

October 26, 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. 2 to Registration Statement on Form S-1
Filed October 17, 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.

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1. We note your disclosure here regarding your increased emphasis on performance-based cash compensation. Please expand to disclose with specificity each named executive officer's fiscal year 2007 performance targets and target bonus amount. 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). Further, qualitative goals generally need to be presented to conform to the requirements of Item 402(b)(2)(v). To the extent that it is appropriate to omit specific targets, 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 note that we may have further comments after we receive your response.

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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.

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