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File No. 029637-0010

December 11, 2006

Max A. Webb
Assistant Director
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E., Mail Stop 3561
Washington, D.C. 20549

**Re: AeroVironment, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed December 11, 2006
File No. 333-137658**

Dear Mr. Webb:

We are in receipt of the Staff's letter dated December 6, 2006 with respect to the above-referenced Registration Statement. We are responding to the Staff's comments on behalf of AeroVironment, Inc. ("*AeroVironment*" or the "*Company*") as set forth below. Simultaneously with the filing of this letter, AeroVironment is submitting (by EDGAR) Amendment No. 3 to its Registration Statement on Form S-1 (the "*Amendment*"), responding to the Staff's comments. Courtesy copies of this letter and the Amendment (specifically marked to show the changes thereto) are being submitted to the Staff by hand delivery.

AeroVironment's responses set forth in this letter are numbered to correspond to the numbered comments in the Staff's letter. All terms used but not defined herein have the meanings assigned to such terms in the Amendment. For ease of reference, we have set forth the Staff's comments and AeroVironment's response for each item below.

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

1. *We note your revised disclosures in response to our prior comment 2 and again request that disclosure be amended to reflect that both prior and subsequent to the offering transaction, your executive officers will have the ability to control the vote on all matters requiring stockholder approval.*

AeroVironment Response: AeroVironment has revised the disclosure on page 22 of the Amendment in response to the Staff's comment.

Selected Consolidated Financial Data, page 34

2. *It appears as though the net income for the six months ended October 29, 2005 should be \$7,347 rather than \$7,328. Please revise.*

AeroVironment Response: AeroVironment has revised the disclosure on page 33 of the Amendment in response to the Staff's comment.

Accounting for Stock-Based Awards, page 39

3. *We do not believe it is appropriate to refer to the transactions involving the purchase and sale of shares among your directors and a trust affiliated with your Chief Executive Officer as "arms-length" transactions. Please revise to eliminate the description of these transactions as "arms-length" transactions. The discussion on page F-19 of the Company's financial statements should be similarly revised.*

AeroVironment Response: AeroVironment has revised the disclosure on pages 40 and F-23 of the Amendment in response to the Staff's comment.

April 30, 2006 Financial Statements, page F-1

4. *We note several changes to your financial statements in response to our prior comments 4 and 6. Please revise your financial statements to appropriately label as "restated" amounts that have been restated and include the disclosures required by paragraph 37 of APB 20 or paragraph 26 of SFAS 154 for the correction of an error.*

AeroVironment Response: AeroVironment has revised its financial statements by labeling as "restated" amounts that have been restated and has included disclosure on pages 5, 33 and 41 and in Footnote 2 on pages F-15, F-16, F-17, F-18 and F-19 of the Amendment in response to the Staff's comment.

Consolidated Statements of Stockholders' Equity, page F-6

5. *We note your response to our prior comment number 6. Please explain why only the repurchases made from General Motors during fiscal year ended April 30, 2004 and from George Ettenheim in fiscal year ended April 20, 2005 have been reflected as repurchases in your consolidated statements of shareholders' equity for the periods. Your response should explain why the other repurchase transactions described in your response to our prior comment number 6 have not been reflected in your consolidated statements of shareholders' equity.*

AeroVironment Response: AeroVironment respectfully advises the Staff that all other repurchase transactions which occurred during the fiscal years ended April 30, 2004 and 2005 consisted of employees exercising options upon their termination of employment with the Company, after which the Company immediately exercised its repurchase rights under the respective repurchase agreements. No shares were actually issued; therefore the transactions are appropriately accounted for as compensation expense and do not affect shareholders' equity.

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Note 5. Stock-Based Compensation, page F-39

6. *We note the disclosure indicating that the Company recognized share-based compensation expense of \$8,000 for options that vested during the six months ended October 28, 2006. We also note that the weighted average grant date fair value of options granted during the six months ended October 28, 2006 was determined to be \$28.85. Supplementally advise us of how the Company calculated or determined the \$8,000 of compensation expense that was recognized during the period. As part of your response, please indicate the vesting period for the 17,500 of options granted during this period. We may have further comment upon receipt of your response.*

AeroVironment Response: AeroVironment respectfully advises the Staff that the share-based compensation expense was calculated based on the fair market value calculation of 17,500 shares multiplied by \$28.85 per share, or \$504,875. Amortized over the five-year vesting period, the monthly expense is equal to \$504,875 divided by 60, or \$8,415. As the options were issued on September 22, 2006, expense for one month was recorded.

7. *Also, please revise Note 5 to your interim financial statements to discuss the results of the valuation prepared by your independent valuation specialist.*

AeroVironment Response: AeroVironment has revised the disclosure on pages F-38 and F-39 of the Amendment in response to the Staff's comment.

Any comments or questions regarding the foregoing should be directed to the undersigned at (858) 523-5407. Thank you in advance for your cooperation in connection with this matter.

Very truly yours,

/s/ Craig M. Gamer
Craig M. Gamer
of LATHAM & WATKINS LLP

cc: Mr. Timothy Conver
Michael E. Sullivan, Esq.

Enclosures