UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE TO

(Rule 13e-4)

TENDER OFFER STATEMENT UNDER SECTION 14(d)(1) OR 13(e)(1) OF THE SECURITIES EXCHANGE ACT OF 1934

(AMENDMENT NO. 5) KLA-TENCOR CORPORATION

(Name of Subject Company (Issuer) and Filing Person (Offeror))

Options to Purchase Shares of Common Stock, Par Value \$0.001 Per Share (Title of Class of Securities)

482480100

(CUSIP Number of Class of Securities) (Underlying Common Stock)

Jeffrey L. Hall Senior Vice President & Chief Financial Officer KLA-Tencor Corporation 160 Rio Robles San Jose, California 95134 (408) 875-3000

(Name, address and telephone number of person authorized to receive notices and communications on behalf of filing person)

Copy to: S. James DiBernardo, Esq. Jill Mather Bartow, Esq. Morgan, Lewis, & Bockius LLP Two Palo Alto Square Palo Alto, California 94306 (650) 843-4000

CALCULATION OF FILING FEE

Transaction valuation*	Amount of filing fee**
\$141,307,107.00	\$4,338.13***

* The "transaction valuation" set forth above is based on the Black-Scholes option valuation model, and assumes that all outstanding options eligible for tender covering an aggregate of 5,139,344 shares of common stock of KLA-Tencor Corporation will be amended pursuant to this offer, which may not occur.

** The amount of the filing fee, calculated in accordance with Rule 0-11 under the Securities Exchange Act of 1934, as amended, as modified by Fee Advisory No. 5 for fiscal year 2007, equals \$30.70 per \$1,000,000 of transaction valuation. The transaction valuation set forth above was calculated for the sole purpose of determining the filing fee, and should not be used or relied upon for any other purpose.

*** Previously paid.

Check box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: Form or Registration No.: Filing party: Date filed:

Not applicable. Not applicable. Not applicable. Not applicable.

Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- □ third party tender offer subject to Rule 14d-1.
- issuer tender offer subject to Rule 13e-4.
- □ going-private transaction subject to Rule 13e-3.
- amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer.

Introductory Statement

This Amendment No. 5 (the "Amendment") to the Tender Offer Statement on Schedule TO (the "Schedule TO") filed by KLA-Tencor Corporation ("KLA-Tencor") with the Securities and Exchange Commission (the "SEC") on February 27, 2007, as subsequently amended and supplemented by Amendment No. 1 filed with the SEC on March 2, 2007, Amendment No. 2 filed with the SEC on March 13, 2007, Amendment No. 3 filed with the SEC on March 16, 2007 and Amendment No. 4 filed with the SEC on March 22, 2007, is the final amendment relating to the offer by KLA-Tencor to amend or replace certain outstanding options. The purpose of Amendment No. 5 is to report the results of the Offer to Amend or Replace Eligible Options (the "Offer").

ITEM 4 TERMS OF THE TRANSACTION

(a) Material Terms.

The Offer expired at 11:59 p.m. Pacific Time on March 27, 2007. Pursuant to the Offer, KLA-Tencor has amended outstanding Eligible Options covering approximately 5,068,200 shares of KLA-Tencor common stock to increase the exercise price of each such option to the lower of (i) the fair market value per share of KLA-Tencor common stock on the actual grant date of that option or (ii) \$53.35, the closing selling price per share of such common stock on the March 28, 2007 amendment date. In addition, the participants whose Eligible Options have been so amended are now eligible for special cash bonuses in the aggregate amount of up to approximately \$20,173,800.00 to compensate them for the higher exercise prices per share in effect for their amended options.

In addition, KLA-Tencor canceled tendered Eligible Options covering approximately 27,200 shares of KLA-Tencor common stock because the adjusted exercise price would have been the same or lower than the exercise price in effect for those options prior to the amendment. In replacement of each such canceled option, KLA-Tencor immediately granted a New Option that is exactly the same, including the same exercise price per share, vesting schedule and expiration date, but with a new grant date of March 28, 2007.

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SIGNATURE

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this Amendment No. 5 to Schedule TO is true, complete and correct.

KLA-TENCOR CORPORATION

/s/ Jeffrey L. Hall

Jeffrey L. Hall Senior Vice President & Chief Financial Officer

Date: March 29, 2007

By: