

October 9, 2007

Mail Stop 6010

William P. Moffitt III
President and Chief Executive Officer
Nanosphere, Inc.
4088 Commercial Avenue
Northbrook, Illinois 60062

**Re: Nanosphere, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed September 27, 2007
File No. 333-145356**

Dear Mr. Moffitt:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Prospectus

Capitalization, page 24

1. Please refer to prior comment 9. We note that you revised the disclosure to “separate” the cash and cash equivalents from the presentation of capitalization. Cash and cash equivalents are not capital, and therefore they should be excluded from the capitalization table. Please revise.

Dilution, page 25

2. We note your revised disclosure in the last paragraph on page 26. We also note that you added disclosure regarding the existence of outstanding warrants. Please revise the last paragraph on page 26 to disclose how the numbers, amounts and

percentages would change, assuming all outstanding warrants *and* options are exercised.

Limitation of Liability and Indemnification, page 62

3. Please file as exhibits the indemnification agreements you intend to enter into with your officers and directors.

Annual Cash Incentive Compensation, page 66

4. We note your revised disclosure on page 67 concerning the assessment and awarding of cash bonuses. Please explain whether your compensation committee adopted Mr. Moffitt's recommendations for executive officer bonuses without change, or explain how they differed. Also explain whether your board adopted the compensation committee's recommendations for Mr. Moffitt's bonus without change, or explain how it differed.

Post-2006 Actions, page 72

5. We note your revised disclosure in response to prior comment 38 regarding performance-based milestones applicable to 2007 stock option grants. Please expand to disclose with specificity all targets related to the four milestones referenced in your disclosure. Please provide such disclosure or, alternatively, tell us why you believe that the disclosure of such information would result in competitive harm such that the information could be excluded under Instruction 4 to Item 402(b). To the extent that it is appropriate to omit specific targets, expand your disclosure to discuss how difficult it would be for the executive, or how likely it will be for the registrant, to achieve the target levels or other factors. Please see Instruction 4 to Item 402(b). Please note that we may have further comments after we receive your response.

Balance Sheets, page F-3

6. Please refer to prior comment 50. We may have further comments after reviewing the pro forma information you intend to present regarding the effect of the conversion.

Equity Incentive Plan, page F-11

7. Please refer to prior comment 54. Please tell us the date when the current range was first discussed with your underwriters. Further bridge this date with management's fair value per share determination.

Note 7. License Agreements, page F-14

8. Please refer to prior comment 56. We note that a majority of your capitalized intangible assets relate to products that you received clearance from the FDA in September 2007, and other products that are still in the “development stage,” where the company has not yet sought FDA clearance. Please explain why these costs should not be expensed under SFAS 2 until regulatory approval has been obtained.
9. In this regard, revise to clarify the disclosure on page F-10, that “licenses related to FDA cleared product” with your response to comment 56, which states, “the company has not yet sought FDA clearance.”

Note 8. Convertible Preferred Stock, page F-15

10. Please revise the filing to disclose all the significant terms of the warrants. Also, revise to include how you accounted for the warrants, including the related assumptions.

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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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 addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

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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 of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact at Dennis Hult at (202) 551-3618 or Angela Crane, Accounting Branch Chief, at (202) 551-3554 if you have questions regarding comments on the financial statements and related matters. Please contact Geoffrey Kruczek at (202) 551-3641 or me at (202) 551-3800 with any other questions.

Sincerely,

Peggy Fisher
Assistant Director

cc (via fax): Esteban A. Ferrer, Esq.—Paul, Hastings, Janofsky & Walker LLP
Ann Lawrence, Esq.—Paul, Hastings, Janofsky & Walker LLP