



May 22, 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. 6 to Form S-1 ("Amendment No. 6"), marked to show changes from Amendment No. 5 to Registration Statement on Form S-1 of the Company (File No. 333-190080), filed with the Securities and Exchange Commission (the "Commission") on May 1, 2014 ("Amendment No. 5"). We acknowledge receipt of the letter of comment dated May 13, 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. We note your response to prior comment 2; however, it remains unclear whether your disclosure includes all required information regarding the factual basis alleged to underlie the dispute about the status of your technology. For example, does the dispute involve allegations regarding (1) the status and capabilities of a prototype or (2) the system performance during animal studies? In this regard, please tell us your basis for concluding that the proof of concept unit "performed well" as disclosed on pages 23 and 28; were there any negative results from this or any other testing of your potential product?**

Response:

The Company has revised the disclosure on pages 1 and 35 of Amendment No. 6 to indicate that Mr. Drachman's allegations related to his understanding of the results of the Company's proof of concept animal study, as compared to the statements representatives of the Company were making with respect to the performance of the Company's PURE EP System product. The Company has revised the disclosure on pages 24 and 29 of Amendment No. 6 to explain the basis for the Company's conclusion that the Company's technology "performed well," based upon the results of the Company's proof of concept animal study.

Selling Stockholders, page 45

2. As with your responses to each of our comments, we are unable to provide you any comfort regarding the accuracy of your analyses or conclusions, including those in your response to prior comment 12. Please note the acknowledgements mentioned at the end of this letter that must accompany any request to accelerate the effective date of your registration statement.

Response:

The Company acknowledges the Commission's comment. The Company notes that the acknowledgements mentioned at the end of the Comment Letter must accompany any request to accelerate the effective date of the Company's Registration Statement.

Certain Relationships and Related Party Transactions, page 56

3. Please expand your response to prior comment 13 to tell us how your disclosure in this section is reconcilable to the second, third and last paragraphs of Note 3 on page F-12.

Response:

The Company has revised its disclosure on pages 57-58 of Amendment No. 6 to include the related party transactions reflected in the second and last paragraphs of Note 3 to the Company's financial statements on page F-12. The Company notes that, with respect to the accrued interest and expenses due to related parties as of December 31, 2013 and 2012, in the amounts of \$244,808 and \$54,184, respectively, such amounts represent (i) aggregate sums of advances and loans made to the Company by related parties, which are disclosed in the "Certain Relationships and Related Party Transactions" section, (ii) amounts owed to Dr. Holzer pursuant to his consulting agreement with the Company, and (iii) unpaid compensation owed to related parties, for which such total compensation is disclosed for the Company's named executive officers in the "Executive Compensation" section. In addition, the Company notes that the sixth paragraph in the "Certain Relationships and Related Party Transactions" section discloses the issuance of warrants discussed in the third paragraph of Note 3 to the Company's financial statements on page F-12, and discusses a revised number of warrants issued to reflect the triggering of the full-ratchet anti-dilution protection provision of the warrants.

Rule 144 Shares, page 58

4. Please expand your response to prior comment 14 to tell us when you believe your affiliates can resell their securities. See the disclosure required by Regulation S-K Item 201(a)(2)(ii).

Response:

The Company has revised its disclosure on page 59 of Amendment No. 6 to disclose when it believes that its affiliates can resell their securities. In addition, the Company has revised its disclosure in the "Rule 144 Shares" section to clarify that the information provided assumes that the Company will have been subject to public company reporting requirements for at least 90 days and that the Company has complied with the public information requirements of Rule 144.

Exhibits

5. Please file the exhibits identified as “to be filed by amendment.”

Response:

The Company has filed Exhibits 5.1 and 23.3 (which is included in Exhibit 5.1) to Amendment No. 6.

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.