



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

Mail Stop 6010

February 22, 2008

VIA U.S. MAIL and FACSIMILE (408) 986-7710

Mr. George S. Davis
Senior Vice President and Chief Financial Officer
3050 Bowers Avenue
Santa Clara, CA 95052-8039

**RE: Applied Materials, Inc.
Form 10-K for the fiscal year ended October 28, 2007
Filed December 14, 2007
File No. 000-06920**

Dear Mr. Davis:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise future filings 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.

Form 10-K for the Fiscal Year Ended October 28, 2007

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 22

Financial Condition; Liquidity and Capital Resources, page 32

1. It appears from your table on page 56, and from your related disclosure, that a significant portion of your cash equivalents and investments include "mortgage- and asset-backed securities." We also note your disclosure on page 34 that "Applied expects to receive a pro rata distribution of the underlying securities in the [enhanced cash fund]." In future filings, please clearly discuss the nature of the material components of your investments so as to provide your investors with information necessary for a clear understanding of your balance sheet items. For example, as appropriate, identify the amounts and nature of any mortgage- and asset-backed securities you hold, indicate what factors may affect the value of those securities, and disclose any material risks. Also, if the value of your investments are reasonably likely to affect your financial condition in any material way, please expand your discussion and analysis in applicable future filings to provide your investors with information necessary for a clear understanding of the trend or uncertainty. Refer to Item 303(a) of Regulation S-K. Also add any appropriate disclosure required by Item 305 of Regulation S-K.

Critical Accounting Policies and Estimates, page 35

2. In light of the significance of your investment portfolio, please tell us why you should not present critical accounting policy disclosure for investments. In that regard, any disclosure should address the material accounting estimates and assumptions you make in valuing investment securities, including description of the process by which you determine the value of those securities, the levels of judgment involved and the susceptibility of the resulting value to changes in estimates and assumptions.

Financial Statements, page 45

Note 2, Financial Instruments, page 55

3. In future filings please describe the principal components of "other debt securities."

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As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response 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 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 Exchange Act of 1934 and that they have provided all information investors require for an informed 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.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments 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 our review of your filing or in response to our comments on your filing.

You may contact Jong Hwang at (202) 551-3327 or me at (202) 551-3605 if you have questions. In this regard, please do not hesitate to contact Brian Cascio, Branch Chief at (202) 551-3676 with any other questions.

Sincerely,

Gary Todd
Reviewing Accountant