

Mail Stop 3030

February 10, 2009

Leo Berlinghieri  
Chief Executive Officer, President and Director  
MKS Instruments, Inc.  
2 Tech Drive, Suite 201  
Andover, Massachusetts 01810

**Re: MKS Instruments, Inc.**  
**Form 10-K for the fiscal year ended December 31, 2007**  
**Filed February 28, 2008**  
**File No. 000-23621**

Dear Mr. Berlinghieri:

We have reviewed your filings and have the following comments. Where indicated, we think you should revise your future filings 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.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comment or on any other aspects of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for fiscal year December 31, 2007

Item 11. Executive Compensation, page 68

1. We note your response to comment 4. Please expand your explanation for why you believe disclosing the historical earnings targets applicable to your Management Incentive Bonus Plan will result in competitive harm to you. For example, please clarify how disclosing product groups' earning targets for a past year would "provide competitors with insight into the product group's economic structure and profit model." Tell us why a past year's targets would necessarily be predictive of your targets and

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objectives for future years, given that your compensation committee could assign different weights to these objectives or different objectives altogether. Might there be multiple variables that affected actual performance that are unrelated to the performance targets? Also describe in more detail how disclosing the targets used in the past year would result in competitive harm.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your 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 Exchange Act of 1934 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 our review of your filing or in response to our comments on your filing.

Please contact Joseph McCann at (202) 551-6262 or me at (202) 551-3625 with any questions.

Sincerely,

Mary Beth Breslin  
Senior Attorney