F. Provide Zener barrier in the panel wired to the low voltage/low current signals (level, pressure transmitters etc.) present in the in the non-safe area (classified areas - Methane and H2S).

G. I/O wiring shall be minimum 0.75 mm^2 stranded copper conductors (24/0.2mm), PVC insulated to withstand 300/450V, and BASEC approved and manufactured to BS 6500 Table 19 or equivalent. Where high-density modules are used then suitably rated multi-core cables may be used.

H. Where 110VAC signal switching is utilised Input/output 'Source' switching characteristics shall be maintained.

I. 10% spare capacity or one spare module of each type utilised, whichever is the greater, shall be provided for each PLC system.

J. Sufficient chassis slots (rack mounted PLC system) with empty I/O module shall be provided to allow for a 10% future expansion.

K. The plastic trunking used for I/O wring shall have sufficient capacity to allow the spare I/O slots to be fully wired. The trunking shall not be filled to greater than 70% before the spare slots have been wired.

L. Sufficient spare terminal mounting rail shall be installed to allow the future wiring of the spare I/O modules to outgoing terminals.

M. All unused I/O on installed modules shall be terminated.

N. I/O modules shall be designed for 1500 volt isolation between the field wiring and the system backplane.

1.3.22.27 Source Tests

A. Provide system acceptance testing.

B. Test the complete PLC system that includes the full control scheme.

C. Operational/failure modes shall be demonstrated using the following simulation devices:

a.	Digital inputs	make/break switches
b.	Digital outputs	indicator lights or relays
c.	Analogue inputs	potentiometers/voltage and current sources
d.	Analogue outputs	analogue or digital meters