



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

April 26, 2010

Via U.S. Mail and Facsimile to (408) 635-4985

Mark Gallenberger
Chief Financial Officer
LTX-Credence Corporation
1355 California Circle
Milpitas, CA 95035

Re: LTX-Credence Corporation
Form 10-K for the Fiscal Year ended July 31, 2009
Filed October 15, 2009
Form 10-Q for the Fiscal Quarter ended January 31, 2010
File No. 000-10761

Dear Mr. Gallenberger:

We have reviewed your filings and have the following comments. Where indicated, we think you should revise your future documents in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year ended July 31, 2009

Item 2. Management's Discussion and Analysis, page 26

1. We note that the table on page 37 indicates you had no borrowings outstanding under your secured credit facility "as of the date of this filing." We also note that page 18 indicates your outstanding borrowings under that facility were more than \$39 million as of January 31, 2010. Please tell us how you satisfied the amount outstanding under your secured facility, including the source of funds or include outstanding balances in your contractual obligations table, as appropriate. Also, in applicable future filings, please ensure that the disclosures you provide pursuant to Item 303 of Regulation S-K identifies and describes known events that will have, or are reasonably like to have, a material change in your liquidity or capital resources and any material unused liquid assets. For example, in future filings, please describe any material changes to your liquid assets resulting from full payment of the amount outstanding under your credit facility and to the relative costs of your sources of liquidity.

Financial Statements and Supplementary Data, page 43

Note 2. Summary of Significant Accounting Policies, page 48

Cash and Cash Equivalents and Marketable Securities, page 53

2. We see that your cash and cash equivalents consist primarily of repurchase agreements and commercial paper. Please address the following:
 - Describe to us in detail your repurchase agreement transactions, the business purpose of the transactions and your accounting for those transactions. As you appear to be referring to securities held for short periods of time that you include in cash equivalents, tell us whether these assets represent securities serving as collateral under short-term purchases of securities under agreements to resell (i.e., reverse repurchase agreements) and of which you had obtained control or taken possession.
 - Tell us the impact of such transactions on your financial statements as of the date of each balance sheet presented in your Form 10-K and for the last three fiscal years then ended. Specifically quantify for us the gross amount of repurchase agreements and reverse repurchase agreements recorded at each balance sheet date and the gross dollar volume of these transactions you undertook in each of the last three fiscal years. In addition, provide similar information for the quarters ended October 31, 2009 and January 31, 2010.

- For reverse repurchase agreements, describe to us the nature of the assets that you receive as collateral for your advances and explain to us how you evaluate the value and liquidity of the underlying collateral and how you account for the collateral during the arrangement.
- For repurchase agreements, describe to us the securities you put up as collateral for your borrowings and how you account for the collateral during the arrangement.
- Tell us whether you account for any of these arrangements as sales for accounting purposes and if so, cite the accounting guidance that supports that treatment.
- Provide us with the calculations on which you based your conclusion that the disclosures required by Rule 4-08(m)(1) and 4-08(m)(2) of Regulation S-X were not required in your filings or supplementally provide us with the disclosure.

Goodwill and Other Intangibles, page 58

3. We note the disclosure that you engaged an independent third party valuation firm to assist in the impairment testing of goodwill. Please describe to us the nature and extent of the role played by the valuation firm in determining the amounts included in your financial statements and clarify the extent to which any statements are attributed to the valuation firm as opposed to your management. In this regard, we also refer you to the guidance provided in Question 141.02 of the Compliance and Disclosure Interpretations on Securities Act Sections, which can be found at <http://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm>, which explains the circumstances under which a valuation firm would be named and its consent included in registration statements, including those into which you incorporate your Form 10-K by reference.

Form 10-Q for the Fiscal Quarter ended January 31, 2010

Item 4. Controls and Procedures

4. We refer to your disclosure that “the Company’s Chief Executive Officer and Chief Financial Officer concluded that the Company’s disclosure controls and procedures (1) were designed to ensure that material information relating to the Company, including its consolidated subsidiaries, was made known to them by others within those entities, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act, including information regarding its consolidated subsidiaries, is recorded, processed, summarized and reported within the time periods specified by the SEC.” In your future filings, as applicable, please revise to clarify, if true, that your officers concluded that your disclosure controls and procedures are also effective to ensure that information required

to be disclosed in the reports that you file or submit under the Exchange Act is accumulated and communicated to your management, including your chief executive officer and chief financial officer, to allow timely decisions regarding required disclosure. See Exchange Act Rule 13a-15(e).

As appropriate, please respond to this comment within 10 business days or tell us when you will provide us with a response. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your response to our comment.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Mark Gallenberger
LTX-Credence Corporation
April 26, 2010
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You may contact Kevin Kuhar, Staff Accountant, at (202) 551-3662 or me at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please contact Tim Buchmiller at (202) 551-3635 or Geoff Kruczek at (202) 551-3641 if you have questions on other comments. In this regard, do not hesitate to contact Jeff Jaramillo, Accounting Branch Chief, at (202) 551-3212 with any questions.

Sincerely,

Jay Webb
Accounting Reviewer