

- D. The equipment shall accept status and analogue (4-20mA) signals from both field and panel mounted instruments. Analogue inputs shall be scanned into a 12 bit binary (minimum) analogue to digital converter with buffered inputs.
- E. The PLC power supply shall be 24Vdc, 110V ac as specified. The equipment shall be maintained in operation during a period of mains failure drawing power from the battery or UPS system for a minimum back-up time of 8 hours. The battery/UPS system shall include diagnostic and automatic self-test routines with volt-free contacts to initiate an alarm in the event of malfunction.
- F. HMI/Text Display Unit as specified will be provided as a permanently connected means of accessing set points and timer settings.
- G. The HMI shall be pre-programmed to provide a basic graphical display of the process. Real-time numeric display of process variables and alarm messages shall be available.
- H. All process control functions shall be accessible for the operator from the HMI. The application program shall be stored in "Non Volatile Memory".
- I. A schematic block diagrams for an overview of the PLC system and general arrangement in the MCC section indicating the location and proposed placement shall be submitted for Engineer's review.
- J. The contractor shall ensure while submitting his proposal that the PLC systems selected provides high availability and high level of integrity.
- K. All I/O signals shall be buffered.

1.3.22.8 Parts Interchange

- A. The PLC controller family shall have a high degree of interchange capability. The power supply, battery, EEPROM Chips, Hand-held programmer should all operate equally well regardless of the CPU being used.
- B. The system shall incorporate a modular design using plug-in assemblies with pin and socket connectors.
- C. It should be possible that all assemblies and sub-assemblies performing similar functions shall be interchangeable.
- D. The system design shall accommodate the replacement of assemblies without having to disconnect field wiring, removable connectors shall be used to connect field wiring to the individual circuit board assemblies.