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

FORM 8-K/A

(Amendment No. 1)

CURRENT REPORT

Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): April 21, 2015

KLA-TENCOR CORPORATION

(Exact name of registrant as specified in its charter) Delaware 000-09992 04-2564110 (State or other jurisdiction of incorporation) (Commission File Number) (I.R.S. Employer Identification No.) One Technology Drive, Milpitas, California 95035 (Address of principal executive offices) (Zip Code) Registrant's telephone number, including area code: (408) 875-3000 (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: 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))

Explanatory Note

On April 23, 2015, KLA-Tencor Corporation (the "Company") filed a Current Report on Form 8-K (the "Original Form 8-K") announcing the Company's plan to reduce its global employee workforce. At the time the Original Form 8-K was filed, the Company was unable to make a good faith determination of the cost estimates, or ranges of cost estimates, associated with all of the activities under the global employee workforce reduction plan.

This Form 8-K/A amends the Original Form 8-K to update the expected timing of the completion of the employee reduction and provide a range of estimated charges that the Company expects to recognize in connection with the global employee workforce reduction plan. As a result of the Company's determination of the range of estimated charges and other severance costs that the Company expects to recognize in the fourth quarter of fiscal year 2015, the Company is updating certain preliminary guidance previously provided by the Company during the Company's quarterly earnings conference call on April 23, 2015. Except as described below, all other information in the Original Form 8-K remains unchanged.

Item 2.05 Costs Associated with Exit or Disposal Activities.

On April 23, 2015, the Company announced a plan to reduce its global employee workforce by up to 10 percent to streamline its organization and business processes in response to changing customer requirements in its industry. The goal of this reduction is to enable continued innovation and direct the Company's resources toward its best opportunities. The Company expects to substantially complete the employee reduction by the end of the first quarter of fiscal year 2016, but certain reductions will occur in the second quarter of fiscal year 2016.

The Company currently estimates that, in connection with the global employee workforce reduction plan, it will recognize net charges in the range of approximately \$26 to \$36 million for estimated severance costs and other related costs. Substantially all of these net charges are expected to be cash expenditures. The Company expects to recognize a majority of these charges in the fourth quarter of fiscal year 2015.

Item 7.01 Regulation FD Disclosure.

On April 23, 2015, during the Company's quarterly earnings conference call, the Company previously provided preliminary guidance for non-GAAP diluted earnings per share (a range of \$0.78 to \$1.02 per share) for the fourth quarter of fiscal year 2015. In a slide presentation available on the Company's Investor Relations website, the Company reconciled non-GAAP diluted earnings per share to GAAP diluted earnings per share (a range of \$0.75 to \$0.99 per share). As a result of the Company's determination of the range of estimated net charges associated with the global employee workforce reduction plan and other severance costs that the Company expects to recognize in the fourth quarter of fiscal year 2015, the Company is updating such preliminary guidance.

For the fourth quarter of fiscal year 2015, the Company expects the guidance for non-GAAP diluted earnings per share to remain unchanged from previously issued guidance. The Company expects GAAP diluted earnings to be in the range of \$0.65 to \$0.91 per share. The revised GAAP diluted earnings per share range includes the effects of amortization of acquired intangible assets and restructuring and other related charges, which have a tax adjusted impact of approximately \$0.02 and \$0.01 per share, respectively, and the estimated net charges associated with the global employee workforce reduction plan and other severance costs that the Company expects to recognize in the fourth quarter of fiscal year 2015, which have a tax adjusted impact of approximately \$0.08 to \$0.10 per share.

The information in Item 7.01 of this Current Report on Form 8-K shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities under that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filing.

Forward-Looking Statements

Statements in this Current Report on Form 8-K and in the press release attached as Exhibit 99.1 to the Original Form 8-K other than historical facts, such as statements regarding the Company's ability to benefit from its market leadership position, the anticipated size of the Company's global employee workforce reduction, the expected timing of the completion of such employee reduction, the estimated charges that the Company expects to recognize in connection with the Company's global employee workforce reduction plan and the Company's revised guidance for the fourth quarter of fiscal year 2015, are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current information and expectations, and involve a number of risks and uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including but not limited to: the demand for semiconductors; the financial condition of the global capital markets and the general macroeconomic environment; new and enhanced product and technology offerings by competitors; cancellation of orders by customers; the ability of the Company's research and development teams to successfully innovate and develop technologies and products; changing customer demands; industry transitions; the costs and delays related to compliance with U.S. and international labor laws and other applicable laws, including the notification procedures required thereby; and the disruption resulting from those projected and anticipated in forward-looking statements in this Current Report on Form 8-K and in the press release attached as Exhibit 99.1 to the Original Form 8-K, please refer to the Company's Annual Report on Form 10-K for the year ended June 30, 2014, subsequently filed Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission (including, but not limited to, the risk factors describe

Use of Non-GAAP Financial Information

The non-GAAP and supplemental information provided in this Current Report on Form 8-K is a supplement to, and not a substitute for, the Company's financial results presented in accordance with United States GAAP. To supplement the Company's condensed consolidated financial statements presented in accordance with GAAP, the Company provides certain non-GAAP financial information, which is adjusted from results based on GAAP to exclude certain costs and expenses, as well as other supplemental information. The non-GAAP and supplemental information is provided to enhance the user's overall understanding of the Company's operating performance and its prospects in the future. Specifically, the Company believes that the non-GAAP information provides useful measures to both management and investors regarding financial and business trends relating to the Company's financial performance by excluding certain costs and expenses that the Company believes are not indicative of its core operating results. The non-GAAP information is among the budgeting and planning tools that management uses for future forecasting. However, because there are no standardized or generally accepted definitions for most non-GAAP financial metrics, definitions of non-GAAP financial metrics (for example, determining which costs and expenses to exclude when calculating such a metric) are inherently subject to significant discretion. As a result, non-GAAP financial metrics may be defined very differently from company to company, or even from period to period within the same company, which can potentially limit the usefulness of such information to an investor. The presentation of non-GAAP and supplemental information is not meant to be considered in isolation or as a substitute for results prepared and presented in accordance with United States GAAP.

SIGNATURES

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

KLA-TENCOR CORPORATION

Date: June 26, 2015

By: Name: Title: /s/ BRIAN M. MARTIN Brian M. Martin Executive Vice President and General Counsel