



February 19, 2008

**VIA EDGAR**

Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, DC 20549

Attention: Angela Crane  
Andri Boerman

**Re: KLA-Tencor Corporation  
Form 10-K for the Fiscal Year Ended June 30, 2007  
Filed August 20, 2007  
File No. 000-09992**

Dear Ms. Crane:

KLA-Tencor Corporation ("we" or the "Company") submits this letter in response to the comments from the Staff of the Division of Corporation Finance of the Securities and Exchange Commission (the "Staff"), which were set forth in your letter dated January 31, 2008 regarding the above referenced document.

The Staff's comments, indicated in bold, are followed by the Company's responses.

**Form 10-K for the fiscal year ended June 30, 2007**

**Item 7. Management Discussion and Analysis of Financial Condition and Results of Operations, page 31**

**Executive Summary, page 36**

- 1. It appears from various analyst reports that a significant portion of your revenues are derived from the memory market. In your future filings, as applicable, please clarify the significance of the memory market to your business and address any known trends that have had or that you reasonably expect will have a material impact on your operating results in Management's Discussion and Analysis. Refer to Item 303(a)(3)(ii) of Regulation S-K. In your future filings, as applicable, please also expand the "Executive Summary" section of Management's Discussion and Analysis to add a balanced, executive-level discussion that identifies the most important themes or other significant matters with which management is concerned in evaluating the company's operating results and financial condition. Discuss**

**material business opportunities, challenges and risks, such as those presented by known material trends and uncertainties, on which the company's executives are most focused, and the actions they are taking in response to them. For further guidance on the content and purpose of the "Overview," see Interpretive Release No. 33-8350 available on our website.**

Response #1

We respectfully advise the Staff that we will include in our future filings commentary regarding the significance of business from the key markets to our overall business, including the memory market. We will, to the extent applicable, include discussion of material challenges and risks, including known trends that have had or that we reasonably expect will have a material impact on our operating results in Management's Discussion and Analysis, along with information regarding relevant markets and geographies to provide financial statement users with information on capital spending in the semiconductor industry.

We further advise the Staff that we will also expand the "Executive Summary" section of Management's Discussion and Analysis in our future filings to identify the most important themes and other significant matters with which management is concerned in evaluating the Company's operating results and financial condition.

**Provision for Income Taxes, page 41**

2. **We note that you reduced your income tax reserves by \$15.3 million and \$79.7 million in the fiscal years ended June 30, 2007 and June 30, 2006, respectively. Please explain the facts and the circumstances of the reduction, including why you believe your original reserve was appropriate. Revise future filings to discuss the reduction in greater detail as required by SFAS 109.**

Response #2

In response to the Staff's comment, we respectfully provide the following information. The reduction in the Company's income tax reserves by \$15.3 million and \$79.7 million in the fiscal years ended June 30, 2007 and June 30, 2006, respectively, resulted from the expiration of tax-related statutes of limitations and settlements of various tax examinations and reassessments of tax exposures based on the results of audits in various jurisdictions.

The decrease in tax reserves by \$15.3 million in the fiscal year ended June 30, 2007 was primarily due to the resolution of an examination by the State of California for the fiscal years ended June 30, 1997 to June 30, 1999, receipt by the Company of a federal tax refund for the fiscal year ended June 30, 2001, and the Congressional Joint Committee on Taxation's confirmation of the Internal Revenue Service's audit findings related to the Company's fiscal year ended June 30, 2003.

The decrease in tax reserves by \$79.7 million in the fiscal year ended June 30, 2006 was primarily due to the resolution of a federal income tax examination of the Company's fiscal years ended June 30, 2003 and June 30, 2004, and the expiration of the statute of limitations applicable to federal taxes for the fiscal years ended June 30, 2001 and June 30, 2002.

The Company believes the original reserves were appropriate under the accounting principles set forth in Statement of Financial Accounting Standards (SFAS) No. 5 and Statement of Financial Accounting Concepts No. 6 because the reserves accurately reflected the Company's estimate of the potential tax liabilities considering all facts and circumstances known to the Company at that time.

We further advise the Staff that we will include greater detail on such reductions in tax reserves in our future filings.

**Consolidated Statements of Operations, page 50**

3. **We note that you separately disclose revenue from the sale of products and services. Related cost and expenses should be combined and disclosed separately as well. Refer to the guidance in Regulation S-X, Article 5-03(b)(1) and (2). Revise future filings as necessary.**

*Response #3*

In response to the Staff's comment, we respectfully provide the following information. The Company has a robust methodology for tracking the pool of costs for servicing tools, which are charged to cost of revenues in the aggregate. However, there is a lack of clear accounting guidance or rule or industry practice regarding the basis for allocating this pool of costs, including items such as warranty cost and inventory write-offs, between products and services. As a result, the methodology of allocating the pool of costs between cost of product and cost of service would vary widely from company to company. Further, we respectfully submit that separately reporting cost and expense for products and services will limit comparability among companies due to the absence of similar reporting in the semiconductor equipment industry. We respectfully submit that requiring separate reporting of cost and expense for products and services would result in a competitive disadvantage for the Company should we choose a theoretical methodology for allocating our pool of costs that has the effect of disclosing different margins from our competitors. We therefore respectfully request the Staff to consider waiving the requirement to separately disclose cost of products and cost of services and instead accept the Company's commitment to enhancing, in future filings, its disclosure and quantification of factors that impact cost of revenues, to the extent possible.

**Note 6 - Stock-Based Compensation, page 67**

**Former Chief Executive Officer Agreement and Termination, page 71**

4. **We note that your stock-based compensation expense for the fiscal year ended June 30, 2007 includes a \$20.3 million reversal of stock-based compensation charges related to the cancellation of stock options and restricted stock units held by your CEO. Please describe the material terms of your agreement with Mr. Schroeder and the terms of the cancellation. Explain why the "reversal" of the stock-based compensation was appropriate under SFAS 123(R), specifically paragraphs 55 and 57.**

*Response #4*

We respectfully advise the Staff that the Company's most recent relevant agreement with Mr. Schroeder, effective December 21, 2005, was attached as Exhibit 10.14 to our Quarterly Report on Form 10-Q for the fiscal quarter ended December 31, 2005 (the "Schroeder Agreement"). The Company did not enter into a separate agreement with Mr. Schroeder with respect to the termination of his employment relationship. The Schroeder Agreement set forth the employment terms applicable to the contemplated transition of Mr. Schroeder's employment from full-time to part-time status, including the treatment of Mr. Schroeder's equity grants upon such transition and upon the termination of his employment under various scenarios.

The reversal of \$20.3 million of stock-based compensation expense was for the termination of 0.9 million unvested option shares and 0.1 million unvested restricted stock award shares, which qualified as a forfeiture for accounting purposes in accordance with paragraphs 19 and 43 of SFAS No. 123(R), as Mr. Schroeder would no longer be able to fulfill his service obligations relating to those particular awards on account of the termination of all aspects of his employment relationship and agreement with the Company on October 16, 2006.

We acknowledge that paragraph 57 of SFAS No. 123(R) is applicable to the 0.6 million vested and outstanding option shares, representing those shares that had been retroactively priced or otherwise improperly granted, that were cancelled in December 2006. Accordingly, in accordance with the requirements of paragraph 57, previously recognized stock-based compensation expense in connection with these awards was not reversed upon cancellation.

Further, we respectfully submit that paragraph 55 of SFAS No. 123(R) should not apply to the awards held by Mr. Schroeder at the time of his termination, as there was no repurchase of his awards for cash or other assets.

**Form 10-Q for the quarter ended September 30, 2007**

**Note 8 - Income Taxes, page 13**

5. **We note that your effective tax rate of 54.6% for the three months ended September 30, 2007, is primarily due to the immediate impact of \$46.6 million of incremental U.S. tax expense associated with the implementation of your global manufacturing strategy. Please tell us more about this strategy and how it caused the \$46.6 million increase in your U.S. tax expense. We also note that you expect the tax rate for the year ending June 30, 2008 to be approximately 37%. Please explain why you expect that your income tax rate to decrease to 37% for the year ending June 30, 2008. Refer to the guidance in SFAS 109 and FIN 48 as necessary.**

*Response #5*

In response to the Staff's comments, we respectfully provide the following information. The Company has migrated manufacturing of one of its product lines from the United States to Singapore as part of its global manufacturing strategy. As part of this manufacturing strategy, the Company licensed the intellectual property related to the product manufactured in Singapore from the United States parent company to a wholly

owned subsidiary outside the United States, which will have the effect of reducing tax expense over time with respect to this product line. The terms of the license contract included an upfront non-cancelable and non-exclusive royalty payment during the three months ended September 30, 2007 and future royalty payments that are based on a percentage of future sales of the product. The estimated tax expense for the three month period ended September 30, 2007, including the uncertain tax benefit under FIN 48, was approximately \$46.6 million. The Company concluded that tax effect of the upfront non-cancelable and non-exclusive payment was a discrete item and should not be included in the estimated annual effective tax rate but rather entirely recognized in the three months ended September 30, 2007, as discussed in paragraph 6 of FIN 18, which requires that the income tax expense on items that are not related to "ordinary" income be individually computed and recognized in the period when the item occurs.

The Company anticipates that its effective tax rate for the year ending June 30, 2008 will be approximately 37% based on averaging the 54.6% tax rate for the three months ended September 30, 2007 with the lower forecasted estimated tax rate for the remainder of the fiscal year (This analysis assumes that we will not have additional significant one-time tax expenses during the remainder of the fiscal year and that we are not currently aware of any such one-time tax expenses).

**Item 7. Management Discussion and Analysis of Financial Condition and Results of Operations, page 19**  
**Liquidity and Capital Resources, page 29**

6. **We note that your non-current tax payable obligation of \$87.4 million is excluded from your contractual obligation table on page 30. Please tell us why excluding this obligation is appropriate. Refer to the guidance in FIN 48 and Release No. 33-8182-*Disclosures in Management's Discussion and Analysis about Off-Balance Sheet Arrangements and Aggregate Contractual Obligations*.**

Response #6

We respectfully advise the Staff that, although we excluded the non-current tax payable obligation of \$87.4 million from the contractual obligation table on page 30 of the Quarterly Report on Form 10-Q for the period ended September 30, 2007, we did include a paragraph below the table that disclosed the amount of the non-current tax payable obligation and the reason why the obligation was excluded from the table. In response to the Staff's comment, in our future filings, we will include the non-current tax payable obligation in the table in a new column entitled "other" along with transparent note disclosure.

In connection with responding to your comments, the Company acknowledges that:

- The Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- Staff comments or changes to disclosures 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.

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Should you require further clarification of any of the issues raised in this letter, please contact Jeffrey Hall at (408) 875-6800 (or by fax at (408) 875-4144). We respectfully request that the Staff let us know at its earliest convenience if we can be of any further assistance.

Sincerely,

/s/ JEFFREY L. HALL

Jeffrey L. Hall  
Chief Financial Officer

cc: Richard Wallace, Chief Executive Officer  
Brian Martin, General Counsel