



NEWFIELD AUTOMATION

SPECIALISTS IN INDUSTRIAL CONTROL SYSTEMS

Case Study – Safety PLC, Redundant Networks & ATEX Ratings Chemical Company in Manchester Area

Newfield Automation Limited were approached by the customer for two separate projects.

The first was for upgrading the standard plant process network which provides communications over CAT5 Ethernet for the plant PLC's and SCADA to a more robust solution.

The second was to provide additional process safety using hardwired trip amps and safety relays in various positions on plant.

After an initial evaluation period a solution was put forward to combine both projects.

A redundant managed fibre optic network was installed using Rockwell Stratix switches and CST fibre optic to provide a robust network for the existing plant controls to be migrated to.

As the process safety field devices were distributed at various locations around the plant, a Rockwell GuardLogix safety PLC was installed in the main plant room, with remote I/O nodes at various positions around the plant using Point Safe digital input and output modules and the new Safe analogue input module.

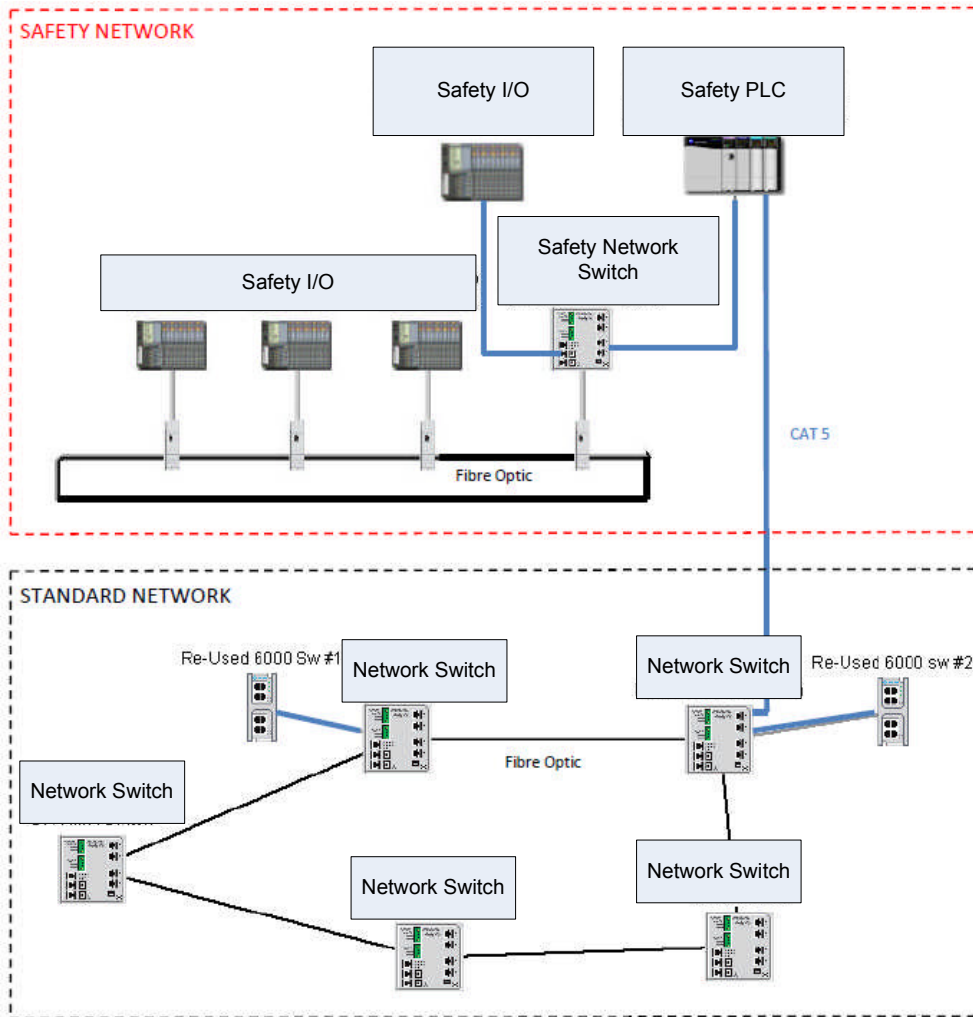
The plant also has some areas with Zone 1 and 2 ratings, using the distributed I/O method with Pepperl & Fuchs barriers located in the I/O panels meant designs were simplified and installation costs were reduced.



In addition, plant safety field devices were required to be shown on the existing SCADA system.

As the Rockwell GuardLogix PLC could be networked over Ethernet to the Wonderware SCADA, via a single connection, then all that remained was generation of SCADA screens, and tag assignment. This again provided cost saving as no additional hardware was required.





Newfield supplied a full Functional Design Specification at initiation of the project to ensure the customer's requirements were fully met.

Panel manufacture was carried out at our in house facility, and prior to delivery, the system was fully FAT tested to a pre-defined and agreed test regime.

Due to production constraints the on-site installation and commissioning works were phased, but due to the innovative layout of the system this was easily achieved within timescales and without impacting on the customer's production schedules.

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