Uninterruptible Power Supplies (UPS)

Each UPS to be used on board must be reviewed and approved by the RAF Engineering group.

UPS devices must at a minimum meet the following constraints:

Each battery installation must have:

- A system to control the charging rate of the battery automatically so overheating cannot occur.
- A battery temperature sensing and over temperature warning system with a means for disconnecting the battery from the charging source in the event of an over-temperature condition or a battery failure sensing and warning system with a means for disconnecting the battery from the charging source in the event of a battery failure.
- All batteries must be contained in a metal enclosure in order to contain any gases and/or corrosive fluids.
- Batteries must be non-spillable
- Input power cords must be MIL-22759 wire or complied (flammability tested, 8110-3) wire.

No explosive or toxic gasses can be emitted by any battery under normal operation.
No corrosive fluids or gases that may escape from the battery may damage the surrounding structure or nearby equipment.

Battery Environmental conditions must be considered thus any UPS battery with an altitude rating of 10,000 feet (3,000 meter) or less must incorporate a means to remove input power, i.e. a pressure switch. UMA, Inc http://www.umainstruments.com/ Phone: 540-879-2040

For example, APC model number SURTA1500RMXL2U is a unit that meets most of the requirements. The input power cold will need to be replaced per bullet number five. One means of disconnecting the battery is to put an easily accessible correctly rated Klixon circuit breaker on the battery power.

March 12, 2014