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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

**FORM 8-K**

CURRENT REPORT  
Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): February 21, 2006

**KLA-TENCOR CORPORATION**

(Exact name of registrant as specified in its charter)

**DELAWARE**  
(State or other jurisdiction of  
incorporation)

**000-09992**  
(Commission File Number)

**04-2564110**  
(IRS Employer  
Identification No.)

**160 Rio Robles**  
**San Jose, California 95134**  
(Address of principal executive offices, including zip code)

**(408) 875-3000** (Registrant's telephone number, including area code)

**N/A**  
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 1.01 Entry into a Material Definitive Agreement**

On February 17, 2006, the Board of Directors of KLA-Tencor Corporation (the "Company") adopted the KLA-Tencor Corporation Executive Severance Plan ("Plan"). The Plan specifies the compensation and benefits that Plan participants will receive in the event of termination of employment with the Company. In exchange for receiving severance benefits under the Plan, participants will be required to agree to non-compete and non-solicitation restrictions for the period of time during which they are receiving Plan benefits. The severance period for individual participants, and whether or not participants will be eligible for pre-change of control severance benefits will be determined by the Compensation Committee.

Plan participants are the Company's Chief Executive Officer ("CEO"), Chief Operating Officer ("COO"), and Chief Financial Officer ("CFO"). If the CEO or COO are terminated other than for cause or voluntarily for good reason prior to a change in control they will receive (i) two years' base salary, (ii) a pro-rated annual incentive payment, (iii) pro-rated vesting on any equity awards through the end of the month of their termination of employment, (iv) any stock options or stock appreciation rights granted after February 16, 2006 will have a post-termination exercise period of one year, or, if less, the original term of the award.

If the CEO is terminated other than for cause or voluntarily for good reason within two years following a change in control, he will receive (i) three years' base salary, (ii) three years' annual incentive payment paid at his target bonus amount, (iii) 100% vesting acceleration on any equity awards, and (iv) any stock options or stock appreciation rights granted after February 16, 2006 will have a post-termination exercise period of one year, or, if less, the original term of the award.

If the COO or the CFO are terminated other than for cause or voluntarily for good reason within two years following a change in control, they will receive (i) two years' base salary (ii) two years' annual incentive payment paid at their target bonus amounts, (iii) 100% vesting acceleration on any equity awards, and (iv) any stock options or stock appreciation rights granted after February 16, 2006 will have a post-termination exercise period of one year, or, if less, the original term of the award.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**KLA-TENCOR CORPORATION**

By: /s/ Stuart J. Nichols

**STUART J. NICHOLS**  
**VICE PRESIDENT AND GENERAL COUNSEL**

Date: **February 21, 2006**