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Submitted via email

Ms. Karen Douglas  
Commissioner  
California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

**NEMA Response to CCR Title 20 15 Day Language Regarding Battery Chargers and Self-Contained Lighting Controls**

Dear Commissioner Douglas,

The National Electrical Manufacturers Association (NEMA) appreciates the opportunity to provide the attached information to clarify and improve the language for the subject proposal.

As you may know, NEMA is the association of electrical equipment manufacturers, founded in 1926 and headquartered in Arlington, Virginia. Its member companies manufacture a diverse set of products including power transmission and distribution equipment, lighting systems, factory automation and control systems, and medical diagnostic imaging systems. Worldwide annual sales of NEMA-scope products exceed \$120 billion. These comments are submitted on behalf of NEMA Uninterruptible Power Supplies (UPS) companies.

Thank you for your consideration of this information and proposal. If you have any questions on these comments, please contact Alex Boesenberg of NEMA at 703-841-3268 or [alex.boesenberg@nema.org](mailto:alex.boesenberg@nema.org).

Sincerely,

Clark Silcox  
Secretary and General Council  
NEMA

## **Comments and Recommendations Regarding Test Method for Uninterruptible Power Supplies (UPSs)**

In the 15 day language it appears that the CEC has assumed that a UPS can be tested like a battery charger. This is NOT the case. A UPS cannot be tested like a battery charger since the UPS also is engaged in monitoring power continuity, power quality, cooling, and other functions. A UPS is not intended to be operated without a battery like a battery charger can be. When a UPS has no battery connected it in effect becomes power supply and loses its uninterruptible features.

A UPS has numerous circuits inside it that are operating when it is maintaining the battery and even when it is supplying power to the customer's load. Therefore, the CEC test methodology for charge energy consumption needs to be revised for UPS equipment so that it is only looking at the energy going into maintaining the battery.

The proper way to test a UPS in battery standby power consumption mode is to measure the input power consumption at no load with no battery connected and then measure the input power consumption at no load with a fully charged battery connected. The difference between the two input powers measured is the battery charge energy.

NEMA recommends the following text be added to Section 1605.3 (w)

Add new sub-part (5) in the portion following tables W-1 and W-2 which reads:

“(5) For Uninterruptible Power Supplies: Energy consumption shall be evaluated by measuring the input power consumption at no load with no battery connected and then measuring the input power consumption at no load with a fully charged battery connected. The difference between the two input powers measured is the battery charge energy.”