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April 18, 2008

Ms. Melinda Merritt  
Mr. Harinder Singh  
California Energy Commission  
1516 9th St.  
MS 25  
Sacramento, CA 95814-5512

Subject: California Energy Commission Test Procedure for Battery Chargers  
Docket: 07-AAER-03, Phase 1, Part B

Dear Ms. Merritt and Mr. Singh.

Thank you for the opportunity to comment on the CEC Test Procedure for energy measurement of battery chargers. The Association of Home Appliance Manufacturers (AHAM) represents producers of battery rechargeable appliances and battery chargers used throughout the home. The Power Tools Institute (PTI) represents North American producers of consumer and industrial power tools. Both AHAM and PTI have participated in the CEC rulemaking process for external power supplies and battery chargers since the beginning and we feel uniquely qualified to make suggestions on the test methods for these products.

We appreciate that the test method for battery chargers used by CEC will cover a very broad array of products, well beyond just appliance battery chargers. This is one of the reasons that, early on, AHAM & PTI suggested that this test procedure be broken into sub-parts to cover the testing of smaller wattage units such as appliances and power tools separate from large scale commercial and industrial products. We appreciate that CEC wishes to try to simplify the test procedure wherever possible, and in keeping with this direction, we will make a number of suggestions that we believe will both clarify and simplify the procedure.

We attended a workshop held at the CEC on April 8, 2008 to discuss the test procedure with CEC staff, PGE, Energy Solutions, Ecos and other stakeholders. There was considerable discussion during which it appeared to us there was agreement on several issues of concern to industry. We offered to reconcile some language in the test method for which PGE, Energy Solutions, and Ecos agreed in principle.

The conference call, held on April 17, 2008, resulted in further agreement on some of these issues with an action that AHAM and PTI would provide a marked-up version of the test procedure. We have included with this letter a document in Microsoft Word “Ecos\_TP\_v1.2\_AHAMEDits\_041808.doc” which shows (in the Track Change method) the changes we believe were agreed between the April 8 and April 17 discussions:

1. Eliminating mention of EPS and the use of the term “EPS” to provide for DC input products

Ecos and PGE indicated that the reference to EPS’s was to cover MP3 players and the like where the product has a DC charging input that is intended to be charged with a wall adapter not packaged with the product. We pointed out that “EPS” had a strict definition that may exclude certain types of chargers and that introducing the term “DC input” in the test method implied that the method intended the use of a DC supply. It was agreed that this was not the intent. It was agreed that we would provide revised language to reconcile this issue. AHAM and PTI have proposed eliminating references where the mention of the term “EPS” was not required and replacing the EPS definition in the test method with “charger” where such mention was appropriate. We have suggested language changes.

2. Error in energy measurement

We pointed out that the test procedure requires that energy (Watt-Hours-Wh) be measured in several sections but does not place a limit to the error associated with that measurement. It was agreed that we would provide language to meet this need.

3. Associated batteries (Table B)

We pointed out that the requirements for batteries not packaged with the charger was different between two related entries in Table B, inasmuch as batteries should be used that have been identified in the manufacturers’ instructions as being suitable for use with the charger. We have suggested language changes to improve this section.

4. Access to batteries for discharge test

We have had concerns for some time regarding technician access to battery cell assemblies within the product that may by-pass safety and protection schemes employed in the product. We have also raised the issue that the correct measurement of energy consumption would include these protective circuits. We have proposed a method that, while not eliminating the need to gain access within the product to conduct the test, results in lower safety risk. It was also pointed out that some systems have circuitry to terminate discharge at voltages higher than those given in Table D. Since this method would not result in values that were greater than that obtained in the existing method, it was agreed that this method could be considered. The participants agreed to this concept and AHAM and PTI were asked to propose

language to amend this portion of the method. This language is included. This combined with the AHAM-PTI proposal to have manufacturers report watt-hours of capacity should resolve this issue.

#### 5. Category 1 products

It was agreed that Category 1 products should have their no-battery power reported as “not applicable” rather than the maintenance power. This language has been amended in our mark-up.

Assuming that the changes that we have provided are accepted into the standard, there are a few issues that we not able to agree upon that we still believe represent shortcomings of the proposed PGE/Ecos test method.

#### 1. Power factor

We have made comments that the premise of measuring power factor for the purpose of regulating presumed power losses in the distribution wiring of a building or power distribution system represents an extraordinary departure from most appliance energy efficiency regulation currently in force within California. Embarking on this pathway should only be undertaken by carefully considering the impact of such a decision both in terms of public policy and technically. **Non-displacement power factor** has been a topic of interest internationally with regard to the impact that power line harmonic currents may have upon the integrity of the power distribution system but not with respect to product energy efficiency. It is unclear why this test method includes these measurements while the test procedures for other products regulated by the Commission have not. In addition, the method of measuring the power factor in the test procedure is flawed and inconsistent with well-established international test standards for measuring non-displacement power factor loads. While as appliance manufactures, we cannot comment on the impact of the additional energy consumed due to power factor for other than appliance battery chargers, we can state with assurance that the additional power loss in appliance battery chargers (below 500W input) due to lowered power factor is inconsequential as a proportion of the charger input power.

#### 2. Move energy formulas out of test procedure.

We do not understand the necessity of calculating energy formulas in the test procedure document. By including a formula for calculating energy efficiency in the test procedure, this assumes the formula will be used in the regulation. Since the regulation has not been established, this value may or may not be appropriate. The methods used to aggregate energy should be part of the regulatory standards level setting process and not the property of the test method. The test procedure should be kept to a minimum so as not to confuse or blur the lines between testing and standards setting.

3. Definitions.

AHAM and PTI believe establishing definitions is a very important part of the rulemaking process. Having a different set of definitions in a test procedure could result in confusion and conflict. In this case the test procedure may need to adopt the definitions of the regulation as these should always take precedence.

4. Testing at 115V 60Hz.

AHAM and PTI believe that this test procedure proceeding is for use by CEC in rulemaking for the State of California. The test procedure should be confined to the operating voltage used for the products in question in California. For appliance battery chargers, this is 115 V, 60 Hz and we do not understand the need to test at additional voltage inputs. This only increases the testing burden on the manufacturers and laboratories, increases the data gathered and complicates the test procedure. From the explanations given during the workshop and in subsequent dialogue, it seemed that some people were looking at measurement of different voltages as a way to gather information. We question whether that is appropriate for a regulatory action on a test procedure.

Thank you for the opportunity to comment on the proposed test procedure.

Sincerely,



Wayne Morris  
Vice President, Division Services  
Association of Home Appliance Manufacturers



Robert G. Stoll  
Technical Director  
The Power Tool Institute