



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

DIVISION OF
CORPORATION FINANCE

June 9, 2014

Via E-mail

Mark R. Tauscher
Chief Executive Officer
PLC Systems Inc.
459 Fortune Boulevard
Milford, Massachusetts 01757

**Re: PLC Systems Inc.
Preliminary Proxy Statement on Schedule 14A
Filed May 14, 2014
File No. 001-11388**

Dear Mr. Tauscher:

We have limited our review of your filing to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have further comments.

General

1. Rule 14a-4(a)(3) of Regulation 14A requires that the form of proxy “identify clearly and impartially each separate matter intended to be acted upon, whether or not related to or conditioned on the approval of other matters.” Rule 14a-4(b)(1) further requires that the form of proxy provide separate boxes for shareholders to choose between approval, disapproval or abstention “with respect to each separate matter referred to therein as intended to be acted upon.” It appears that the sale of your RenalGuard business and the merger are separate matters upon which you must give shareholders an opportunity to vote. Please revise to present the sale and merger as two separate proposals throughout your proxy statement and proxy card. Also, if the sale and merger are each conditioned on approval of the other, please disclose this prominently.

Proposal No. 1 - Approval of the Proposed Transaction, page 44

2. If the board conducted or received any material analyses regarding the value of the consideration to be paid and received in the sale of your RenalGuard business and the merger with Viveve, please tell us why you have not described those analyses.

Structure of the Proposed Transaction, page 44

3. Please expand the disclosure in the appropriate section to explain the effect on beneficial ownership, assuming you complete the private placement transaction and the merger is approved. Identify the individuals and entities who will beneficially own more than 5% of the registrant assuming you complete the transaction and the merger is approved.

Background of the Proposed Transaction, page 44

4. Please expand the references on page 45 to the negotiations to disclose in greater detail the negotiations that took place, why the structure of the transaction was changed and how the consideration to acquire Viveve and to sell your RenalGuard business were determined.
5. Please disclose the role of the “group of significant equity holders” in connection with the merger with Viveve and identify the equity holders. We note the vague references on page 46 to a “group of significant equity holders of PLC.”

Board of Directors’ Reasons for the Approval of the Proposed Transaction, page 47

6. Please revise your disclosure to include sections that discuss the material factors that the board considered in recommending that shareholders approve the sale of the RenalGuard business and to approve the merger. In this regard, we note that you refer to a “wide variety of factors,” the “following factors” and the “following negative factors” in the last paragraph on page 47, in the first paragraph on page 48 and in the last sentence on page 48, respectively.

Unaudited Pro Forma Condensed Combined Financial Statements, page 112

7. We refer to your presentation of the Pro Forma Balance Sheet and Statement of Operations for PLC and Viveve, which reflect the results of three individual transactions, the RenalGuard Spin-Off, the Viveve merger and the private placement transaction. Since the shareholders are being asked to vote on these matters and to better facilitate the understanding of these transactions, please revise your presentation such that the pro forma adjustments for each transaction appear in separate columns.

Mark R. Tauscher
PLC Systems Inc.
June 9, 2014
Page 3

8. In this regard, your pro forma footnotes should disaggregate the transactions in a reasonable fashion.

Notes to Unaudited Pro Forma Condensed Combined Information, page 115

Adjustments to Unaudited Pro Forma Combined Financial Statements, page 115

9. We note that footnote (f) reflects the incremental costs expected to be incurred for SEC compliance fees. Please revise to remove this adjustment from the condensed combined statement of operations since they are nonrecurring charges. However, please continue to disclose these items in the footnotes and clearly indicate that they were not included in the pro forma statement of operations.

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comments, please provide a written 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.

You may contact Dennis Hult at (202) 551-3618 or Lynn Dicker, Accounting Reviewer, at (202) 551-3616 if you have questions on the financial statements and related matters. Please contact Tom Jones at (202) 551-3602 with any other questions.

Sincerely,

/s/ Tom Jones for

Amanda Ravitz
Assistant Director

cc (via e-mail): Rick A. Werner, Esq.