ELIGIBILITY CRITERIA

Definitions, first sentence: change to "efficient battery chargers."

Test measurement terminology: Need to determine/specify when maintenance mode starts. "Ea is the total energy delivered to the device (from AC side?) over a 48-hour period consisting of 36 hours in maintenance mode (battery in charger) followed by 12 hours in standby mode (battery not present or not receiving energy).

Rated battery capacity - "at a particular discharge rate"

Nominal battery energy - this is as specified by the manufacturer. The amount of energy a battery can deliver under certain conditions is determined empirically - not a mathematical product. Battery voltage is not constant. Manufacturer supplied energy capacity should be used if available, and calculated if not available. The reverse preference is given in the Test Method.

Qualifying products - does it apply to cell phones, CD players, PDAs, and the like? It seems that those are covered under the small power supplies spec., but why would they be excluded here? Those products are not substantially different, as it applies to the spec., from the household tools and appliances mentioned. I thought this spec. was supposed to integrate with the other? The definition does not make clear which standard applies. It's vague.

Since the spec, as written is dominated by non-active mode (there is no measurement of input vs. output - no measure of power conversion efficiency), certain battery chemistries will have an advantage - Li-ion. As mentioned, it would be more difficult to incorporate active modes. However, we are doing work in the area of digital battery modeling that may prove fruitful. The ratio method approach is an interesting one, however one has to be careful how it is applied. In the case of standby power, there is no reason for it. Why allow it? A simple "wake up" switch could save energy and allow full functionality.

In the Test Method ambient temperature is specified, whereas battery temperature is primary.

TEST METHOD

The power precision requirements should be 1%.

There is no procedure for determining if the battery is in proper state of health.

In the small power supplies spec. there is at least a definition of power factor. Since power factor and harmonics are measures of parameters which have an effect on "system" efficiencies (utility system energy deliveries) it is in the interests of EPA to have an incentive and reward to charger manufacturers who have good power quality. I suggest adding a multiplier to the eligibility criteria which could benefit such products/manufacturers, but on the same hand not totally eliminate others. A device with excellent power quality could get a "1.0", while one with poor PQ would get, say, a "9.0" multiplier or something like that.

Finally, I would like to make the suggestion that a category be included for non-road electric vehicle charger systems. It could be handled very simply and similar to this spec. It is estimated that there are up to 4 million EVs in the US. Assuming an average of 20 kWh each per day, for 350 days per year, gives 28 billion kWh per year. Through our studies at EVTC Pomona, we have shown 3 modes of savings: standby power, hardware, and efficient strategies. I calculated up to 7.7 billion kWh per year potential savings - 28% savings, and more than the 5 billion kWh savings estimated for small power supplies. Just with standby power savings, potentially over 2.6 billion kWh could be saved per year. It would be very simple to incorporate this class of chargers into the spec. I am available to discuss my test data and procedures.

Best Regards,
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