

ELS Response to CEC Rulemaking Proposals for Emergency Systems with Battery Chargers

Background

The CEC Rulemaking group proposes to impose efficiency standards on emergency systems with battery chargers. The CEC proposals would affect, for the most part, consumer convenience items but have somehow evolved into including inverter/charger packs (also referred to as emergency ballasts), single-point emergency lighting fixtures (or bug-eyes for a lack of a better term), exit signs and Uninterruptable Power Systems (UPS) whose chargers continuously maintain the charge level of their internal batteries. The proposals are based on research done by ECOS Consulting on behalf of PG&E (Pacific Gas and Electric). The CEC goal is to capture as much of the energy as possible used in standby (battery charge level maintenance) mode of these devices.

ELS Response

Regarding the CEC Preliminary Staff Report Document, this document explains the rationale and events leading up to the most recent CEC proposals. It is mentioned that with respect to Battery Charging Systems, both the EPA and DOE have taken measures to enact a battery charging systems measurement plan but neither of which pertain to the emergency lighting portion of the market. This is evidenced in the fact that we have not received any information regarding such a program that would govern our industry and would most likely have to be coordinated with UL as they are the current keepers of our charging system requirements. The key stakeholders involved in the preliminary discussions with the CEC and ECOS have been mainly consumer related convenience electronics manufacturers. Without stakeholder interests tabled from the emergency lighting industry, we have been placed into a category of which we do not belong. It is our desire to illustrate that the critical readiness of the life safety equipment can not and should not be altered in a fashion that may impact regulatory (UL, NFPA, and IBC) requirements and lessen the reliability of UL 924 equipment to the point where public safety could be compromised.

Although the CEC proposes to include emergency systems with battery chargers, the effect of reducing or eliminating the energy used to maintain the charge level has not been thoroughly considered or reviewed. The purpose of continuously trickle charging the battery is to maintain the charge in the battery at a level which will ensure its operation for the rated run-time in emergency mode (a minimum of 90 minutes, per the requirements in UL 924). Testing to the 90-minute requirement is part of the UL and CSA certification process that ensures listed/certified products demonstrate their ability to maintain the necessary charge levels to meet the run-time requirement mandated by the NFPA 70 (National Electrical Code) and NFPA 101 (Life Safety Code).

Life Safety product readiness is a derivative of the state of charge of the battery. In knowing this, it has been industry practice to engage the charging systems at two levels; (1) high rate of charge to quickly restore product readiness and (2) float charge the battery to keep the product at maximum capacity and readiness in the event it is required to operate. Any alteration to lessen or disable the float, or maintenance, charge characteristics to save energy would be lost when the charging system is restored. As the charging system is restored, the energy consumed would be equal to the high rate of charge to recover any lost capacity during down-time. The atypical values of the two charge rates are ~1.0 amps in the high rate of charge and 20 to 30 mA in the float charge mode.

In addition, the benefit of energy savings at the risk of compromising life safety has not been fully considered. The CEC is targeting products that are required to meet life safety codes and standards. By

including these products in their proposals, they are compromising their ability to perform as required to ensure occupants can exit a building safely in the event of an emergency.

Furthermore, the Energy Star program for exit signs has been discontinued since these signs now meet the requirements for energy usage per sign (face), and it appears the CEC has not considered this.

Regarding the Draft Amendments for 2008 Appliance Efficiency Regulations Part B:

1. The definition for products categorized in product category (l) have remained consistent from previous releases of the Appliance Efficiency Regulations; and that is "*Emergency Lighting, which is illuminated exit signs*" as read from page 2 of the document. At no other time in this document has emergency lighting stood for anything other than exit signs.
2. Page 58, item 10 is the introduction (or proposed inclusion) of emergency lighting charging systems which also piggy-backs uninterruptible power supplied (UPS systems). If the CEC decides to move in this direction, it is this language where we should completely support the removal of the same from the Appliance Efficiency Regulations due to the existing performance requirements found in UL 924 and the fact that regulating the performance characteristics of Life Safety Equipment without knowing the adverse affects on performance and readiness would be detrimental to industry and public safety.
3. The Page 88, Item (l) proposed amendment is dramatic. The Appliance Efficiency Regulations is proposing to strike all printed language as to performance criteria and referencing 10 CFR Section 431.204(b) (2008) which is the language from the Energy Policy Act regarding the requirements for exit signs. One would expect that if the product requirements are stricken and replaced with the federally mandated requirements from EPA Act that the reporting requirements for the CEC would be dissolved? This does not seem to be the case as the filing requirements are still located in the Appliance Efficiency Regulations document. The reporting requirements for exit signs intended for marketing and subsequent sale of goods into the State of California went into affect in 2003. The database was supposed to act as a means to identify manufacturers who maintain compliance and filing requirements with the State and prohibit non-compliant companies from participating in the sale and distribution of exits.
4. Page 129, item (l) again illustrates the removal of the exit sign performance requirements and in place submits the language "*The input power of an internally illuminated exit sign manufactured on or after January 1, 2006 shall not exceed five watts per face.*" This statement alone does not warrant the reporting requirements found in the CEC document for exit signs. The CEC in essence is governing the Federal mandate on exit signs. How/Why?

