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File No. 029637-0010

December 20, 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. 4 to Registration Statement on Form S-1  
Filed December 20, 2006  
File No. 333-137658**

Dear Mr. Webb:

We are in receipt of the Staff's letter dated December 14, 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. 4 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 that you have revised your risk factor in response to our prior comment 1. However, our prior comment 2 from the letter dated November 21, 2006 requested the disclosure in the financial statements 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. Please revise the related party footnote in your annual and interim financial statements accordingly.*

AeroVironment Response: AeroVironment respectfully informs the Staff that based on the absence of a voting agreement among its executive officers, and to reflect the uncertainty of their stock ownership percentage subsequent to the offering, it is appropriate to modify the language on page 22 of the Amendment as follows: "...our executive officers as a group will may control the vote...", replacing the word "will" with the word "may." AeroVironment has also added the word "directors," to the "executive officers and their affiliates," as the percentage disclosed therein appropriately includes the directors, executive officers and their affiliates, consistent with the presentation on page 82 of the Amendment.

"Directors" was also added to the financial statement disclosures at pages F-22 and F-34 of the Amendment; additionally, AeroVironment removed the term "beneficially," as the financial statement disclosure appropriately reflects the actual historical stock ownership.

AeroVironment respectfully disagrees with the request to add a disclosure to the financial statements regarding control subsequent to the offering transaction. AeroVironment believes this is forward-looking, risk factor information, which is not appropriately included in the historical financial statements.

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December 20, 2006

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October 28, 2006 Interim Financial Statements, page F-30

2. *Please clarify for us if the six months ended October 29, 2005 has been restated to properly account for the repurchases of stock in accordance with our prior comment 4. Confirm that the interim amounts presented also reflect the proper accounting as applied in the restatement and appropriately label all such interim information in your financial statements and MD&A as restated. If no restatement of this period was required, please explain why.*

AeroVironment Response: AeroVironment respectfully advises the Staff that there were no common stock repurchases during the six months ended October 29, 2005. As a result, no restatement for the period is required.

Additionally, AeroVironment made the following changes:

- eliminated the "restatement" references throughout the Amendment, affecting the following pages: 5, 33, 34, 41, 43, 44, 46, F-1 through F-6, F-12, F-15, F-20, F-24, F-26; and footnote numbering; and
- modified disclosures relating to research and development tax credits throughout the Amendment to reflect the expected retroactive reinstatement of the credit, affecting the following pages: 14, 37, 41, 43, 44.

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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. Garner

Craig M. Garner  
of LATHAM & WATKINS LLP

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

Enclosures