



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

September 23, 2016

William Rosellini
Chief Executive Officer
Nexeon MedSystems Inc.
1708 Jaggie Fox Way
Lexington, Kentucky 40511

**Re: Nexeon MedSystems Inc.
Amendment No. 2 to Registration Statement on Form 10
Filed September 9, 2016
File No. 000-55655**

Dear Mr. Rosellini:

We have reviewed your filing 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response and any amendment you may file in response to these comments, we may have further comments.

Liquidity and Capital Resources, page 23

1. We note your response to prior comment 1. Please revise your disclosure to clarify whether the \$3 million you will seek to raise during the next twelve months is in addition to your recent private placement.

Certain Relationships and Related Transactions, page 35

2. We note your response to prior comment 6. Please tell us the nature and extent of the involvement of the independent appraiser mentioned on page 37 and management's reliance on the work of the independent appraiser.
3. Please disclose the relationship, if applicable, between Sheneka Rains and you.

Pro Forma Statement of Operations, page F-26

4. We have considered your response to comment 8. Please revise the filing to also include a pro forma income statement for the year ended December 31, 2015 along with the six months ended June 30, 2016 in the filing given the guidance at Rule 8-05(b)(1) of Regulation S-X. The footnotes to your pro forma income statements should disclose the useful lives of any amortizable assets that you acquired and include any necessary pro forma adjustments to record amortization expense related to all amortizable assets, including identifiable intangibles.

June 30, 2016 Financial Statements of Nexeon MedSystems Inc., a Nevada corporation

Notes to Financial Statements

Note 4 – Acquisition, page F-35

5. We have considered your response to comment 10. We understand you have determined the fair value of the stock issued for the acquisition based on the value used to determine the amount of shares issued to convert the carrying value of the NXDE stockholder notes and accrued interest. Please further explain to us why you believe that this exchange and the private placements of units at \$1.00 per unit in the second quarter of 2016 which was subsequent to your acquisition of NXDE, were appropriate benchmarks to use to establish the fair value of the consideration transferred to acquire NXDE. Refer to the guidance at ASC 805-30-30-7.
6. We further understand that NXNV is a privately held development stage company at the acquisition date with substantial doubt as to its ability to continue as a going concern. Therefore, the fair value of the NXNV shares issued and net assets acquired should be established using appropriate valuation techniques outlined at ASC 820-10-35-24. As such, please tell us which of the valuation techniques you consider appropriate in your situation and revise the filing as necessary to reflect a value for the NXDE transaction that complies with the valuation techniques outlined in the referenced authoritative U.S. GAAP. Specifically tell us your consideration of the applicability of the cost approach valuation technique as outlined at ASC 820-10-55 paragraphs 3D and 3E.
7. With respect to your response to comment 10, tell us if you currently have or when you expect to have the third-party fair value appraisal of the NXDE acquired assets and liabilities that you referenced in your response to our prior comment.

Note 8 – Related Party Transactions, page F-42

8. We have considered your response to comment 11. As previously requested, please revise the filing to further disclose in this footnote and cross reference to Note 7 the

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January 2, 2016 issuance of 13,200,000 shares to Rosellini Scientific, LLC. Revise the note to disclose when the company and Mr. Rosellini became related parties as well as Rosellini Scientific, LLC's relationship with your Chief Executive Officer, William Rosellini. Finally, disclose the basis for the valuation of the shares issued.

You may contact Gary Newberry at (202) 551-3761 or Jay Webb, Senior Accountant, at (202) 551-3603 if you have questions on the financial statements and related matters. Please contact Tom Jones at (202) 551-3602 or Tim Buchmiller, Senior Attorney, at (202) 551-3635 with any other questions.

Sincerely,

/s/ Tim Buchmiller for

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery