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February 24, 2012

Martin James, Senior Assistant Chief Accountant
United States Securities & Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549-6010

RE: MKS Instruments, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed February 25, 2011
File No. 000-23621

Dear Mr. James:

This letter is submitted to you on behalf of MKS Instruments, Inc. (the "Company") in response to your letter dated January 30, 2012. We have included each of your questions below in bold and italics. Beneath each question is our corresponding answer.

Form 10-K for the Fiscal Year Ended December 31, 2010

Note 22. Geographic, Product and Significant Customer Information, page 67

1. ***Further to your response to prior comment 2, please provide us with a sample of the information reviewed by your CODM. Please also tell us the nature of the information presented to your board of directors.***

Company Response

As requested, the Company is providing supplementally by separate letter dated February 24, 2012, a binder containing a sample of the information provided to the Chief Operating Decision Maker ("CODM").¹

The information provided to the Company's Board of Directors ("BOD") includes a quarterly financial presentation to the full BOD, quarterly presentations to the Audit and Compensation Committees of the BOD, and a Monthly Update Letter to the full BOD. The full BOD presentations and the Audit Committee presentations include historical and forecasted financial information on a consolidated basis. In addition, the Audit Committee and the Compensation Committee receive non-financial information relevant to their duties. For example, the Audit Committee receives Internal Audit reports, summaries of related party transactions and internal controls assessments and the Compensation Committee receives reports of compensation consultants, information pertaining to incentive compensation plans and

¹ As indicated in our supplemental letter dated February 24, 2012 (the "Letter"), the Company is seeking Rule 83 confidential treatment with respect to the material referenced in the Letter. In the Letter, the Company requests that the materials provided be treated as confidential information and that the Securities and Exchange Commission provide timely notice to Kathleen Burke, Vice President and General Counsel, MKS Instruments, Inc., 2 Tech Drive, Suite 201, Andover, MA 01810, (Phone: 978-645-5500) before it permits any disclosure of the materials provided.

proposals for changes to benefit plans or incentive compensation plans. None of these committee presentations contain component financial information.

The content of the Company's typical quarterly BOD meeting presentations is as follows:

- a. A CEO Update Letter - A summary or recap of the current quarter's consolidated financial results (annually, a recap of the full year results), an update of the current business situation including consolidated bookings and key served market trends, an update on key hires or changes in the organization, a legal/patent update, significant sales wins or activities, an update on acquisitions/investments activity and a summary of the Top Issues of the CEO. All of the Company financial information presented is on a consolidated basis. The market data presented is for the entire served market; for example the full semiconductor equipment market or the full solar equipment market covering all of the Company's products.
- b. Overview of Open Session - presented by the CEO, this presentation includes:
 - i. Global top customers for the quarter.
 - ii. Recent industry analysts' estimates for the semiconductor industry and the Company's other major served markets which include the solar, LED, other thin film manufacturing, medical and general and industrial markets.
- c. Operations Update - presented by the COO, this presentation includes:
 - i. Bookings data on a consolidated basis and for each of the Company's major served markets, major customers and geography.
 - ii. Purchase price variance data by manufacturing group.
- d. Financial Results Review - presented by the CFO, this presentation includes:
 - i. Current quarter and full year financial results
 1. A comparison of the current quarter consolidated income statement to Company provided guidance for the quarter and industry analysts' consensus expectations for the quarter along with a brief commentary on these results.
 2. A comparison of the current quarter consolidated income statement to the Company's next quarter guidance and current analysts' consensus expectations for next quarter along with a brief commentary on the guidance.
 3. Consolidated condensed balance sheet for the current quarter end compared to the prior quarter end along with a brief commentary of the highlights.
 4. Consolidated worldwide headcount report for the last 8 quarters by significant category of headcount (e.g. manufacturing, research and development, selling and marketing and general and administrative).
 5. Graphs presenting total consolidated bookings, revenue and headcount on a worldwide basis for the last three years.
 6. Consolidated income statement for each quarter of the year (actual and forecast).

7. Consolidated breakdown of revenue by each of the Company's major served markets.
 8. Consolidated full year income statement compared to the approved BOD plan.
 9. Consolidated full year income statement compared to the prior year.
 10. An analysis of consolidated operating expenses (research and development and selling, general and administrative costs) compared to the approved BOD plan.
 11. Consolidated statement of cash flow.
- ii. Forecasted results including consolidated forecasted income statement, consolidated forecasted statement of cash flows, forecasted revenue by major served market and consolidated forecasted headcount is provided in a format similar to the actual results (in items 1-11 described above).
- e. In the closed session of the BOD, the following information is presented:
- i. Legal update of significant outstanding legal matters, if any.
 - ii. Mergers and acquisition activity update, if any.
 - iii. Ad-hoc presentations on an as needed basis regarding matters for board consideration, if any (for example, dividend declarations and share repurchase program approvals).

In addition, at the February annual BOD meeting, Senior Vice Presidents responsible for product research and development attend and present to the BOD information on the products for which they have responsibility for product research and development efforts. This information includes general information describing the technical aspects of the products and their function, information on the market share and the total addressable market of the products and historical and forecasted partial Income Statements for the group of products.

These Product Group Partial Income Statements include intercompany sales to international subsidiaries, which reflect intercompany transfer pricing (tax-based) and not end market pricing. These Product Group Partial Income Statements do not include sales to end customers through the Company's foreign sales subsidiaries. In 2011, international net sales represented approximately 52% of the Company's total net sales. Furthermore, this information does not include all costs incurred to operate these Product Groups, including international warranty costs, international service costs, in some cases final assembly and test costs, and, exclude most corporate expenses, variable management compensation, stock based compensation, certain information technology project costs and certain other expenses. These Partial Product Group Income Statements are not sufficient for the CODM or the BOD to make resource decisions because they only represent a portion of the financial results of the group of products.

Monthly BOD Update Letter

A letter is provided to the BOD each month, between quarterly BOD meetings. The content of the Monthly BOD update letter includes an abbreviated consolidated income statement including actual and forecasted bookings, sales, gross margin percentages, operating expenses and earnings per share for the quarter. This information is compared to the Company provided guidance for the quarter. In addition, other relevant information about consolidated balance sheet and cash flows are provided

including, accounts receivable days sales outstanding, inventory turns and certain cash flow information such as net cash generated and dividends paid or shares repurchased, if any. A global organizational update which includes information on critical new hires and worldwide headcount is provided. Finally, an update on current analysts' opinions about the Company's expected results, analysts' opinions on the semiconductor market and an update on key customer financial results is provided.

2. ***Please tell us how the company applied ASC 280-10-50-1 in determining the operating segments since it appears that you may have discrete financial information available for the product groups which are regularly reviewed by your CODM. It is not clear from your response how you considered this information in your analysis. Further, the company's response that you believe that based on the nature of the business, the commonality of products and the significant reliance on a few key customers in the semiconductor market, that you have only one operating segment appears to suggest that the determination of the operating segment may not have been based on the criteria in ASC 280-10-50-1 and may have considered some of the aggregation criteria of ASC 280-10-50-11.***

Company Response

The Company notes that the guidance in ASC 280-10-50-1 states the following:

An operating segment is a component of a public entity that has all of the following characteristics:

- a. *It engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same public entity).*
- b. *Its operating results are regularly reviewed by the public entity's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance.*
- c. *Its discrete financial information is available.*

The Company considered this guidance in its segment analysis as follows:

- a. The Company does have components of its business; both Product Groups and foreign sales subsidiaries where it earns revenues and incurs certain expenses. Product research and development activities are organized into "Product Groups," which are managed by individual vice presidents. Each Product Group sells to both external customers and to the Company's international sales subsidiaries. The international sales subsidiaries are responsible for local country sales, service, warranty and in some cases final testing and assembly of the products. Each of the Company's foreign sales subsidiaries sells products from each of the Company's product lines.

Approximately half of the revenues earned by the Company's Product Groups in 2011 were to other components of the business (international sales subsidiaries).

- b. The CODM does not use the component financial information to make resource decisions. The CODM uses consolidated financial information to make resource allocation decisions because of the concentration of its customer base and markets, the inherent volatility in the semiconductor industry and the similar nature of the Company's products.

The consolidated results are significantly impacted by the Company's reliance on a limited customer base within the semiconductor industry. The semiconductor industry is highly cyclical with large fluctuations within any fiscal year or quarterly period. For example, net sales to this market were \$532 million, \$515 million, \$357 million, \$203 million and \$544 million in calendar years, 2006, 2007, 2008, 2009 and 2010, respectively. Quarterly volatility is significantly more pronounced. This volatility affects all Product Groups and therefore, the CODM function must rely on overall consolidated results to assess Company resource allocations in order to ensure adequate expense and cash management goals are met.

- c. For internal management purposes, financial information is produced for each legal entity. Within the U.S. legal entity, the aforementioned Partial Product Group Income Statements which are non-GAAP limited income statements for each Product Group, are also produced on a monthly basis. However, as indicated above, these Partial Product Group Income Statements do not include sales to end customers through the Company's foreign sales subsidiaries and certain expenses and these Partial Product Group Income Statements are not sufficient for the CODM to make resource decisions because they only represent a portion of the Product Group's results.

Following the guidance in ASC 280-10-50-40 the Company has provided in Note 22, on page 67, the net sales amounts for each group of similar products. The Company has combined similar products into reported groups of products (Instruments and Control Systems, Power and Reactive Gas Products and Vacuum and Other Products) based upon similarity of the product function, type of product and manufacturing processes. In many cases, the Company has integrated research and development and product offerings across these product lines.

As indicated above, the CODM management function determines resource allocations across the Company using consolidated financial information because of the concentration of its customer base and markets, the inherent volatility in the semiconductor industry and the similar economic nature of the Company's products. In order to effectively manage the business and make resource allocation decisions, the financial information must be viewed on a consolidated basis supplemented with consolidated customer and geography bookings and sales information.

The Company's conclusion that it operates in only one operating segment was based upon the Guidance in ASC 280-10-50-1 for the reasons described above in a through c. The Company did not rely upon the guidance in ASC 280-10-50-11 to aggregate components or operating segments.

* * *

As per your request, the Company hereby acknowledges the following:

- the Company is responsible for the adequacy and accuracy of the disclosures in the filing;
- Staff comments or changes to disclosures 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 comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please do not hesitate to contact me at (978) 645-5578 or Kathleen F. Burke, Vice President and General Counsel at (978) 645-5574 should you have any further questions or comments.

Sincerely,

/s/ Seth H. Bagshaw

Seth H. Bagshaw
Vice President, Chief Financial Officer & Treasurer