

Mail Stop 3030

December 31, 2008

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
Form 10-Q for the quarterly period ended September 30, 2008
Filed November 7, 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 9A. Controls and Procedures, page 67

1. We note your disclosure that your chief executive officer and chief financial officer concluded that your “disclosure controls and procedures are effective and designed to ensure that the information required to be disclosed in [your] reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported

within the requisite time periods.” If you elect to include any qualifying language as to the effectiveness conclusion, in your future filings such language should include, at a minimum, but only if true, that your officers concluded that your disclosure controls and procedures are effective to ensure that information required to be disclosed by you in reports that you file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms *and* is accumulated and communicated to your management, including your principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. See Exchange Act Rule 13a-15(e). Alternatively, if true, your disclosure could simply indicate that your officers determined that your “disclosure controls and procedures are effective” without any further qualifications or attempts to define those disclosure controls and procedures.

Item 11. Executive Compensation, page 68

2. Your Compensation Discussion and Analysis should be sufficiently precise to identify material differences in compensation policies with respect to individual executive officers. In future filings, please explain the reasons for the differences in the amounts of compensation awarded to the named executive officers. We refer you to Release 33-8732A, Section II.B.1. For example, we note the disparity between your chief executive officer’s compensation and that of the other named executive officers. In future filings, please provide a more detailed discussion of how and why your chief executive officer’s compensation differs from that of the other named executive officers. See Item 402(b)(2)(vii) of Regulation S-K.
3. We note your disclosures on pages 11, 13 and 14 of your proxy statement regarding benchmarking elements of compensation against comparable companies. Please expand your disclosure to address how you target each element of compensation against comparator companies. Please specify how each element of compensation relates to the data you have analyzed from the comparator companies. Also include a discussion of where you target each element of compensation against the peer companies and whether actual payments fell within the targeted parameters for each named executive officer. To the extent actual compensation was outside a targeted percentile range, please explain why. Finally, please identify the companies in any peer groups you used for compensation purposes.
4. We note your disclosure under “Short-term Incentives” on page 12 of your proxy statement that actual awards made under the Management Incentive Bonus Plan are based on corporate pro-forma pre-tax earning goals and annual earnings goals for particular product groups. You have not quantified, however, the targets that were necessary to be achieved in order for your named executive officers to earn their compensation under the Management Incentive Plan. As applicable, please provide

such disclosure in your future filings. To the extent you believe that disclosure of the targets, on a historical basis, would result in competitive harm such that the targets could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide us with a detailed explanation supporting your conclusion. Refer also to Question 118.04 of the Regulation S-K Compliance and Disclosure Interpretations available on our website at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>. If it is appropriate to omit specific targets or performance objectives based on a competitive harm analysis, please provide the appropriate disclosure pursuant to Instruction 4 to Item 402(b) of Regulation S-K. If discussing how difficult or likely it will be to achieve the targeted financial measures or other factors, you should provide as much detail as necessary without disclosing information that poses a reasonable risk of competitive harm and provide sufficient discussion and analysis as to the level of increased performance the established financial measures are intended to incentivize.

Item 13. Certain Relationships and Related Transactions.... page 69

5. Please tell us, and in future filings disclose, the standards applied by your Audit Committee for reviewing and approving related party transactions. Refer to Item 404(b)(1) of Regulation S-K.
6. We note your disclosure on page 7 of your proxy statement regarding the independence of Mr. Anderson due to his relationship with Yield Dynamics. Please provide us with your basis for not disclosing your transaction(s) with Yield Dynamics in Item 13.

Form 10-Q for period ended September 30, 2008

Results of Operations, page 15

7. We note your disclosure on page 15 that product revenues decreased \$28.8 million during the three months ended September 30, 2008 mainly due to a decrease in worldwide demand. It appears from your disclosure on page 9, however, that decreased product revenues in the United States accounted for the vast majority of the \$28.8 reduction. Please advise. In your future filings, as applicable, please address whether changes in product revenues are attributable to increased or decreased sales in particular geographic regions.

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 connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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