

Kirloskar Virendra A
 Form 4
 February 04, 2010

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Kirloskar Virendra A

2. Issuer Name and Ticker or Trading Symbol
 KLA TENCOR CORP [KLAC]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction (Month/Day/Year)
 02/02/2010

___ Director ___ 10% Owner
 Officer (give title below) ___ Other (specify below)
 SVP & Chief Accounting Officer

C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 ___ Form filed by More than One Reporting Person

MILPITAS, CA 95035

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Ownership (Instr. 4) |
|--|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V Amount (D) Price | | | |
| Common Stock | 02/02/2010 | | S ⁽¹⁾ | 874 D \$ 29.33 | 7,431 | D | |
| Common Stock - Restricted Stock Units ⁽²⁾ | | | | | 42,350 ⁽³⁾ | D | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form

SEC 1474 (9-02)

displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of Derivative Securities Owned Beneficially (Instr. 5) |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|--|
| | | | | Code | V (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|--------------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Kirloskar Virendra A C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035 | | | SVP & Chief Accounting Officer | |

Signatures

Brian M. Martin as Attorney-in-Fact for Virendra A. Kirloskar
 Kirloskar
 **Signature of Reporting Person
 Date

02/04/2010

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) These sales were effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on December 11, 2009.
- (2) Each RSU represents a contingent right to receive one share of KLA-Tencor common stock.
Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made
- (3) regarding the achievement of the applicable performance goals. Any such holdings will be reported on Form 4 within two business days of the date such assessment is made.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.