



March 28, 2014

VIA EDGAR

Division of Corporation Finance
Securities and Exchange Commission
Washington, D.C. 20549
Attention: Russell Mancuso

**Re: BioSig Technologies, Inc.
Registration Statement on Form S-1, originally filed July 22, 2013
File No. 333-190080, as amended (the "Registration Statement")**

Ladies and Gentlemen:

On behalf of BioSig Technologies, Inc. (the "Company"), transmitted herewith for filing is Amendment No. 4 to Form S-1 ("Amendment No. 4"), marked to show changes from Amendment No. 3 to Registration Statement on Form S-1 of the Company (File No. 333-190080), filed with the Securities and Exchange Commission (the "Commission") on January 21, 2014 ("Amendment No. 3"). We acknowledge receipt of the letter of comment dated February 10, 2014 (the "Comment Letter") from the staff (the "Commission Staff") of the Division of Corporation Finance of the Commission regarding the Registration Statement. The following are the Company's responses to the Comment Letter. The Company's responses are numbered to correspond to the Commission Staff's comments as numbered in the Comment Letter. For your convenience, each of the Commission Staff's comments contained in the Comment Letter have been restated below in their entirety, with the Company's corresponding response set forth immediately under such comment.

Overview, page 1

- 1. Please highlight in your prospectus summary the arbitration claim by your former CEO, making clear the magnitude of the claim and the significance of the technology at issue. Please also provide us with a copy of Mr. Drachman's arbitration claim and any response you have made to the arbitrator.**

Response:

The Company has revised the disclosure on page 1 of Amendment No. 4 to include discussion of the arbitration claim by Mr. Drachman against the Company and the Company's counter-claim against Mr. Drachman. Attached supplementally as Exhibit A to this letter is a copy of Mr. Drachman's arbitration claim against the Company, and attached supplementally as Exhibit B to this letter is a copy of the Company's response and arbitration counter-claim against Mr. Drachman.

- 2. With a view to disclosure, please also explain to us, if known, why Dr. Drakulic left his positions with the company.**
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Response:

As noted in “Risk Factors – We rely on key officers, consultants and scientific and medical advisors, and their knowledge of our business and technical expertise would be difficult to replace,” Mr. Drachman terminated most of the Company’s employees and consultants, including Dr. Drakulic, in October 2013, at which time Dr. Drakulic also resigned as a member of the Company’s board of directors. When Dr. Drakulic returned to the Company in November 2013, he returned as a consultant, rather than as an officer.

Upon becoming a publicly-reporting company...., page 13

- 3. Please tell us why you revised the final sentence on page 13 to indicate that review and evaluation first would be required for fiscal year ended December 31, 2015 rather than December 31, 2014.**

Response:

The Company revised its disclosure to indicate that review and evaluation first would be required for the fiscal year ended December 31, 2015 because the Company would not be obligated to comply with the internal control over financial reporting for its first annual report after becoming a public company, which would be for the fiscal year ended December 31, 2014, but would be obligated to comply with the internal control requirements for its second annual report after becoming a public company, which would be for the fiscal year ended December 31, 2015.

Business, page 22

- 4. Please refer to prior comment 2, which references comment 17 to our letter dated August 16, 2013. In light of the disclosures that you have added to this section subsequent to the September 11, 2013 response letter, please tell us whether you have commissioned any of the data disclosed in this section or elsewhere in the prospectus.**

Response:

The Company did not commission any of the data referenced in Amendment No. 4. All information is publicly available on the internet from the American Heart Association, Heart Rhythm Society, Centers for Disease Control, and market research reports.

Technology and Development Plan, page 28

- 5. We note your revised disclosure on pages 27, 28 and 29 concerning the status of your animal study. Please balance your disclosure about your development plan on page 28 to include information regarding your previously anticipated timing, the reasons for the delay, and information regarding why your previous study that was “underway” is no longer occurring. Also, expand appropriate risk factors that address potential delays to include information regarding the actual delays you have experienced.**
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Response:

The references to the Company's existing animal study were incorrectly removed from Amendment No. 3 and replaced with language related to future animal studies due to a misunderstanding with the trial leader. The Company has reinserted its discussion of the animal study on pages 23, 27, 28 and 29 and has clarified that the animal study that is currently being conducted is a proof-of-concept study.

Patents, page 30

- 6. Your disclosure in the prior amendment indicates that you expected Dr. Drakulic to assign the patent applications to you. Accordingly, please disclose whether he assigned the October 2013 or December 2013 applications to you. Please also provide us with copies of the applications.**

Response:

The Company has updated its disclosure on page 30 of Amendment No. 4 to explain that the December 2013 patent application was assigned to the Company in March 2014. The October 2013 patent application, which is being disputed by Mr. Drachman, was not developed by Dr. Drakulic, but was developed by Mr. Drachman while he was employed by the Company and represents an application for a different application and use of the Company's proprietary technology that the Company had not originally intended to explore in the near future. The October 2013 patent application does not represent the Company's core proprietary intellectual property. Attached supplementally as Exhibit C to this letter is a copy of the October 2013 patent application, and attached supplementally as Exhibit D to this letter is a copy of the December 2013 patent application and assignment.

- 7. Based on your response to prior comment 4, it is unclear how the patent application that you are preparing will differ for your December 2013 patent application. Please advise. Also, please revise to disclose the nature and importance of the patent application that you are preparing, or explain why disclosure is not material to investors.**

Response:

The Company has revised its disclosure on page 30 of Amendment No. 4 to explain the differences in the Company's filed and future patent applications and the importance of the Company's future patent applications.

- 8. Please revise to clarify the effect of the patent applications that you disclose so that investors who may not be experts in your industry can understand their significance to your business. From your revised disclosure, it should be clear what product capabilities that you disclose in this prospectus would be lost if you were to transfer ownership of the application as you mention in the last sentence of the first paragraph of this section.**
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Response:

The Company has revised its disclosure on page 30 of Amendment No. 4 to explain the consequences of a loss of the Company's rights to the October 2013 patent application. The Company also notes that it has revised its disclosure in Amendment No. 4 concerning its trademarks to correct an misunderstanding related to the status of its trademarks.

Executive Officers and Directors, page 33

- 9. Refer to prior comment 5. Please disclose the name and principal business of any organization that employed Mr. Chaussy as a consultant during the past five years.**

Response:

The Company has revised its disclosure on page 34 of Amendment No. 4 to remove all references to specific companies for which Mr. Chaussy consulted during the past five years, so as to avoid confusion that Mr. Chaussy offered consulting services to only a small number of companies. Mr. Chaussy has offered consulting services to dozens of small publicly reporting companies during the past five years and the Company believes that disclosure of any specific company for which Mr. Chaussy consulted is immaterial and potentially confusing to investors.

Summary Compensation Table, page 36

- 10. Please disclose the material terms of the stock award reflected in the table. For example, what was the number of shares awarded?**

Response:

The Company has revised its disclosure on page 37 of Amendment No. 4 to disclose the material terms of the stock award reflected in the table.

- 11. Please provide us your analysis of why the stock options that you say on page 37 were rescinded need not be included in this table. Cite in your response all authority on which you rely.**

Response:

The Company has revised its disclosure on page 37 of Amendment No. 4 to disclose the fair market value of the options granted to Mr. Drachman that were subsequently rescinded.

2012 Equity Incentive Plan, page 38

- 12. Please reconcile your revisions in response to prior comment 6 with the information in exhibit 10.1 to this registration statement.**

Response:

The Company has filed Amendment No. 1 to the BioSig Technologies, Inc. 2012 Equity Incentive Plan as Exhibit 10.27 to Amendment No. 4.

Security Ownership, page 39

- 13. Please identify in this section the natural person or persons who exercise the sole or shared voting and/or dispositive powers with respect to the shares held in the name of the legal entities identified in the table.**

Response:

The Company has revised its disclosure on page 40 of Amendment No. 4 to disclose the natural persons who exercise the relevant sole or shares voting and dispositive powers.

Selling Stockholders, page 43

- 14. Please balance your disclosure in the first paragraph about the amount that the selling stockholders paid for the offered securities with disclosure of the liquidated damages they will receive due to the November 22, 2013 deadline that you mention on page 59.**

Response:

The Company has revised its disclosure on page 44 of Amendment No. 4 to include an explanation of the liquidated damages owed to the holders of the Company's Series C Preferred Stock as a result of certain failures by the Company under the registration rights agreement with such holders.

- 15. Please reconcile your disclosure in footnote 134 with the warrant issuances referenced in schedule 3.1(g) and 3.1(r) to exhibit 10.24.**

Response:

The Company has revised its disclosure in footnote 134 on page 54 of Amendment No. 4 to include the warrants held by Laidlaw & Company (UK) Ltd. that are not being registered in Amendment No. 4.

Rule 144, page 54

- 16. With a view toward balancing your disclosure added in response to prior comment 8, please tell us whether there are dates in the future when material portions of your securities will have satisfied the holding period requirements of Rule 144. Identify for us each such date and the number of securities that will satisfy the holding period as of that date.**

Response:

The Company has revised its disclosure on page 56 of Amendment No. 4 to describe the securities that will satisfy the holding period requirements of Rule 144 in the future.

Please direct any questions or comments concerning this response to the undersigned at (212) 659-4974.

Very truly yours,

/s/ Rick A. Werner

Rick A. Werner, Esq.

cc: Kenneth Londoner, BioSig Technologies, Inc.

EXHIBIT A
EXHIBIT B
EXHIBIT C
EXHIBIT D