Kirloskar Virendra A Form 4 May 06, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB APPROVAL OMB

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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

See Instruction

1(b).

(City)

(State)

(Zip)

(Print or Type Responses)

may continue.

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	(
CORPORAT	O KLA-TENCOR DRPORATION, ONE ECHNOLOGY DRIVE		(Month/Day/Year) 05/05/2010	Director 10% Owner _X Officer (give title Other (specification) below) SVP & Chief Accounting Officer			
	(Street)		4. If Amendment, Date Original	6. Individual or Joint/Group Filing(Check			
MILPITAS, CA 95035			Filed(Month/Day/Year)	Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting Person			

·		Table	1 - 14011-10	erranve s	ecui i	nes Acqu	iii cu, Disposcu oi	, or beneficial	y 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 on(A) or Disposed of (D) (Instr. 3, 4 and 5)		5. Amount of Securities Beneficially Owned Following Reported	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)		
			Code V	Amount	(A) or (D)	Price	Transaction(s) (Instr. 3 and 4)			
Common Stock	05/05/2010		A	4,000	A	<u>(1)</u>	11,431	D		
Common Stock	05/05/2010		F	1,489 (2)	D	\$ 33.04	9,942	D		
Common Stock - Restricted Stock Units							38,350 (4)	D		

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

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

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SEC 1474 (9-02)

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

1. Title of	2.	3. Transaction Date		4.	5.	6. Date Exer		7. Titl		8. Price of	9. Nu
Derivative Security (Instr. 3)	Conversion or Exercise Price of Derivative Security	(Month/Day/Year)	Execution Date, if any (Month/Day/Year)	Transact Code (Instr. 8)	ofNumber of Derivativ Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	5		Amou Under Secur (Instr.	rlying	Derivative Security (Instr. 5)	Deriv Secur Bene Own Follo Repo Trans (Instr
				Code V	7 (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

05/06/2010

**Signature of Reporting Person

Date

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) On May 5, 2008, Mr. Kirloskar received a grant of restricted stock units ("RSUs") covering 8,000 shares of KLA-Tencor common stock. On May 5, 2010, Mr. Kirloskar vested in fifty percent (50%) of such RSUs.
- Pursuant to the terms of the May 5, 2008 RSU grant, 1,489 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. The fair market value of KLA-Tencor common stock used for purposes of calculating the number of shares to be withheld was the closing price of KLA-Tencor common stock as reported on the NASDAQ Stock Market on such vesting
- (3) Each RSU represents a contingent right to receive one share of KLA-Tencor common stock.

(4)

Reporting Owners 2

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Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made 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.