Table 4.2

Battery Maintenance and Equipment

(Reference IEEE 1188)

Initial and Annual Maintenance

Check and record the following. Records must be maintained for future reference.

1. Cell-to-cell (or unit-to-unit) and terminal connection detail resistance of entire battery
2. AC ripple current and/or voltage imposed on the battery
3. Overall float voltage measured at the battery terminals.
4. Individual cell/unit voltages
5. Charger output current and voltage
6. Ambient temperature and the condition of ventilation and monitoring equipment
7. Visual individual cell/unit condition check to include
   - Cell/unit integrity for evidence of corrosion at terminals, connections, racks or cabinet
   - General appearance and cleanliness of the battery, the battery rack or cabinet and battery area, including accessibility
   - Cover integrity and check for cracks in cell/unit or leakage of electrolyte
   - Excessive case/cover distortion
8. Cell/unit ohmic values
9. Temperature of negative terminal of each cell/unit of battery
10. For applications with a discharge rate of 1 hr or less, a representative sample of the intercell connection detail resistances (minimum 10% or six connections). If an upward trend is detected from the initial readings, measure all connection resistances, determine the cause, and take corrective action as needed. Test different connections each quarter.

Quarterly Maintenance

Check and record the following. Records must be maintained for future reference.

1. Overall float voltage measured at the battery terminals.
2. Individual cell/unit voltages
3. Charger output current and voltage
4. Ambient temperature and the condition of ventilation and monitoring equipment
5. Visual individual cell/unit condition check to include
   - Cell/unit integrity for evidence of corrosion at terminals, connections, racks or cabinet
   - General appearance and cleanliness of the battery, the battery rack or cabinet and battery area, including accessibility
   - Cover integrity and check for cracks in cell/unit or leakage of electrolyte
   - Excessive case/cover distortion
6. Cell/unit ohmic values
7. Temperature of negative terminal of each cell/unit of battery
8. For applications with a discharge rate of 1 hr or less, a representative sample of the intercell connection detail resistances (minimum 10% or six connections). If an upward trend is detected from the initial readings, measure all connection resistances, determine the cause, and take corrective action as needed. Test different connections each quarter.

Table 4.2 (continued)

Equipment

1. Voltmeter (DMM)
2. Ohmic Meter (i.e.-Midtronics, Alber or Biddle)
3. Insulated Tools (wrenches, sockets, screwdrivers, etc.)
4. Torque wrench
5. Surface or IR thermometer
6. Oscilloscope
7. Acid indicator solution/pH paper
8. Neutralizing solution (i.e.-dilute ammonia, etc.)