SAMPLE SPECIFICATION
MISSION-CRITICAL GENSET BATTERY CHARGERS

(Items in Italics must be selected for specific conditions, or indicate optional features)

1.0 General

Provide automatic constant voltage, current limited battery charger to fully recharge and maintain starting battery and supply continuous current to engine controls and alarms. Charger shall be UL listed, *CSA listed, CE marked.*

2.0 Ratings
- 2.1 Input voltage shall be field selectable *120, 208, 220, 230 or 240* volts, 60 Hz *(50/60 Hz)*
- 2.2 Battery type *(select one of the following options)*
  - *2.2.1 12 volts nominal for 6 cells lead or 9 or 10 cells Ni-Cad*
  - *2.2.2 24 volts nominal for 12 cells lead or 18, 19 or 20 cells Ni-Cad*
  - *2.2.3 Field selectable for either 12 or 24 volts nominal*
- 2.3 Current limit: ten *(twenty)* amps at the desired float or equalize voltage setpoint

3.0 Voltage regulation and adjustment
- 3.1 Combined line and load regulation shall be ±0.5% of the setpoint
- 3.2 Output voltage shall be adjustable in the field without the need for potentiometers or accessory voltmeters for different lead acid and nickel cadmium batteries

4.0 Battery charging features: Battery charger shall include:
- 4.1 Automatic fast charging with means to enable or disable in the field
- 4.2 Temperature compensation with means to enable or disable in the field
  - 4.2.1 *A remote temperature sensor for battery temperature compensation shall be provided*
- 4.3 Digital metering of amps and volts accurate to better than ±5%
- *4.4 Front panel LEDs indication of:*
  - *4.4.1 AC good, float mode, fast charge mode, temperature compensation active*
- *4.5 NFPA 110 alarms including front panel LEDs plus Form C contacts rated not less than 2A at 26 volts DC for:*
  - *4.5.1 AC fail, low battery voltage, high battery voltage and charger fail*
  - *4.5.2 Battery fault*
    - 4.5.2.1 *Battery fault alarm shall warn of at least the following conditions: disconnected battery, high resistance connections, open battery cell(s)*

5.0 Protection: Charger shall include:
- 5.1 AC and DC fuses
- 5.2 Reverse battery protection to prevent battery & charger damage or blown fuses
- 5.3 Over temperature protection
- 5.4 Protection from accidental operation of a 24-volt charger on 12-volt battery

6.0 Environmental
- 6.1 Temperature: -20C to +60C operational
- 6.2 Humidity: 5% to 95%, non-condensing
- 6.3 Conformal coating of printed circuit boards shall provide corrosion protection
- 6.4 Surge transient resistance to ANSI/IEEE C62.41, Cat.B and EN 61000-4-5

7.0 Mechanical
- 7.1 Corrosion resistant anodized aluminum housing
- *7.2 Vibration resistance to UL 991, Class B*

8.0 Certifications and standards
- 8.1 UL listed to UL 1236
- 8.2 CSA listed C22.2No. 107.2-M89
- *8.3 Charger shall be CE marked with declaration of conformity to EN 60335-2-29*

9.0 Acceptable chargers
- 9.1 Battery charger shall be SENS model NRG or equivalent