

Loughborough College goes Green with the installation of 3 Bowers replacement Low loss (Best Range) Energy saving Transformers

Loughborough College recently contacted Bowers Electricals with regard to their existing HV substation.

The substation consisted of three 1965 transformers, a five panel Brush oil filled VBA switchboard and a low voltage switchboard of the same era. The HV switchboard comprised of two Electricity Board main incoming ring feeders with metering and Loughborough college's own three outgoing Brush VBA feeders to the transformers.

The initial enquiry from Loughborough College was just to upgrade the 3 off 500kVA transformers with a view to installing the new Bowers BEST range of low loss units, thereby to produce energy savings for the College.



Original 500kVA 1965 Transformers



New Bowers 500kVA BEST low loss replacement Transformers installed

A survey was carried out and it became apparent that by removal of the transformers and installation of new units, the savings in power would be considerable to Loughborough and a request was made to the Salix Grant Scheme to upgrade the 3 transformers to the low energy loss saving units, and Loughborough received approval for this. On further discussions between Bowers and the College, it was agreed that the old Brush VBA HV switchgear was of concern due to the age, the mods and dins that were now applicable to the switchgear and also the type of cable boxes, and it was agreed that the HV switchgear should be replaced.

Similarly the LV switchboard, although still operating satisfactory, was considered extremely old and in order to maintain the integrity of the supplies and security of the system, it was considered necessary to upgrade the LV switchboard at the same time.

Bowers Electricals put together a programme of works to replace all 3 transformers, the HV switchgear and the LV switchgear over the shortest possible shutdown period.

Manufacturers, Repairers and Rewinders: One of Europe's Largest Stockists of New and Reconditioned Electrical Equipment



Original Brush VBA oil filled 11kV Switchboard

A new HV feeder was installed by Central Networks, Bowers Electricals installed a new three panel Schneider ring master HV switchboard, three new Bowers BEST low loss transformers and a brand new Bowers LV distribution switchboard.



Replacement Schneider Ringmaster SF6 HV Switchboard



1965 Original LV Switchboard

The entire shutdown period consisted of one weekend, whereby the Bowers site team completely dismantled and removed the existing LV switchgear, replaced all three transformers and cabling, and installed the brand new three panel ring master HV switchboard.



Replacement New Bowers LV Distribution switchboard

Hired in generators were installed during the shutdown period which commenced on the Saturday morning, and supplies were re-energised on the Tuesday evening.

On completion of the works a new discrimination study was carried out, new network diagrams produced and Operation and Maintenance Manuals issued. The redundant equipment was removed and disposed of in accordance with current Waste Regulations.

Loughborough College were delighted with the speed and efficiency in which the project was carried out including the extremely short time scales in which the project was completed.