

Nissan Motor Manufacturing UK Ltd

APD Ltd have designed, built, programmed and commissioned a large number of PLC and SCADA based control systems for Nissan's manufacturing facility at Sunderland. These have been used in a variety of applications from incinerator control (burning off greenhouse gases which are a by-product of the paint spraying process) to the control of large robots used for material handling and spraying applications.

One of our largest single projects for Nissan involved an investment of £380k. This project was critical to the entire factory - a system responsible for distributing the 11kV power from the National Grid incomer to each of the main shop sub stations.

It involved the installation of 39 'intelligent' air circuit breakers which communicate via a fibre-optic network (installed by ourselves) to a controlling PLC. The PLC was connected to a SCADA system which allowed the entire power distribution system to be monitored and controlled.

The program written for the PLC ensured various fail-safe features such as 'auto-reconfiguration' of the distribution network in the event of a fault and directional control of the 11kV protection system by control of blocking signals between pairs of protection relays.

We have recently completed an upgrade to the system which provides intelligent control of the 11kV Power Factor Correction capacitors, which takes into account the hours in service of each unit. There are plans to further enhance this system in the future to provide automatic load shedding capabilities.

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