

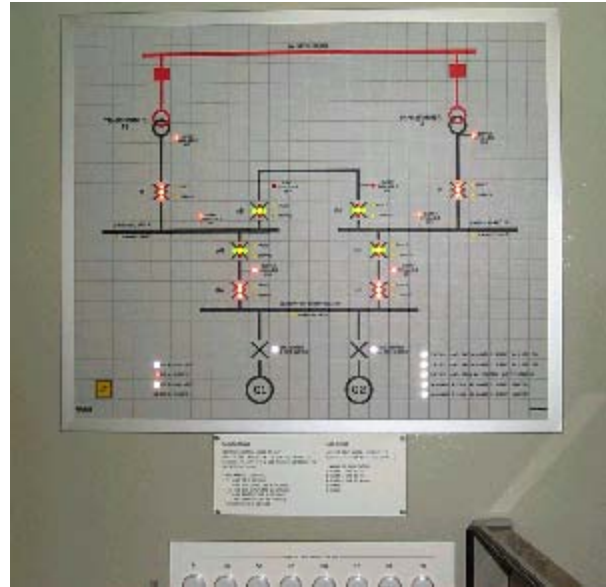
FULLY AUTOMATIC POWER MANAGEMENT SYSTEM FOR TELECOMMS NETWORK PROVIDER.

SCOPE OF SUPPLY.

Control System Design Input,
Duplexed PLC and I/O Configuration,
Profibus Network Systems,
Generator Interface Protocol Development,
PLC Software,
Simulation and Testing,
Sitework and Commissioning.

SYNOPSIS.

Telecommunications companies which provide infrastructure for Internet Services require high availability power management systems. Weirgrove Automation worked closely with the switchgear manufacturer and end user's nominated consultants and provided technical and design input to the overall scheme.



The 400v power scheme included two main LV switchboards, each supplied from 2MVA mains transformers and a 1,600kVA generator package feeding a standby supplies board. All mains ACBs and the Generators operate under PLC control, and the generators are capable of full parallel operation with the mains and soft transfer of the connected loads.

This is one of several high availability electrical infrastructure projects undertaken by Weirgrove Automation.

A large number of power configurations are automatically selected and the system is able to bypass failed ACBs, it can also transfer control "on the fly" to the standby PLC and I/O system in the event of a control system fault.

Manual and Test modes are available and "bumpless transfer" between operating modes is allowed. Paralleling mains systems are subject to strict controls by the regional electricity suppliers, Weirgrove Automation participates in testing and certifying these systems to the local authority's requirements.

TECHNICAL DESCRIPTION.

Duplexed PLC assemblies are configured with Ethernet Communications as a redundant pair, each PLC supports a dedicated Profibus distributed I/O network, which is fault tolerant.

The system works with power measurement instruments and the generator on-board control systems to manage the parallel connection operating modes.

The PLC software employs sophisticated programming techniques to give high availability under fault conditions, with independent default routines to re-establish power after multiple failures.