



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-3030

January 19, 2011

Adam S. Jackson
Chief Financial Officer
Non-Invasive Monitoring Systems, Inc.
4400 Biscayne Blvd., Suite 180,
Miami, Florida 33137

**Re: Non-Invasive Monitoring Systems, Inc.
Form 10-K for the Fiscal Year Ended July 31, 2010
Filed October 29, 2010
Amendment No. 1 to Form 10-K for the Fiscal Year Ended July 31, 2010
Form 10-Q for the Fiscal Quarter Ended October 31, 2010
File No. 000-13176**

Dear Mr. Jackson:

We have reviewed your filings 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 within ten business days 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, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended July 31, 2010

Cautionary Statement . . . , page 3

1. Given your disclosure on page 18 that your common stock is a “penny stock,” the safe harbor to which you refer appears to be inapplicable. In future filings, please do not invoke inapplicable safe harbors. See Exchange Act Section 21E(b)(1)(C).

Item 1. Business., page 5

B. Reimbursement Levels, page 10

2. Please tell us, and revise future filings to clarify, whether procedures performed with your devices are reimbursed by third-party payors. Also disclose any related risks, including, if applicable, whether the unavailability of reimbursement may make healthcare providers less willing to purchase your product.

Index to Exhibits, page 46

3. Please file as an exhibit the August 1, 2005 stock purchase agreement mentioned on page 12 of the amended Form 10-K you filed on November 29, 2010.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 21

4. We note the disclosure herein and throughout the filing that you have terminated your product and supply agreement with Sing Lin and you currently have no agreement with any third party to manufacture and supply your products. Management’s Discussion and Analysis should provide a thorough analysis of the actual, known or expected impact of material events and trends on your financial statements. We note that the cancellation of the agreement with your only supplier appears to be an event that would affect your future liquidity and results of operations. Accordingly, please tell us and revise future filings to disclose the actual and/or expected impact of the cancellation of your product and supply agreement on your operating results, capital resources and liquidity.

Financial Statements, page 25

Note 9 . Related Party Transactions, page 37

5. We see the disclosure that you have entered into a board-approved cost sharing arrangement with other related party entities. We note that the historical income statements of a registrant should reflect all of its costs of doing business. Accordingly, please describe for us in greater detail the method used to allocate costs amongst the

related businesses. Additionally, please revise future filings to explain the allocation method utilized in the notes to the financial statements.

Note 10. Commitments, page 38

6. Please revise your future filings to disclose your accounting policy for loss contingencies. Also, confirm your accounting policy for loss contingencies complies with FASB ASC Topic 450-20-25-2. Finally, include all disclosure required by FASB ASC Topic 450-20-50 in your future filings.

Amendment No. 1 to Form 10-K for the Fiscal Year Ended July 31, 2010

Item 10. Directors, Executive Officers . . . , page 4

7. You disclose that your directors are elected annually, but it appears you have filed only one proxy or information statement since June 2002. Please tell us how your directors are elected annually such that you were required to file only one proxy or information statement since that time. Include in your response specific citations to any authority on which you rely.

Item 11. Executive Compensation., page 7

Summary Compensation Table, page 7

8. Please revise future filings to include a narrative description of the material terms of each option grant. Refer to Regulation S-K Item 402(o)(4).

Item 12. Security Ownership of Certain Beneficial Owners . . . , page 9

Equity Compensation Plan Information, page 11

9. Please tell us, and revise future filings to describe briefly, in narrative form, the material features of each equity compensation plan that was adopted without shareholder approval. Refer to Regulation S-K Item 201(d)(3).

Item 13. Certain Relationships and Related Transactions . . . , page 11

10. Please tell us and revise future filings to clarify the material terms of the cost sharing arrangement, mentioned in the third paragraph. Please also file, or tell us why you did not file, your cost sharing arrangement as an exhibit. Refer to Regulation S-K Item 404(d).
11. Please tell us, and revise future filings to clarify, whether each of your directors is independent. Refer to Regulation S-K Item 407(a).

Form 10-Q for the Fiscal Quarter Ended October 31, 2010

Cover Page

12. We note your disclosure on the cover page of common stock, par value \$0.001 per share, outstanding as of December 10, 2010. We also note your disclosure on the cover page of your Form 10-K of common stock, par value \$0.01 per share, outstanding as of October 15, 2010. Please revise future filings to reconcile the disclosure of the par value of your common stock. Also tell us which exhibit you have filed that includes the current par value of your common stock.

Item 4. Controls and Procedures, page 19

13. We note your disclosure that your Chief Executive and Chief Financial Officer believe your disclosure controls and procedures are effective "to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms." The language that is currently included after the word effective in your disclosure appears to be superfluous, since the meaning of disclosure controls and procedures is established by Rule 13a-15(e) of the Exchange Act. In future filings, please remove the language consistent with the disclosure presented in your Form 10-K for the fiscal year ended July 31, 2010, or revise the disclosure so that the language that appears after the word effective is substantially similar in all material respects to the language that appears in the entire two-sentence definition of "disclosure controls and procedures" set forth in Rule 13a-15(e).

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.

Adam S. Jackson
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You may contact Kevin Kuhar, Staff Accountant, at (202) 551-3662 or Jay Webb, Accounting Reviewer, at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please contact Aslynn Hogue at (202) 551-3841 or Geoff Kruczek at (202) 551-3641 if you have questions on other comments. In this regard, do not hesitate to contact me at (202) 551-3212 with any other questions.

Sincerely,

Jeff Jaramillo
Accounting Branch Chief