

Mail Stop 3561

November 21, 2006

Via U.S. Mail & Facsimile (858) 523-5450

Mr. Timothy Conver
President and Chief Executive Officer
AeroVironment, Inc.
181 W. Huntington Drive, Suite 202
Monrovia, CA 91016

**Re: AeroVironment, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed November 2, 2006
File No. 333-137658**

Dear Mr. Conver:

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.

Capitalization, page 29

1. We note your response to our prior comment number 22. As previously requested, please revise to disclose pro forma earnings per share for the latest fiscal year and subsequent interim period presented giving effect to the exercise of outstanding options by certain selling shareholders in the offering. As noted in our prior comment, this pro forma presentation should be included on the face of your statements of operations for the latest fiscal year and subsequent interim period presented and should also be disclosed in the Summary Consolidated Financial Data. Please note that we may have further comment upon reviewing these disclosures. If the Company does not believe the exercise of the options will have a material impact on earnings per share, please provide us with the computations that support this conclusion.

Our management, whose interests may not be aligned with yours, page 22

2. We have reviewed your response to our prior comment number 18 but do not concur with your conclusion that the ability of your executive officers to control the vote on all matters requiring stockholder approval, both prior and subsequent to the offering transaction, does not require disclosure in the notes to your financial statements. As requested in our prior comment number 18, please revise the notes to your financial statements to disclose the existence of this control relationship.

Supplemental Executive Retirement Plan Obligation, page 39

3. We have reviewed your response to our prior comment number 39 but continue to believe that your planned accounting for the termination of the supplemental executive retirement plan in connection with the offering as a reduction of expense is not appropriate. As the disclosure on page 82 of the registration statement indicates that Dr. MacCready is one of your principal shareholders, we continue to believe that the benefit of the terminating this plan should be reflected as a capital contribution. We do not believe the fact that the original terms of the plan required its termination in the event of a public offering in any way alters or impacts the treatment for the termination of the plan since Dr. MacCready is a founder of the Company and a principal shareholder. Accordingly, please revise the disclosure on page 39 to correct your planned treatment for the plan termination. Refer to the guidance outlined in footnote 1 to paragraph 20 of APB 26.

Cash Used in Investing Activities, page 46

4. We note from the discussion on page 46 that net cash used in investing activities in 2006 includes \$1.5 million deposited to collateralize standby letters of credit with a bank. As this deposit is being used to collateralize a financing activity, we believe it should be classified as a financing cash flow in your consolidated statements of cash flows. Please revise your cash flow statement to classify this deposit as a cash flow from financing activities.

April 30, 2006 Financial Statements, page F-1

Consolidated Statements of Income, page F-4

5. We refer to your revised disclosures in response to our prior comment 9. Although we note that the earnings per share in your summary and selected financial data is to be revised when the stock split is made final, we note no disclosure in your financial statements to indicate that the split has also been retroactively reflected in your balance sheets or statements of income or

shareholders' equity for each year presented with appropriate disclosure in the footnotes. Please revise. Refer to the guidance outlined in SAB Topic 4.C.

Consolidated Statements of Stockholders' Equity, page F-5

6. We note your response to our prior comment number 51 and the disclosures that have been provided on pages F-11 and F-12 in response to our prior comment. However, we do not believe that your response or your revised disclosures adequately addressed the concerns raised in our prior comment. Please tell us and revise the notes to your financial statements to address the following with respect to the various share repurchase transactions that occurred during the periods presented in your financial statements:
- Explain in detail the terms of the arrangements under which the Company repurchased the shares. As part of your response, explain in detail how the purchase prices for the shares repurchased were determined and explain why you believe these purchase prices "approximate fair value" as noted in your current disclosures. Also, please supplementally provide us with a representative example of one of your stock repurchase agreements.
 - Explain in detail how you considered the guidance outlined in paragraphs 65 through 70 of FIN No.44 and in EITF 00-23 in determining that recognition of compensation expense was not required in connection with the share repurchases. Please note that since the Company has filed a registration statement in connection with a planned offering of equity securities, we would expect the Company to apply the "public company" guidance in FIN No.44 for all periods presented in the financial statements.

We may have further comment upon receipt of your response.

Note 1. Organization and Significant Accounting Policies, page F-7

Revenue Recognition, page F-10

7. We note the disclosure added on page F-10 in response to our prior comment but do not believe that your revised disclosures or your response are fully responsive to our prior comment. As previously requested, please tell us and revise your accounting policy disclosures to explain how you consider the guidance in EITF 00-21 in accounting for revenue arrangements with multiple deliverables that are not properly accounted for pursuant to SOP 81-1.

Stock-Based Compensation, page F-11

8. We reissue our prior comment 55 and request that the pro forma disclosures required by paragraph 45 of SFAS 123 be disclosed in your summary of significant accounting policies. Please refer to the guidance outlined in paragraph 2e of SFAS No.148 and revise to include the tabular presentation in note 1. The notes to the company's interim financial statements should be similarly revised.

Note 8. Stock-based Compensation

9. We have reviewed your response to our prior comment number 54 and the disclosures that have been added on page F-18 in response to our prior comment. Please tell us and explain in MD&A why you believe that transactions involving the purchase and sale of your common stock between your directors and an entity affiliated with the Company's Chief Executive Officer provide substantive evidence regarding the fair value of your common shares and stock option grants during the fiscal year ended April 30, 2006.
10. Also, please revise Note 8 and the discussion on page 40 of MD&A to indicate that the "third parties" whose transactions were used as a basis for determining the fair value of your common shares were directors of the Company and an entity affiliated with the Company's Chief Executive Officer. Also, please revise MD&A to explain why management did not obtain a contemporaneous valuation by an independent valuation specialist with respect to the option grants during the year ended April 30, 2006.
11. Also, as requested in our prior comment, to the extent that the expected public offering price of your common shares exceeds the exercise price of options granted during the preceding twelve month period, please revise MD&A to discuss each significant factor contributing to the difference between the fair value of each option grant and the expected public offering price.
12. In addition, please supplementally provide us with a copy of the contemporaneous independent third-party valuation that was used to value the 17,500 options granted during September 2006. We may have further comment upon review of your response, the related valuation report, and your revised disclosures.

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

Mr. Timothy Conver
AeroVironment, Inc.
November 21, 2006
Page 5

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.

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 Heather Tress at (202) 551-3624 or Linda Cvrkel at (202) 551-3813 if you have questions regarding comments on the financial statements and related matters. Please contact Joshua Ravitz at (202) 551-4817 or me at (202) 551-3755 with any other questions.

Sincerely,

Max A. Webb
Assistant Director

cc: Via Facsimile (858) 523-5450
Craig Garner, Esq.
Michael Sullivan, Esq.
Latham & Watkins, LLP