



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

DIVISION OF  
CORPORATION FINANCE

April 11, 2014

Via E-mail

Kenneth Londoner  
Executive Chairman  
BioSig Technologies, Inc.  
12424 Wilshire Boulevard, Suite 745  
Los Angeles, CA 90025

**Re: BioSig Technologies, Inc.  
Amendment No. 4 to Registration Statement on Form S-1  
Filed March 28, 2014  
File No. 333-190080**

Dear Mr. Londoner:

We have reviewed your registration statement and have the following 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 by amending your registration statement and providing the requested information. 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 registration statement and the information you provide in response to these comments, we may have additional comments.

Fee Table

1. Please update the fee table to reflect the changes on the cover page of your prospectus.

Overview, page 1

2. Refer to the third paragraph of this section. In an appropriate section of your document, please clarify the nature of the dispute regarding the “status of [y]our technology.”

3. Please tell us where you believe your prospectus unambiguously informs investors of the development status of your proposed product, including a clear description of what you have developed to date and what material hurdles remain until you have completed development.

Technology and Development Plan, page 28

4. We note your response to prior comment 5 and your revised disclosures on pages 27-29. Please explain how a proof-of-concept study differs from the “more formal animal studies” that you reference on page 28. Also, please tell us the reasons for the delays reflected by the dates in this section compared to the dates in the second paragraph on page 27 of amendment 2 to your Form S-1; expand appropriate risk factors to clearly disclose actual delays that you have experienced.

Patents, page 30

5. Please file as an exhibit to your registration statement the assignments mentioned in this section.
6. We note your responses to prior comments 6 and 8 as well as your revised disclosures on page 30. Please revise to explain the differences between the October 2013 and December 2013 patent applications so that investors who may not be experts in your industry can understand what that each application covers. From your disclosure it should be clear why you believe the December 2013 application represents “core proprietary intellectual property”, while the October 2013 application does not. Your revised disclosure should also make clear (1) how an application related to “testing and training” differs from an application regarding “hardware and software” so that investors can understand the scope of what rights you have already been assigned and what remains to be assigned to you, and (2) what are the relevant “certain” products that you mention in the last sentence of the penultimate paragraph on page 1.

Executive Officers and Directors, page 34

7. We note your response to prior comment 9; however Regulation S-K, Item 401(e)(1) requires disclosure of principal occupations and employment during the past five years, including the name and principal business of any applicable corporations or other organizations. Therefore, it remains unclear how your disclosure satisfies the requirements of Item 401. It is also unclear how investors can adequately evaluate your disclosure about your CFO’s experience without this information. Please advise or revise.
8. Refer to your response to prior comment 2. Please tell us why you believe you need not provide disclosure regarding Dr. Drakulic pursuant to Regulation S-K Item 401(c) and to clarify your statement in the first sentence on page 38.

2013 and 2012 Summary Compensation Table, page 37

9. Please tell us how your disclosure that no salary was earned in 2013 by your former CEO is consistent with your disclosure under the heading “Employment Agreements.”
10. Please tell us why compensation information is not required for Dr. Drakulic pursuant to Regulation S-K, Item 402(m)(2)(iii). In this regard, we note the employment agreement filed as Exhibit 10.13 and the consulting arrangement you reference in response to prior comment 2. Also, with a view to disclosure pursuant to Regulation S-K, Items 101, 303 and 404, please tell us the material terms of your consulting arrangement with Dr. Drakulic.

Employment Agreements, page 37

11. Please reconcile your response to prior comment 2 with your disclosure in the first sentence on page 38.

Selling Stockholders, page 44

12. Generally, it is inconsistent with Section 5 of the Securities Act to file a registration statement to resell securities underlying convertible or exercisable securities when the related initial registered sale of those convertible or exercisable securities is not complete. From your disclosure in the first paragraph of this section, it appears that you negotiated the conversion terms of the securities after this registration statement was filed. Please provide us your analysis of how this negotiation was consistent with Section 5. Cite in your response all authority on which you rely.

Certain Relationships and Related Party Transactions, page 55

13. Please update your disclosure concerning transactions with related persons. Please also show us how the transactions disclosed in this section are reconcilable to (1) the related party transactions reflected in your financial statements and (2) developments since the date of your financial statements.

Rule 144 Shares, page 56

14. Please show us how you determined the numbers disclosed in response to prior comment 16.

Series C Preferred Stock, page 57

15. Please clarify whether an arbitration award would be considered a judgment for purposes of clause (vii) in your disclosure in this section.

Exhibits

16. The exhibits that you file pursuant to Regulation S-K Item 601(b)(10) should be complete, including all attachments. Please file the missing information from Exhibit 10.28. If you believe that you cannot file the missing information at this time due to other applicable laws, you may withdraw your registration statement and re-file when you are able to comply with the filing requirements.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Kenneth Londoner  
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April 11, 2014  
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You may contact Gary Todd at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Joseph McCann at (202) 551-6262 or me at (202) 551-3617 with any other questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso  
Branch Chief

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