



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

December 5, 2016

Via E-mail

Francois Michelon
Chief Executive Officer
ENDRA Life Sciences Inc.
3600 Green Court, Suite 350
Ann Arbor, MI 48105

**Re: ENDRA Life Sciences Inc.
Registration Statement on Form S-1
Filed November 21, 2016
File No. 333-214724**

Dear Mr. Michelon:

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. Unless we note otherwise, our references to prior comments are to comments in our October 7, 2016 letter.

General

1. We note your response to prior comment 1 and your disclosure on page 3 implying that you will not require clinical data to obtain your CE mark. It appears, however, that you will need such data to support FDA clearances and that you intend to obtain such data for clinical reasons. In light of this disclosure, please tell us how you can support the functional claims you have included in the bullets on page 2 and include your data supporting those claims. Further, clarify that any such claims are not supported by data that you have gathered in pursuit of obtaining regulatory approvals or subject to regulatory oversight and guidance.

Executive Officers, Directors and Corporate Governance, page 62

David Wells – Chief Financial Officer (Interim), page 63

2. We note your revised disclosure in response to our prior comment number 4. Please tell us what consideration you have given to added risk factor disclosure about Mr. Well's availability to act as your CFO, in light of his current roles as CEO of another company and CFO of 2 other public companies. Please also provide us your analysis as to how you have satisfied your disclosure requirement under Item 404 of Regulation S-K with respect to the amounts paid to Mr. Wells. In this regard, we note your disclosure in footnote 4 to the table on page 66 and in second paragraph on page F-15.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Michael Fay at (202) 551-3812 or Brian Cascio, Accounting Branch Chief, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Laurie Abbott at (202) 551-8071 or me at (202) 551-3528 with any other questions.

Sincerely,

/s/ Amanda Ravitz

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: Mark R. Busch
K&L Gates LLP