



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4631

Mail Stop 4631

March 30, 2016

Via E-Mail

Dr. Philip L. Rose
Chief Executive Officer
XG Sciences, Inc.
3101 Grand Oak Drive
Lansing, MI 48911

**Re: XG Sciences, Inc.
Pre-effective Amendment 2 to Registration Statement on Form S-1
Filed March 22, 2016
File No. 333-209131**

Dear Dr. Rose:

We reviewed the filing and have the following comments.

1. In several of our comments below we identify examples of disclosures that are inconsistent in specific sections or pages of your prospectus. Please consider whether there are other examples of these or other inconsistent disclosures in your prospectus, and reconcile or update them as you respond to our comments.

The Offering, page 5

2. Please clarify whether the 836,544 of shares of common stock you show as outstanding before the offering includes shares that you assume will be issued to holders of Series B Units upon their 2 for 1 conversion. Disclosure in footnote (1) in this section and in the risk factor entitled "We may, in the future, issue additional shares of common stock . . ." on page 13 appears to be inconsistent this regard. In your amendment, please also disclose the number of Series B Units you have outstanding and the number of shares of common stock that would be issuable if all units were converted.

We would be adversely affected by our exposure to customer concentration risk, page 8; Manufacturing Capacity and Concentration of Business, page 52; Note 15, Customer Concentration, page F-27

3. Refer to comment 2 in our March 10, 2016 letter. Please revise these sections as necessary to clarify whether your largest customer in 2014 accounted for 69% or

37% of revenue in 2014, and whether you also had another customer in 2014 that accounted for 28% of revenue.

Certain stockholders who are also officers and directors of the Company may have significant control..., page 11; POSCO, page 53; Shareholder Agreement, page 63

4. Please clarify whether POSCO currently maintains a seat on your board of directors. Disclosures on pages 11 and 63 suggest that it does not, while disclosure on page 53 states that it does. If so, please identify the board member who was appointed by POSCO.

We may, in the future, issue additional shares of common stock..., page 13; Holders of Equity, page 22

5. Please reconcile the number of shares of Series A preferred stock issuable upon exercise of warrants, as well as the number of shares into which the Series A preferred are convertible and the number of shares of Series A preferred you are authorized to issue. Disclosures in these sections are inconsistent.

Holders of Equity, page 22

6. Please clarify, if true, that the 269,987 shares of Series B Preferred Stock you have outstanding are part of the Series B Units that are outstanding. Also if true, please clarify that the Series B Preferred Stock and warrants will be canceled upon exercise of the Series B Exchange Rights held by holders of the Series B Units. Please also disclose why you expect that most, if not all, of the holders of Series B Units will exercise the Series B Exchange Rights, as you have indicated on page 22. If this relates to your intention with regard to seeking a public listing, please ensure that your disclosure in the second paragraph under “Market for Common Equity” on page 22 is consistent with your intent.
7. Please clarify, if true, that shares of Series B Preferred stock will only be able to be converted as you describe in the third and fourth paragraphs in this section if holders of the Series B Units of which they are a part do not exercise their Series B Exchange Rights.
8. In the third and fourth paragraphs of this section you describe the conversion mechanism for Series A Preferred Stock and Series B Preferred Stock, first at the holder’s option prior to a public listing, and then upon automatic conversion in connection with a public listing. It is not clear from this disclosure whether or how the conversion ratio would be different depending upon whether the conversion takes place at the option of the holder or automatically upon listing. Please revise to clarify the similarity or difference in the number of common shares that would be issuable in these scenarios.

Securities that May be Sold under Rule 144, page 23

9. Please disclose the number of shares of common stock that the Series A Preferred and Series B Preferred are convertible into, and the number of shares of common stock that could be sold under Rule 144. In this section you only state the number of shares of common stock issued and outstanding at December 31, 2015 and the number of shares of each series of preferred stock that are outstanding, rather than the number of shares of common stock they are convertible into. It is also unclear what impact the conversion of the Series B Units into common stock has on the information you have provided here. Lastly, it appears that you have combined the numbers of shares of common and preferred stock together when you disclose the number of shares held by affiliates and non-affiliates that could be resold under Rule 144. Please disclose the number of shares of common stock that could be resold under Rule 144. Please see Item 201(a)(2) of Regulation S-K.

Management, page 60; Dave Pendell, page 62

10. Please clarify whether David Pendell is a full board member or only has observer rights to all meetings of your board of directors, as disclosures in these sections are inconsistent.

Closing

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 Act and all applicable Securities 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.

Notwithstanding our comments, if you request acceleration of the effective date of the pending registration statement, please provide a written statement from the company acknowledging that:

- Should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- The action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- The company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act and the Securities Exchange Act as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Tracie Towner Mariner, Staff Accountant, at (202) 551-3744 or Terence S. O'Brien, Accounting Branch Chief, at (202) 551-3355 if you have questions about comments on the financial statements and related matters. You may contact Edward M. Kelly, Special Counsel, at (202) 551-3728 or me at (202) 551-3765 if you have any other questions.

Very truly yours,

/s/ Pamela A. Long

Pamela A. Long
Assistant Director
Office of Manufacturing and Construction

Via E-mail

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