



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 3030

July 16, 2009

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. 4 to Registration Statement on Form S-1
Filed June 22, 2009
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.

General

1. We note your statement on page 5 of your response letter that you have determined that the April and May 2009 private placements described in Item 15 should not be integrated with your contemplated public offering and that you have relied on the Commission's integration guidance in making this determination. Please summarize your basis for this conclusion. Please refer to Compliance and Disclosure Interpretations, Securities Act Section, Question and

Answer 139.25 and Securities Act Release No. 8828 (Aug. 3, 2007). Describe how each of the investors became interested in the private offerings, including, as applicable, the nature of any pre-existing relationships.

Overview, page 1

2. We note the numerous product development and design and development activities you have with a number of parties. Please expand your Business section to disclose the extent to which you have written agreements with these parties and, if so, their material terms. We note, for instance, that your Business section contains little or no discussion of your arrangements with Chrysler, GM, Magna Steyr, and other entities that are prominently identified here.
3. Please clarify the disclosure on page 1 and elsewhere, as appropriate, to quantify the portion of the advanced battery market currently represented by lithium-ion technology.
4. Please revise to clearly disclose the extent to which your batteries are commercially available for use in automobiles and heavy duty vehicles. Also disclose the percentage of revenues derived from product sales in each revenue category (portable power, transportation, and electric grid markets). We note footnote 2 on page F-14.
5. Please revise your disclosure at the top of page two to clarify that to date you have installed a two megawatt unit at an AES facility.
6. Please disclose when you expect to learn whether the Department of Energy has approved your grant and/or loan requests, or revise to disclose that you are uncertain with respect to the timing of these programs. Also, please clarify the significance of the notification that your application is “substantially complete.”
7. Please disclose on page 2 the amount received to date from the State of Michigan and when you will receive the balance.
8. Please balance the disclosure on page 3 where you discuss revenues to also disclose your net losses for the periods presented.

We rely on a limited number of customers for a significant portion of our revenue, and the loss of our most significant or several of our smaller customers could materially harm our business, page 14

9. We note your response to prior comment 2, but we continue to believe that disclosure of the identity of your major customers is material information for potential investors. Please expand this risk factor to identify your major

customers and the percentage of revenues attributable to each for the two most recent fiscal years and subsequent quarter(s). Also please expand to discuss the fact that revenues from the contract with Mercedes-Benz HighPerformanceEngines are expected to decline from first quarter revenues.

Problems in our manufacturing and assembly processes..., page 22

10. We note your disclosure that production problems limited your ability to produce a sufficient number of batteries to meet the demands of one of your customers. Please identify the market of the customer you reference.

Dilution, page 40

11. At the bottom of the page 41, please also disclose how the numbers and percentages in the table at the top of the page would change assuming all outstanding preferred stock is converted and all outstanding options and warrants are exercised.

Research and Development Services Revenue, page 61

12. Please revise to identify the “commercial” projects the increased by \$11.3 million.

Requirements for environmentally-friendly disposal, page 74

13. Please revise to briefly explain the nature of the ROHS directive.

Customer and Development Partners, page 81

14. Please revise to expand your disclosure on page 82 regarding the battery system for electric grid services you have developed for AES to discuss whether the battery system is currently performing ancillary grid services in California. If not, please expand to discuss the current status and when it is anticipated that it will be operational.
15. We note your disclosure in the final paragraph on page 82 regarding your agreement with Gillette. Please clarify the year in which you received the \$22.5 million fee from Gillette, and expand the MD&A section for the appropriate period to disclose in the revenues discussion.
16. Please disclose the “certain period” referenced in the middle of the paragraph.

Universities and National Laboratories, page 87

17. Please describe in greater detail the nature of your collaborations with each of the universities and laboratories referenced in this section. In cases where you have expended and/or committed to expend material funds to these collaborations, please disclose the relevant amounts.

Compensation Discussion and Analysis, page 99

18. We note your disclosure on page 100 that you hired two different independent compensation consultants who each provided comparative market data on compensation practices based on an analysis of comparable public companies. Please explain why your compensation committee retained both consultants and revise your disclosure in the first paragraph on page 101 to clarify which of the two peer groups you reference.
19. We note your reference to The Radford Report on page 101. Please revise your disclosure to explain the nature of this report, including whether it is publicly available. In the event that you paid to have this data compiled, please disclose.

Exhibit Index, II-8

20. Please revise to reflect that you have requested confidential treatment for portions of Exhibit 10.16.

Request for Confidential Treatment

21. We may issue further comments when we complete our review of your pending request.

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.

David P. Vieau
A123 Systems, Inc.
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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.

You may contact at Jeanne Bennett at (202) 551-3606 or Kaitlin Tillan, Assistant Chief Accountant, at (202) 551-3604 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