

- c. 1 No. D.C. output Ammeter
- G. The charger unit shall also be provided with one set of full capacity rated output d.c. terminals and fuses.
- H. In the event of failure of the charger, the batteries shall ensure operation of controls, instrumentation, alarm and monitoring equipment for at least 4 hours. A separate relay contact shall be provided to indicate "Critical Alarm Condition – Charger Fail"
- I. The chargers shall be of the constant potential type, and shall be designed to regulate the charger output voltage to within +/- 1 percent.
- J. The suitable means shall be provided to the approval of engineer to protect the batteries from deep discharge.
- K. The D.C. terminal voltage shall be regulated such that under charge condition the DC voltage does not rise to more than 10 percent above the nominal.
- L. The charger unit shall also be provided with both short circuit and reverse polarity functions.
- M. Batteries shall be protected from deep discharge and over charging..
- N. Fix inside the cubicle a wiring diagram indicating and identifying all outgoing terminals, components and fuses, and also a warning label in Arabic and English giving maintenance and safety instructions.

### **1.3.27.3 Source Tests**

- A. Type test certificate shall be provided for the charger.
- B. The integrated functional test shall be conducted at manufacturer's works to ensure satisfactorily functioning of the equipment's. The tests shall be witnessed by the client prior to the acceptance.
- C. 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

### **1.3.28 Field Instruments**

- A. This section covers all instruments/analysers necessary for the automatic / manual control and safety process operation of the entire plant.