



Ms. Jackalyne Pfannenstiel  
Chairman and Associate Member, Efficiency Committee

Mr. Arthur Rosenfeld  
Commissioner and Presiding Member, Efficiency Committee

California Energy Commission  
Buildings and Appliances Office  
1516 Ninth Street, MS-25  
Sacramento, CA 95814-5512

Subject: ETEC comments on Title 20 45-Day Language for Test Procedure for Battery charger Systems; RE: 2008 Rulemaking on Appliance Efficiency Regulations; Docket No. 08-AAER-1B

Dear Ms. Pfannenstiel and Mr. Rosenfeld:

Electric Transportation Engineering Corporation (ETEC), a manufacturer of industrial charger systems for use in lift trucks, airport ground support equipment and other plug-in vehicle type applications wish to provide the following comments for your consideration.

## **Part 2**

### **I. Standard Test Conditions**

#### **A. Measuring Equipment**

Note;

The note should be more specific about state-of-health determination. The USABC procedures require a test plan development and series of extensive tests to determine battery performance and state-of-health. This seems unnecessarily complex to simply validate battery performance to support a charger test.

### **II. Battery Charger System Setup Requirements**

#### **A. Charger/Battery Selection and Qualifications;**

Selection of the battery for charger testing should be at the discretion of the agency requesting the test, with test documentation clearly identifying the test configuration.

As most charging inefficiency results from equalization, simply verifying that meets “manufacturer requirements” is not adequate to ensure representative results.

### **III. Test Procedure: Part 2**

#### **C. Battery Discharge/Recharge Sequence**

**DOCKET**

**08-AAER-1B**

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It is not clear what “fully discharged” means. Is this 100% DOD? If so, this is not appropriate for VRLA batteries. Additionally, only 40% DOD and 80% DOD are discussed in Section 1 Battery Discharge.

## 2. Battery Recharge

This procedure requires that equalization be disabled. As equalization is the greatest contributor to charging inefficiency it is not appropriate to ignore this. Further, it is very easy for manufacturers to under equalize for purposes of testing in order to document a greater efficiency than is achievable on a sustainable basis in the field. To be accurate and realistic, testing should involve the equivalent of one week of battery charge/discharge to include full charges and equalization.

## IV. Reporting Requirements

Several parameters that precisely define the charge algorithm should be included in the required documentation. It is far too easy to test with an algorithm that sacrifices battery life for efficiency, then switch back to a more realistic algorithm for actual field use.

We appreciate your consideration,

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