



**electricity**  
north west

Bringing energy to your door

## Low Loss Transformers and Voltage Optimisation



Transform your  
energy savings  
and CO<sub>2</sub> emissions

# Transform your energy savings and CO<sub>2</sub> emissions

Voltage optimisation is a term commonly used to refer to the energy saving technique of reducing voltage in order to reduce overall energy consumption, electricity costs and CO<sub>2</sub> emissions.

Most electrical equipment is designed to operate within a voltage range of 220V - 240V. As the average voltage in the UK is around 242V, this means that many items of electrical equipment are operated at a higher voltage than is normally required.



## Your high voltage system in safe hands

### Our approach

Electricity North West are able to offer the latest type of Low Loss transformers with fixed ratio tap settings to allow companies to take the full advantage of reducing their site operating voltage.

After completing an initial assessment, Electricity North West would then datalog the load profile of any transformer(s) selected for replacement and produce a comprehensive report detailing projected annual savings.

Replacement works would be undertaken at a time to suit your business demands, ensuring minimum disruption to your operation whilst receiving maximum support from our dedicated team of project managers and engineers.

### Typical savings

Energy savings are achieved by reducing losses in the equipment being placed under load and vary according to the type of equipment, its age and its operating parameters.

For example, if the load is of a linear type, a reduction in voltage from 240 to 230 could reduce energy consumption by up to 8%, while a reduction to 220 Volts could potentially yield a saving of up to 16%.

Most electrical equipment will operate comfortably within the 230 - 220V voltage range and will benefit from an increased operating life.

Voltage reduction does not produce energy savings with all types of electrical load - For example; Variable-speed drives, high-frequency lighting ballasts and switch-mode power supplies will not yield noticeable savings at reduced voltages. This is because these types of equipment are 'voltage independent' and are not affected by the supply voltage.

**"A 230V linear appliance used on a 240V supply will take 4.3% more current and will consume almost 9% more energy... "and" ...only achieve 55% of its rated life."**

Source: Extracts from IEE 16th edition guide BS7671

### Key features

A new low loss transformer can offer significant benefits to companies looking to:

- Replace aging or obsolete equipment
- Drive down energy spend across a site or group of sites
- Address environmental responsibilities i.e. Improving carbon footprint.

In addition, low loss transformers are:

- Built to IEC60076/BSEN60076 standard
- Interchangeable with most existing transformer installations
- Require no additional voltage optimisation to be installed as a second stage
- Designed to tap up or down to optimise voltage requirements for individual sites.

### Further information

For further information please contact us on **0845 070 2520**

or alternatively send an e-mail to **constructionandmaintenance@enwl.co.uk**

Information on Energy Management and Voltage Optimisation can be found on the Carbon Trust website - **www.carbontrust.com**



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