D. Where other method of simulation or signal forcing is proposed this shall be approved by the Engineer prior to conducting the tests.

E. Interfaces to other equipment where applicable, e.g. as data links to other PLC systems, communication links, variable speed drives, electronic motor protection systems, power monitor and RTU telemetry systems etc. shall be tested using equipment of the same type.

F. If the interface equipment are supplied by other vendors then arrangements shall be made, by the contractor, to conducts an integrated test at one of the manufacturer's works in the presence of both suppliers.

G. Testing of software and communications diagnostics as applicable.

H. The Assembly shall not leave the manufacturer's works until the same have been duly approved and stamped by the Engineer and written permission is obtained for their dispatch to site

I. Submit test report incorporating a change in control system, faults found, solutions provided and software and documentation changed.

1.3.22.28 Field Tests

A. The tests conducted at works shall be repeated upon completion of installation of the hardware including all cables, operator interfaces if any and peripherals devices, field instruments and before any plant is connected.

B. The performance of the system under test shall be compared with test reports, technical schedule and tables to ensure that it meets the requirement of the specifications in full.

C. The first time test at site if possible shall be conducted whilst the plant remains in a 'dry' state.

D. After satisfactory completion of the 'dry run test', the system shall be tested with all plant equipment available.

E. An up to date copy of each system and the system documentation shall be available at site for the duration of the site-testing program.

F. An operational and Hardware/Software log shall be maintained.

G. Emergency-stop and safety circuits shall be hard-wired and shall be tested to ensure that safety circuits are non dependent on the PLC software developed logic for the protection of the equipments.