

November 7, 2008

Mail Stop 6010

David P. Vieau  
Chief Executive Officer  
A123 Systems, Inc.  
Arsenal on the Charles  
321 Arsenal Street  
Watertown, Massachusetts 02472

**Re: A123 Systems, Inc.  
Amendment No. 2 to Registration Statement on Form S-1  
Filed October 31, 2008  
File No. 333-152871**

Dear Mr. Vieau:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Use of Proceeds, page 34

1. We note that you have revised the third paragraph of page 34 to remove disclosure that the revolving credit line expired on September 30, 2008. With a view to possible disclosure, please tell us the status of this revolving credit line and your reasons for removing the disclosure.

Revenue, page 58

2. We note your revised disclosure in response to prior comment 7. Please further revise to disclose how the mix of products sold to Black & Decker changed during the first six months of fiscal year 2008 in comparison to the first six months of fiscal year 2007.

Annual Cash Incentive Bonus, page 98

3. We note your response to prior comment 10 and your amended disclosure on page 98-99. Please provide us with a more detailed explanation which clearly demonstrates why disclosure of each undisclosed target under your annual cash incentive bonus plan on a historical basis would cause substantial competitive harm. In particular, please address how disclosure of your 2007 goals regarding total revenue, profit, ending cash, and revenue generated from new customers would result in competitive harm given that your actual 2007 results for each metric are disclosed in your registration statement. Please also explain how disclosure of internal cost reduction goals would provide your customers and suppliers with insight into the cost of making your batteries and your profit margins. Additionally, please tell us in greater detail why disclosure of the targets would not be material to an investor's understanding of your compensation policies and decisions. Please see Question 118.04 of the Regulation S-K Compliance and Disclosure Interpretations available on our website at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.

Exhibits

4. We note your response to prior comment 14. Please tell us more about the customer who represented 9.7 percent of your revenue for the six-month period ended June 30, 2008 and where you have disclosed information about this customer in the prospectus. In particular, please discuss the importance of the unidentified customer to your sales in the relevant market. Also, please tell us what percentage of your fiscal year 2007 revenue is attributable to this customer. If known, please also provide us with this same figure for the nine-month period ended September 30, 2008.

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

David P. Vieau  
A123 Systems, Inc.  
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You may contact at Jeanne Bennett at (202) 551-3606 or Brian Cascio, Accounting Branch Chief, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Joseph McCann at (202) 551-6262 or me at (202) 551-3800 with any other questions.

Sincerely,

Peggy Fisher  
Assistant Director

cc (via fax): John H. Chory, Esq.— Wilmer Cutler Pickering Hale and Dorr LLP