costs through energy efficiency measures we are able to spend the money on other important services,” he said. “We received a number of competitive bids for the voltage optimisation project. Marshall-Tufflex’s price was the most advantageous and the company came with good references from other customers. We also required a system that could be applied across our sites and I was impressed that Marshall-Tufflex is not standing still on the technological front.”

Nine Voltis units, ranging from 100Amps to 400Amps, were specified for the project. The Town Hall’s administration centre and a separate data centre were just two of the locations selected to benefit most from Voltis. Installation was carried out at times identified to create least inconvenience for the council, including weekends. A detailed site survey carried out by MTEM specialists identified the most suitable/secure locations for the units.

Voltis is a ‘next generation’ logic-controlled ‘intelligent’ voltage optimiser that constantly monitors incoming voltage and power demand, adjusting itself to maximise potential savings. Unlike many systems it also incorporates an in-built automatic bypass function that prevents power being cut to site by the optimiser should a problem occur with mains supply. The system is manufactured in the UK and offers many advantages over basic step down transformer technology, better matching power input with power demand to deliver higher savings. Voltis returns power/carbon savings of up to 20%. It will also reduce maximum demand levels, refine power quality by improving the balance across the phases on three phase supply, reduce harmonic distortion (this is particularly the case of three phase systems utilising single phase auto transformers), suppress transients and improve power factor correction.