

**SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

SCHEDULE TO

**Amendment No. 2
(Rule 14d-100)**

**TENDER OFFER STATEMENT UNDER SECTION 14(d)(1) OR 13(e)(1)
OF THE SECURITIES EXCHANGE ACT OF 1934**

MKS Instruments, Inc.

(Name of Subject Company (Issuer) and Filing Person (Issuer))

Options to Purchase Common Stock, no par value

(Title of Class of Securities)

55306N104

(CUSIP Number of Common Stock Underlying Class of Securities)

**Leo Berlinghieri
President and Chief Executive Officer
MKS Instruments, Inc.
2 Tech Drive, Suite 201, Andover, Massachusetts 01810
(978) 645-5500**

(Name, Address and Telephone Numbers of Person
Authorized to Receive Notices and Communications on Behalf of Filing Persons)

Copy to:
**Mark G. Borden, Esq.
Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street, Boston, Massachusetts 02109
(617) 526-6000**

CALCULATION OF FILING FEE

Transaction Valuation*	Amount of Filing Fee**
\$4,197,423	\$234.22**

* Calculated solely for purposes of determining the filing fee. This amount assumes that options to purchase 1,454,947 shares of common stock of MKS Instruments, Inc. having an aggregate value of \$4,197,423 as of July 31, 2009 will be exchanged or cancelled pursuant to this exchange offer. The actual transaction value will be based upon the number of options tendered, if any. The aggregate value of such securities was calculated based on the Black-Scholes option pricing model.

** The amount of the filing fee, calculated in accordance with the Securities Exchange Act of 1934, as amended, equals \$55.80 for each \$1,000,000 of the value of this transaction. The Transaction Value set forth above was calculated for the sole purpose of determining the Amount of Filing Fee and should not be used for any other purpose.

Check the box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: \$234.22 Filing Party: MKS Instruments, Inc.
Form or Registration No.: 005-58011 Date Filed: August 3, 2009

Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- third party tender offer subject to Rule 14d-1.
- issuer tender offer subject to Rule 13e-4.
- going-private transaction subject to Rule 13e-3.
- amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer:

*If applicable, check the appropriate box(es) below to designate the appropriate rule provision(s) relied upon:

- Rule 13e-4(i) (Cross-Border Issuer Tender Offer)
- Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)



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[Ex-\(a\)\(1\)\(A\) Offer to Exchange Certain Outstanding Options for Restricted Stock Units, dated August 3, 2009](#)

EXPLANATORY NOTE

This Amendment No. 2 amends and supplements the Tender Offer Statement on Schedule TO originally filed with the Securities and Exchange Commission (the “SEC”) on August 3, 2009, as previously amended (the “Schedule TO”), by MKS Instruments, Inc. (the “Company”), wherein the Company offered to exchange certain outstanding eligible option grants for restricted stock units, on the terms and subject to the conditions described in the Offer to Exchange Certain Stock Options for Restricted Stock Units dated August 3, 2009.

This Amendment No. 2 is made to restate Item 10 (Financial Statements) and Item 12 (Exhibits) in their entirety and to amend and restate Exhibit (a)(1) (A) to the Schedule TO. The information in the Schedule TO, including all schedules and annexes to the Schedule TO, that were previously filed with the Schedule TO on August 3, 2009 and August 11, 2009, is incorporated herein by reference to answer the items required in this Schedule TO, except that such information is hereby amended, restated and supplemented to the extent specifically provided in this Amendment No. 2. Except as specifically set forth herein, this Amendment No. 2 does not modify any of the information previously reported on the Schedule TO.

Item 10. Financial Statements.

(a) *Financial Information.*

The information set forth in Schedule B to the Offer to Exchange and under Section 10 (“Information Concerning MKS; Financial Information”) and Section 17 (“Additional Information”) is incorporated herein by reference. The Company’s Annual Report on Form 10-K for the year ended December 31, 2008, as filed with SEC on February 27, 2009, and its Quarterly Reports on Form 10-Q for the quarters ended March 31, 2009, as filed with the SEC on May 7, 2009, and June 30, 2009, as filed with the SEC on August 7, 2009, are incorporated by reference herein and can be accessed electronically on the SEC’s website at <http://www.sec.gov>.

(b) *Pro Forma Information.*

Not applicable.

Item 12. Exhibits.

<u>Exhibit</u>	<u>Description</u>
(a)(1)(A)	Offer to Exchange Certain Outstanding Options for Restricted Stock Units, dated August 3, 2009.
(a)(1)(B)*	Form of E-Mail to Eligible Employees Regarding the Exchange Offer.
(a)(1)(C)*	Form of Election Form.
(a)(1)(D)*	Form of Withdrawal Form.
(a)(1)(E)*	Form of Confirmation E-Mail/Memo to Employees who Elect to Participate in or Withdraw from the Exchange Program by Fax or E-Mail.

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<u>Exhibit</u>	<u>Description</u>
(a)(1)(F)*	Form of Reminder E-Mail to Eligible Employees.
(a)(1)(G)*	Screen Shots of the Exchange Offer Website.
(a)(1)(H)*	Screen Shots of Illustrative Calculator to Calculate Number of Restricted Stock Units.
(a)(1)(I)*	Form of E-Mail Regarding Actual Exchange Ratios.
(a)(1)(J)*	Form of E-Mail Regarding Conference Call on Day the Exchange Offer Expires.
(a)(1)(K)**	Script For Phone Representatives.
(a)(1)(L)	Annual Report on Form 10-K for the year ended December 31, 2008, filed on February 27, 2009, is incorporated herein by reference.
(a)(1)(M)	Quarterly Report on Form 10-Q for the quarter ended March 31, 2009, filed on May 7, 2009, is incorporated herein by reference.
(a)(1)(N)	Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, filed on August 7, 2009, is incorporated herein by reference.
(a)(1)(O)	Definitive Proxy Statement on Schedule 14A, filed on March 23, 2009, is incorporated herein by reference.
(a)(1)(P)	Amendment No. 1 to Definitive Proxy Statement on Schedule 14A, filed on April 27, 2009, is incorporated herein by reference.
(b)	Not applicable.
(d)(1)	2004 Stock Incentive Plan, as amended, is incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 6, 2009.
(d)(2)	Second Restated 1995 Stock Incentive Plan is incorporated herein by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 13, 2002.
(d)(3)	Nonstatutory Stock Option Agreement Granted Under the Second Restated 1995 Stock Incentive Plan is incorporated herein by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on August 9, 2004.
(d)(4)*	Form of Restricted Stock Unit Agreement for Offer to Exchange.
(g)	Not applicable.
(h)	Not applicable.

* Previously filed as Exhibits to the Company's Schedule TO filed on August 3, 2009.

** Previously filed as an Exhibit to the Company's Amendment No. 1 to Schedule TO filed on August 12, 2009.

SIGNATURE

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

MKS INSTRUMENTS, INC.

/s/ RONALD C. WEIGNER

Ronald C. Weigner

Vice President, Chief Financial Officer and Treasurer

Date: August 17, 2009

Index to Exhibits

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(a)(1)(N)	Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, filed on August 7, 2009, is incorporated herein by reference.
(a)(1)(O)	Definitive Proxy Statement on Schedule 14A, filed on March 23, 2009, is incorporated herein by reference.
(a)(1)(P)	Amendment No. 1 to Definitive Proxy Statement on Schedule 14A, filed on April 27, 2009, is incorporated herein by reference.
(b)	Not applicable.
(d)(1)	2004 Stock Incentive Plan, as amended, is incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 6, 2009.
(d)(2)	Second Restated 1995 Stock Incentive Plan is incorporated herein by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 13, 2002.
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<u>Exhibit</u>	<u>Description</u>
(d)(4)*	Form of Restricted Stock Unit Agreement for Offer to Exchange.
(g)	Not applicable.
(h)	Not applicable.

* Previously filed as Exhibits to the Company's Schedule TO filed on August 3, 2009.

** Previously filed as an Exhibit to the Company's Amendment No. 1 to Schedule TO filed on August 12, 2009.

MKS INSTRUMENTS, INC.
Offer to Exchange Certain Stock Options for Restricted Stock Units
This exchange offer and withdrawal rights will expire at 11:59 p.m., Eastern Time,
on August 28, 2009, unless extended.

MKS Instruments, Inc., which we refer to herein as “MKS,” “we,” “our” or “us,” by this Offer to Exchange Certain Stock Options for Restricted Stock Units, or the exchange offer, is offering to our eligible employees the opportunity to voluntarily exchange eligible options for restricted stock units, or RSUs, granted under our 2004 Stock Incentive Plan, as amended. The “expiration time” of the exchange offer is 11:59 p.m., Eastern Time, on August 28, 2009, unless extended.

You are an “eligible employee” if you are:

- an employee of MKS or one of our subsidiaries located in the United States, Germany, Japan or the United Kingdom (employees located in countries other than the United States, Germany, Japan and the United Kingdom are not eligible to participate in the exchange offer);
- employed on the date the exchange offer commences and remain employed through the date the RSUs are granted;
- eligible to participate in the 2004 Stock Incentive Plan, as amended; and
- not an executive officer or a member of our board of directors.

“Eligible options” are stock options held by eligible employees that were granted under our Second Restated 1995 Stock Incentive Plan and have a per share exercise price greater than \$23.35, which is the highest closing price of our common stock on the NASDAQ Global Select Market, or Nasdaq, in the 52-week period preceding the commencement date of the exchange offer.

For purposes of the exchange offer, the term “option” generally refers to an option to purchase one share of our common stock, and the term “option grant” refers to each grant of one or more options. You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. Eligible options properly tendered in this exchange offer and accepted by us for exchange will be cancelled and the RSUs granted immediately upon the expiration time.

If you are an eligible employee and choose to participate in the exchange offer and surrender eligible options for exchange, and if we accept your surrendered eligible options, you will receive RSUs with the following terms:

- you will receive RSUs for a lesser number of shares of common stock than the cancelled eligible options that you tender. The number of RSUs will be determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs are approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted. The number of RSUs to be granted in exchange for each eligible option will be that number of RSUs (rounded down to the nearest whole) that would be derived by dividing the fair value of such eligible option grant (determined using the Black-

Scholes option valuation model) by the closing sale price of our common stock on the day the exchange offer expires. The Black-Scholes option valuation model used to value eligible option grants will take into account (i) the closing price of our common stock on Nasdaq on the day the exchange offer expires, (ii) the exercise price of the option grant, (iii) the expected volatility of our common stock over the projected life of the option grant, (iv) the estimated expected life of the option grant, (v) the risk-free interest rate over the projected life of the option grant and (vi) the expected dividends on our common stock. Because the Black-Scholes valuation model takes into account certain assumptions on the day the exchange offer expires, including the closing price of our common stock, the Black-Scholes value of the tendered eligible options, the exact exchange ratios and number of RSUs to be granted will not be known until shortly after 4:00 p.m., Eastern Time, on the day the exchange offer expires. Set forth below is a table identifying hypothetical exchange ratios that would be used in the exchange offer assuming various closing prices of our common stock on the day the exchange offer expires. After 4:00 p.m., Eastern Time, on the day the exchange offer expires, we will distribute by e-mail (or other method) to all eligible employees the exact ratios to be used in the exchange offer. The exchange ratios separately apply to each eligible option grant based upon the exercise price and grant date of such option grants. This means that if you hold various eligible options grants, each may be subject to different exchange ratios;

- the RSUs will be granted under our 2004 Stock Incentive Plan, as amended; and
- the RSUs will have a vesting period of one year. (See Section 9, "Source and Amount of Consideration; Terms of Restricted Stock Units.") Vesting of the RSUs will be conditioned upon your continued service with us, subject to limited exceptions for retirement, death or disability. This means that you will generally be required to remain employed with MKS for one year after the RSU grant date in order to be vested in the RSUs.

We will grant the RSUs immediately upon the expiration time, which we expect to be 11:59 p.m., Eastern Time, on August 28, 2009. If the expiration time is extended, the RSU grant date will be similarly extended.

Due to the Black-Scholes valuation model we are using, some eligible options will have exchange ratios that are so high that the number of RSUs that would be granted for any outstanding option grant would be zero. We strongly encourage you to:

- **use the calculator on the exchange offer website, described below, to determine the number of RSUs that would be granted to you in exchange for each of your eligible option grants based upon the hypothetical exchange ratios; and**
- **when we provide you with the final exchange ratios, review and reconsider the number of RSUs that would be granted to you based up any election that you previously submitted.**

We will not accept tendered eligible options that would result in zero RSUs being granted.

Table of Hypothetical Exchange Ratios Based on Various Assumed Closing Prices of Our Common Stock on August 28, 2009

In the following table, we have assumed that the closing price of our common stock on Nasdaq on the day the exchange offer expires will be \$17.00, which is equal to the trailing average closing price of our common stock for the 10-trading day period prior to July 24, 2009, rounded to the nearest dollar. We have also included additional closing prices that represent both 10% (\$18.70), 20% (\$20.40) and 30% (\$22.10) increases and 10% (\$15.30), 20% (\$13.60) and 30% (\$11.90) decreases to such assumed closing price. The valuation model underlying the table below assumes a volatility spread of up to 52%.

Grant Date of Options	Exercise Price of Options	Exchange Ratio(1)						
		Assumed Closing Price of \$11.90	Assumed Closing Price of \$13.60	Assumed Closing Price of \$15.30	Assumed Closing Price of \$17.00	Assumed Closing Price of \$18.70	Assumed Closing Price of \$20.40	Assumed Closing Price of \$22.10
1/4/2000	\$32.00	*	*	*	6136.4 to 1	1554.7 to 1	511.6 to 1	206.6 to 1
4/24/2000	\$41.88	*	*	*	*	*	901.4 to 1	429.2 to 1
5/1/2000	\$50.81	*	*	*	*	*	*	2489.9 to 1
5/5/2000	\$48.62	*	*	*	*	*	3323.1 to 1	1458.7 to 1
5/30/2000	\$41.50	*	*	*	2588.4 to 1	1038 to 1	481.7 to 1	251.1 to 1
6/30/2000	\$39.13	*	*	*	900 to 1	409.5 to 1	211.5 to 1	120.8 to 1
7/21/2000	\$32.25	2847.9 to 1	877.3 to 1	344.6 to 1	161.9 to 1	87.1 to 1	52.1 to 1	33.9 to 1
9/6/2000	\$29.50	702.6 to 1	266.5 to 1	123.7 to 1	66.7 to 1	40.2 to 1	26.4 to 1	18.6 to 1
9/25/2000	\$29.25	538.3 to 1	214.2 to 1	103.3 to 1	57.3 to 1	35.4 to 1	23.8 to 1	17 to 1
4/27/2001	\$24.62	54.2 to 1	31.3 to 1	20.2 to 1	14.2 to 1	10.6 to 1	8.4 to 1	6.8 to 1
5/30/2001	\$25.86	59.4 to 1	34.3 to 1	22.2 to 1	15.6 to 1	11.6 to 1	9.1 to 1	7.4 to 1
7/30/2001	\$26.50	53.2 to 1	31.7 to 1	21 to 1	15 to 1	11.3 to 1	9 to 1	7.4 to 1
8/13/2001	\$26.77	52.9 to 1	31.7 to 1	21 to 1	15.1 to 1	11.4 to 1	9.1 to 1	7.4 to 1
11/14/2001	\$24.50	29.4 to 1	19.1 to 1	13.5 to 1	10.2 to 1	8.1 to 1	6.6 to 1	5.6 to 1
1/30/2002	\$23.50	21.8 to 1	14.8 to 1	10.8 to 1	8.4 to 1	6.8 to 1	5.7 to 1	4.9 to 1
1/31/2002	\$24.03	23.3 to 1	15.7 to 1	11.4 to 1	8.9 to 1	7.2 to 1	6 to 1	5.1 to 1
2/1/2002	\$23.85	22.7 to 1	15.4 to 1	11.2 to 1	8.7 to 1	7 to 1	5.9 to 1	5.1 to 1
2/11/2002	\$25.90	28.9 to 1	19.1 to 1	13.7 to 1	10.5 to 1	8.3 to 1	6.9 to 1	5.9 to 1
3/5/2002	\$30.02	45.1 to 1	28.8 to 1	20 to 1	14.9 to 1	11.6 to 1	9.4 to 1	7.8 to 1
3/25/2002	\$32.00	53.7 to 1	33.9 to 1	23.4 to 1	17.2 to 1	13.3 to 1	10.7 to 1	8.8 to 1
6/3/2002	\$27.87	28.8 to 1	19.4 to 1	14.1 to 1	10.9 to 1	8.8 to 1	7.3 to 1	6.2 to 1
11/11/2003	\$27.11	12.6 to 1	9.7 to 1	7.8 to 1	6.5 to 1	5.6 to 1	4.9 to 1	4.4 to 1
12/3/2003	\$26.86	12.1 to 1	9.3 to 1	7.5 to 1	6.3 to 1	5.4 to 1	4.8 to 1	4.3 to 1
1/5/2004	\$29.93	14.7 to 1	11.2 to 1	8.9 to 1	7.4 to 1	6.3 to 1	5.5 to 1	4.9 to 1
3/1/2004	\$24.35	9.2 to 1	7.3 to 1	6 to 1	5.1 to 1	4.5 to 1	4 to 1	3.6 to 1

(1) Ratio of number of eligible options surrendered to the number of RSUs to be issued in exchange therefor.

* Due to the Black-Scholes valuation model we are using, at the assumed closing price shown above, eligible options granted at this exercise price will have an exchange ratio that is so high that the number of RSUs that would be granted in exchange for any outstanding option grant would be zero. We will not accept tendered eligible options that would result in zero RSUs being granted.

The following are illustrative examples based upon the foregoing table, assuming no other changes in the Black-Scholes assumptions underlying the table above:

- assuming that the closing price of our common stock on the day the exchange offer expires is \$17.00, an eligible option to purchase 1,000 shares with a per share exercise price of \$29.25 will have an exchange ratio of 57.3:1. Therefore, this eligible option will be exchangeable for 17 RSUs, which is equal to the number of shares underlying the eligible option, or 1,000, divided by 57.3, rounded down to the nearest whole share.
- assuming that the closing price of our common stock on the day the exchange offer expires is \$20.40, an eligible option to purchase 5,000 shares with a per share exercise price of \$48.62 will have an exchange ratio of 3323.1:1. Therefore, this eligible option would be exchangeable for one RSU, which is equal to the number of shares underlying the eligible option, or 5,000, divided by 3323.1, rounded down to the nearest whole share.
- assuming that the closing price of our common stock on the day the exchange offer expires is \$20.40, an eligible option to purchase 1,000 shares with a per share exercise price of \$48.62 will have an exchange ratio of 3323.1:1. Therefore, this eligible option would be exchangeable for zero RSUs, which is equal to the number of shares underlying the eligible option, or 1,000, divided by 3323.1, rounded down to the nearest whole share. Because the number of RSUs that would be granted is zero, we will not accept this option for exchange.

The exchange ratios shown in the table above illustrate the difference between the relatively lower estimated fair values of eligible options with higher exercise prices compared to the correspondingly higher estimated fair values of eligible options with lower exercise prices. The exchange ratios are derived from the eligible option's fair value using the Black-Scholes valuation model that weighs, among other things, exercise price and remaining term to expiration. The higher the eligible option's exercise price and the lower the closing price of our common stock on the day the exchange offer expires, the higher the exchange ratio will be, resulting in fewer RSUs. Similarly, options with longer terms to expiration result in lower exchange ratios and more RSUs.

The commencement date of this exchange offer is August 3, 2009. We are making this exchange offer upon the terms and subject to the conditions described in this exchange offer document and in the related Election Form distributed with this exchange offer document and available on the exchange offer website described below. You are not required to accept this exchange offer. You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. Eligible options properly tendered in this exchange offer and accepted by us for exchange will be cancelled and the RSUs granted immediately upon the expiration time.

Our common stock is traded on Nasdaq under the symbol "MKSI." On July 31, 2009, the closing price of our common stock was \$19.37 per share. You should evaluate the risks related to our business, our common stock, and this exchange offer, and review current market quotes for our common stock, among other factors, before deciding to participate in the exchange offer.

See "Risks of Participating in the Exchange Offer" for a discussion of risks that you should consider before participating in this exchange offer.

IMPORTANT

If you would like to participate in the exchange offer, you must properly complete and submit your election to MKS through the secure exchange offer website at <https://mks.optionelection.com>, which we refer to as the "exchange offer website." We will make computer and Internet access available at our office locations to any eligible employee who does not have Internet access. We encourage you to submit your election electronically via the exchange offer website. If you are unable to do so for any reason, including technical failures of the exchange offer website such as the exchange offer website being unavailable or the exchange offer website not accepting your election, you must complete a paper election form and return it via fax at (978) 557-5124 or e-mail to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com (via PDF or similar imaged document file). To obtain a paper election form, please e-mail Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654. You can also view and print the paper election form at <https://mks.optionelection.com>.

Only responses that are complete and actually received by MKS, whether via the exchange offer website or via fax or e-mail, before 11:59 p.m., Eastern Time, on August 28, 2009 (unless we extend the exchange offer) will be accepted. Responses submitted by any other means, including hand delivery, interoffice, U.S. mail (or other post) and Federal Express (or similar delivery service) are not permitted. The delivery of all documents, including election forms and withdrawal forms, is at your risk. If you make an election or withdrawal via the exchange offer website, you will receive a website confirmation. If you make an election or withdrawal via fax or e-mail, MKS will confirm the receipt of your election or withdrawal within two business days. If you have not received a confirmation, it is your responsibility to send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654.

For purposes of the exchange offer, a "business day" means any day other than a Saturday, Sunday or a U.S. federal holiday and consists of the time period from 12:00 a.m. through 11:59 p.m., Eastern Time.

Neither the U.S. Securities and Exchange Commission, or the SEC, nor any state securities commission has approved or disapproved of these securities or passed judgment upon the accuracy or adequacy of this exchange offer. Any representation to the contrary is a criminal offense.

If you need additional copies of the exchange offer materials, including the election or withdrawal forms, you should send an e-mail to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com or call (978) 645-5654. Copies will be furnished promptly at our expense. You can also view and print materials from the exchange offer website at <https://mks.optionelection.com>. You should direct questions about the exchange offer to Marlene Maffe at marlene_maffe@mksinst.com.

You should rely only on the information contained in this exchange offer document and the materials to which we have referred you. We have not authorized anyone to provide you with different information. You should not assume that the information provided in this document is accurate as of any date other than the date indicated, or if no date is indicated otherwise, the date of this exchange offer. This exchange offer summarizes various documents and other information. These summaries are qualified in their entirety by reference to the documents and information to which they relate.

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SUMMARY TERM SHEET AND QUESTIONS AND ANSWERS

The following are answers to some of the questions that you may have about the “exchange offer” by MKS Instruments, Inc., which we refer to herein as “MKS,” “we,” “our” or “us.” By this Offer to Exchange Certain Stock Options for Restricted Stock Units, or the exchange offer, we are offering to our “eligible employees” (as described below) the opportunity to voluntarily exchange “eligible options” (as described below) for restricted stock units, or RSUs, granted under our 2004 Stock Incentive Plan, as amended. You should read carefully the entire exchange offer, the attached exhibits and the election and withdrawal forms, together with their associated instructions. This exchange offer is made subject to the terms and conditions of these materials as they may be amended from time to time hereafter. The information in this summary is not complete. Additional important information is contained in the remainder of this exchange offer and the other exchange offer materials. We have included in this summary references to other sections in the exchange offer to help you find more complete information with respect to these topics.

Q1. What is the exchange offer?

A1. The exchange offer is an opportunity for eligible employees to voluntarily exchange “eligible options” for a lesser number of RSUs. “Eligible options” are stock options held by eligible employees that were granted under our Second Restated 1995 Stock Incentive Plan and have a per share exercise price greater than \$23.35, which is the highest closing price of our common stock on the NASDAQ Global Select Market, or Nasdaq, in the 52-week period preceding the commencement date of the exchange offer.

The “expiration time” of the exchange offer is 11:59 p.m., Eastern Time, on August 28, 2009, unless extended.

You may tender for exchange any one or more of your eligible option grants or none at all. However, you must exchange all options received pursuant to each eligible option grant. If you have exercised a portion of an eligible option grant, your election will apply to the portion that remains outstanding and unexercised. For a complete listing of your options, including any eligible options you may have, please refer to your account at <http://www.netbenefits.com> (employees outside the U.S. should click on the “login to NetBenefits Worldwide” link). Your account also lists the grant date of your options, the exercise price of your options and the number of shares subject to your option grants. Please note that not all of your options may be eligible for exchange.

This is a one-time exchange offer, and we will strictly enforce the expiration time. We reserve the right to reject any eligible options tendered for exchange that we determine are not in appropriate form or are unlawful to accept. We will not accept tendered eligible options that would result in zero RSUs being granted. Subject to the terms and conditions of the exchange offer, we will accept all properly tendered options promptly after the expiration time. (See Section 4, “Procedures for Electing to Exchange Options.”)

We may extend the exchange offer. If we extend the exchange offer, we will issue an e-mail or other communication disclosing the extension no later than 6:00 a.m., Eastern Time, on the business day immediately following the previously scheduled date of expiration. For purposes of the exchange offer, a “business day” means any day other than a Saturday, Sunday or a U.S. federal holiday and consists of the time period from 12:00 a.m. through 11:59 p.m., Eastern Time.

Only responses that are complete and actually received by MKS, whether via the exchange offer website or via fax or e-mail, before 11:59 p.m., Eastern Time, on August 28, 2009 (unless we extend the exchange offer) will be accepted. Responses submitted by any other means, including hand delivery, interoffice, U.S. mail (or other post) and Federal Express (or similar delivery service) are not permitted. The delivery of all documents, including election forms and withdrawal forms, is at your risk. If you make an election or withdrawal via the exchange offer website, you will receive a website confirmation. If you make an election or withdrawal via fax or e-mail, MKS will confirm the receipt of your election or withdrawal within two business days. If you have not received a confirmation, it is your responsibility to send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654.

Q2. Who may participate in the exchange offer?

A2. You may participate in the exchange offer if you are an “eligible employee” of MKS, which means you are:

- an employee of MKS or one of our subsidiaries located in the United States, Germany, Japan or the United Kingdom;
- employed on the date the exchange offer commences and remain employed through the date the RSUs are granted;
- eligible to participate in the 2004 Stock Incentive Plan, as amended; and
- not an executive officer or a member of our board of directors. (See Section 1, “Eligibility.”)

Employees located in countries other than the United States, Germany, Japan and the United Kingdom are not eligible to participate in the exchange offer. We have excluded employees located in other jurisdictions where we believe extending the exchange offer would be inconsistent with the compensatory purposes of the exchange offer.

Q3. How many RSUs will I receive for the options that I exchange?

A3. You will receive RSUs for a lesser number of shares of common stock than the cancelled eligible options that you tender. The number of RSUs to be granted in exchange for each eligible option will be determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs are approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted. The number of RSUs to be granted in exchange for each eligible option will be the number of RSUs (rounded down to the nearest whole RSU) that would be derived by dividing the fair value of such eligible option (determined using the Black-Scholes option valuation model) by the closing sale price of our common stock on the day the exchange offer expires.

The Black-Scholes option valuation model we are using to value eligible option grants will take into account (i) the closing price of our common stock on Nasdaq on the day the exchange offer expires, (ii) the exercise price of the eligible option, (iii) the expected volatility of our common stock over the projected life of the eligible option, (iv) the estimated expected life of the eligible option, (v) the risk-free interest rate over the projected life of the eligible option and (vi) the expected dividends on our common stock. The exchange ratios separately apply to each eligible option grant. This means that if you hold various eligible options, each may be subject to a different exchange ratio.

We have provided a table in Section 2 (“Number of Restricted Stock Units; Expiration Time”) setting forth hypothetical exchange ratios that would be used in the exchange offer assuming various closing prices on the day the exchange offer expires. However, to ensure that you will have the information you need to make an informed decision based on the number of RSUs that will be granted for exchanged eligible options, after Nasdaq closes on the day the exchange offer expires, we will deliver to you (by e-mail or other method) a notification of the final exchange ratios for the eligible options. At 5:30 p.m., Eastern Time, on the day the exchange offer expires, we will host a conference call for all eligible employees both as a further means of disclosing the final exchange ratios and to answer any remaining questions that you may have. We will have designated employees available by telephone from the time at which the final exchange ratios are delivered to you until 11:59, p.m., Eastern Time, on the day the exchange offer expires to respond to any questions that you may have with respect to the exchange offer or the final exchange ratios. You will have until 11:59 p.m., Eastern Time, on the day the exchange offer expires (currently expected to be August 28, 2009) to make an election by completing and submitting an election form or change any previous election you have made by completing and submitting a withdrawal through the exchange offer website at <https://mks.optionelection.com> or, if necessary completing a paper withdrawal form, by faxing it to Marlene Maffe, the MKS stock plan administrator, at (978) 557-5124, or e-mail to Marlene Maffe at marlene_maffe@mksinst.com (via PDF or similar imaged document file).

Due to the Black-Scholes valuation model, some eligible options will have exchange ratios that are so high that the number of RSUs that would be granted for any outstanding option grant would be zero. We strongly encourage you to:

- use the calculator on the exchange offer website to determine the number of RSUs that would be granted to you in exchange for each of your eligible option grants based upon the hypothetical exchange ratios; and
- when we provide you with the final exchange ratios, review and reconsider the number of RSUs that would be granted to you based up any election that you previously submitted.

We will not accept tendered eligible options that would result in zero RSUs being granted.

Q4. Why is MKS making the exchange offer?

A4. We are making the exchange offer to restore the retention and incentive benefits of our equity awards. We believe that the exchange offer will help us to retain our valuable employees and better align the interests of our employees and shareholders to maximize shareholder value. We issued the currently existing options to attract and retain the best available personnel and to provide additional incentives to our employees. However, our stock price, like that of many other companies in our industry, has declined significantly in the past year. As a result, most of our employees hold options with exercise prices significantly higher than the current market price of our common stock. These options are commonly referred to as being “underwater.” By making the exchange offer, we intend to provide eligible employees with the opportunity to receive RSUs that have greater retention value because, unlike underwater options, such RSUs provide value to employees even if our stock price remains depressed. (See Section 3, “Purposes of the Exchange Offer.”)

Q5. How do I elect to participate?

A5. If you wish to participate in the exchange offer, you must:

- submit your election to tender eligible options through our secure exchange offer website or, if necessary, by the paper-based method, as described below;
- properly complete your election in the manner described in the prior bullet, during the period beginning on August 3, 2009 and ending at 11:59 p.m., Eastern Time, on August 28, 2009, or a later date if the exchange offer period is extended; and
- qualify as an “eligible employee” (as described in Question 2), which generally means you are employed by us continuously throughout the period described in the prior bullet.

To participate, you may log onto the exchange offer website at <https://mks.optionelection.com> and indicate your election to participate on a grant-by-grant basis. If you are unable to do so for any reason, including technical failures of the exchange offer website such as the exchange offer website being unavailable or the exchange offer website not accepting your election, you must complete a paper election form and return it via fax at (978) 557-5124 or e-mail to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com (via PDF or similar imaged document file). To obtain a paper election form, please e-mail Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654. Please follow the directions set forth in Section 4 (“Procedures for Electing to Exchange Options”) in connection with completing your election form.

We must receive your election before 11:59 p.m., Eastern Time, on August 28, 2009 (or, if we extend the exchange offer period, a later date). Elections not made via the exchange offer website nor received by MKS before 11:59 p.m., Eastern Time, on August 28, 2009, even if sent prior to the expiration time, will be disregarded. Accordingly, please allow time for delivery when sending your paper election form(s). If we do not receive your election by the expiration time, you will be deemed to have rejected the exchange offer.

YOU SHOULD REVIEW THIS DOCUMENT AND ALL OF THE RELATED ATTACHMENTS BEFORE MAKING YOUR ELECTION.

Q6. Are there circumstances under which I would not be granted RSUs?

A6. Yes. If, for any reason, you are no longer our employee when the RSUs are granted, which will be immediately upon the expiration time, you will not receive any RSUs. Instead, you will keep your current eligible options and the eligible options will vest and expire in accordance with their original terms. Except as provided by applicable law and/or any employment agreement between you and us, your employment with us will remain “at-will” regardless of your participation in the exchange offer and can be terminated by you or your employer at any time with or without cause or notice. (See Section 1, “Eligibility.”)

We will not accept tendered eligible options that would result in zero RSUs being granted. Moreover, even if we accept your eligible options, we will not grant RSUs to you if we are prohibited from doing so by applicable laws. We do not anticipate any such prohibitions at this time. In such event, your eligible options will remain in effect, in accordance with their existing terms and conditions. (See Section 13, “Legal Matters; Regulatory Approvals.”)

In addition, if you hold an option that expires after the commencement of, but before the cancellation of options under, the exchange offer, that particular option is not eligible for

exchange. Therefore, if you hold options that expire any time before the expiration time (whether or not extended), which we expect will be 11:59 p.m. on August 28, 2009, they will not be eligible for exchange and such options will continue to be governed by their original terms. (See Section 15, "Extension of the Exchange Offer; Termination; Amendment.")

In addition, due to the Black-Scholes valuation model we are using, some eligible options will have exchange ratios that are so high that the number of RSUs that would be granted for such outstanding option grant would be zero. We will not accept tendered eligible options that would result in zero RSUs being granted.

We also reserve the right, in our reasonable judgment, before the expiration time to terminate or amend the exchange offer and to postpone our acceptance and cancellation of any options elected to be exchanged if any of the events listed in Section 7 ("Conditions of the Exchange Offer") occurs, by giving oral or written notice of the termination or postponement to you or by making a public announcement of the termination. (See Section 15, "Extension of the Exchange Offer; Termination; Amendment.")

Only employees located in the United States, Germany, Japan and the United Kingdom are eligible to participate in the exchange offer. We have excluded employees located in other jurisdictions where we believe extending the exchange offer would be inconsistent with the compensatory purposes of the exchange offer.

Q7. Am I required to participate in this option exchange?

A7. No. Participation in the exchange offer is completely voluntary.

Q8. When will my RSUs vest?

A8. Each RSU represents the right to receive one share of our common stock which will become vested 12 months from the RSU grant date. Vesting of the RSUs will be conditioned upon your continued service with us, subject to limited exceptions for retirement, death or disability. This means that you will generally be required to remain employed with MKS for one year after the RSU grant date in order to be vested in the RSUs. However, if your employment with us terminates by reason of retirement, death or disability, the vesting of the RSUs will accelerate such that your RSUs will be fully vested. Additionally, if, prior to any vesting of an RSU, and within two years after the effectiveness of a Change in Control (as defined in the RSU agreement), the participant is (i) terminated by MKS without Cause (as defined in the RSU agreement) or (ii) terminates his or her employment for Good Reason (as defined in the RSU agreement), then, 100% of the participant's RSUs shall become immediately and fully vested. (See Section 9, "Source and Amount of Consideration, Terms of Restricted Stock Units.")

Q9. If I participate in the exchange offer, do I have to exchange all of my eligible options?

A9. No. You may pick and choose which of your outstanding eligible options you wish to exchange. However, if you decide to exchange any eligible options received pursuant to a particular option grant, you must exchange all of the eligible options received pursuant to such grant (i.e., you must make your election to participate on a grant-by-grant basis), except that (a) you may partially tender an option grant covered by a domestic relations order (or comparable legal document as the result of the end of a marriage) (see Question 10), and (b) you may elect to exchange all of the options received pursuant to such eligible option grant that remain unexercised at the expiration time. (See Section 2, "Number of Restricted Stock Units; Expiration Time.")

Q10. What happens if I have an eligible option that is subject to a domestic relations order or comparable legal document as the result of the end of a marriage?

A10. If you have an eligible option that is subject to a domestic relations order (or comparable legal document as the result of the end of a marriage) and a person who is not an eligible employee of MKS beneficially owns a portion of that eligible option, you may tender only the portion beneficially owned by you. Any portion beneficially owned by a person who is not our employee may not be exchanged in the exchange offer (even if legal title to that portion of the option is held by you and you are an eligible employee). (See Section 2, "Number of Restricted Stock Units; Expiration Time.")

Q11. When will I receive the RSUs?

A11. We will grant the RSUs immediately upon the expiration time, which we expect to be 11:59 p.m., Eastern Time, on August 28, 2009. If the expiration time is extended, the RSU grant date will be similarly extended. You will receive your RSU agreement as soon as practicable after the expiration time. (See Section 6, "Acceptance of Options for Exchange and Granting of Restricted Stock Units.")

Q12. When will my tendered eligible options be cancelled?

A12. Your eligible options, properly tendered and not validly withdrawn, will be cancelled immediately upon the expiration time, which will be 11:59 p.m., Eastern Time, on August 28, 2009, unless we extend the exchange offer. Once we have accepted your eligible options and they have been cancelled, you will no longer have any rights under those options. (See Section 6, "Acceptance of Options for Exchange and Granting of Restricted Stock Units.")

Q13. Once I surrender my eligible options, is there anything I must do to receive the RSUs?

A13. No. Once your eligible options have been surrendered, there is nothing that you must do to receive your RSUs. Your RSUs will be granted to you on the same day that the properly tendered and not validly withdrawn eligible options are cancelled, provided that you are still an employee on such date (see Question 6). In order to vest in the shares covered by RSUs, you will need to remain in continued service with us through the vesting date, as described in Question 8. (See Section 1, "Eligibility.")

Q14. Can I exchange MKS common stock that I acquired upon a prior exercise of MKS options?

A14. No. The exchange offer relates only to certain options to purchase shares of MKS common stock. You may not exchange shares of MKS common stock in the exchange offer. (See Section 2, "Number of Restricted Stock Units; Expiration Time.")

Q15. Will the terms and conditions of my RSUs be the same as the terms and conditions of my eligible options?

A15. No. Your RSUs will be unvested as of the RSU grant date and will have a different vesting schedule from the vesting schedule of your eligible options.

In addition, your RSUs will be granted under the terms of a RSU agreement under our 2004 Stock Incentive Plan, as amended. The applicable form of RSU agreement is filed as an exhibit to the Schedule TO with which the exchange offer has been filed and is available on the U.S. Securities

and Exchange Commission, or SEC, website at <http://www.sec.gov>. (See Section 9, "Source and Amount of Consideration; Terms of Restricted Stock Units.") You may also contact Marlene Maffe, the MKS stock plan administrator, to receive a copy of the 2004 Stock Incentive Plan, as amended, and the form of RSU agreement. We will promptly furnish to you copies of these documents upon request at our expense.

Until your RSUs vest and you are issued shares for such RSUs, you will not have any of the rights or privileges of a shareholder of MKS related to such shares. Once your RSUs vest and you have been issued the underlying shares of common stock, you will have all of the rights and privileges of a shareholder with respect to those shares, including the right to vote and to receive dividends.

Q16. What happens to my eligible options if I choose not to participate or if my options are not accepted for exchange?

A16. If you choose not to participate or your eligible options are not accepted for exchange, your existing eligible options will remain outstanding until they expire by their terms and will retain their current exercise price, current vesting schedule and all of the other terms and conditions as set forth in the relevant agreement related to such eligible options. (See Section 6, "Acceptance of Options for Exchange and Granting of Restricted Stock Units.")

Q17. How does MKS determine whether an eligible option has been properly tendered?

A17. We will determine, in our discretion, all questions about the validity, form, eligibility (including time of receipt) and acceptance of any eligible options. Our determination of these matters will be final and binding on all persons. We reserve the right to reject any election form or any eligible options tendered for exchange that we determine are not in an appropriate form or are unlawful to accept. We will accept all properly tendered eligible options that are not validly withdrawn, subject to the terms of the exchange offer; provided, however, that we will not accept tendered eligible options that would result in zero RSUs being granted. No tender of eligible options will be deemed to have been made properly until all defects or irregularities have been cured or waived by us. Neither we nor any other person is obligated to give you notice of any defects or irregularities in any electronic election or paper election form, nor will anyone incur any liability for failure to give any notice. (See Section 4, "Procedures for Electing to Exchange Options.")

Q18. Will I have to pay taxes if I participate in the exchange offer?

A18. If you participate in the exchange offer and are a U.S. taxpayer, you generally will not be required under current U.S. law to recognize income for U.S. federal income tax purposes at the time of the exchange. However, you will have taxable income when your RSUs vest in an amount equal to the fair market value of the MKS shares on the vesting date. MKS has a withholding obligation with respect to this compensation income. In order for you to be issued shares of common stock when your RSUs vest, you must make satisfactory arrangements with respect to the payment of income, employment and other taxes that MKS determines must be withheld with respect to such shares. The RSU agreement provides that MKS will automatically deduct and retain from the shares of common stock that would otherwise be issued in settlement of RSUs the appropriate number of whole shares, valued at their then fair market value, to satisfy our tax withholding obligations at the applicable minimum statutory withholding rate. You will have taxable capital gain (or loss) when you sell the shares underlying the RSUs in the amount by which the sale price for the shares exceeds (or is less than) the fair market value of the shares on the vesting date. Note that the tax treatment of RSUs is significantly different from the tax

treatment of your eligible options, and participating in the exchange offer could result in your tax liability being higher than if you had kept your eligible options or you having income in a year that you had not expected. (See “Risks of Participating in the Exchange Offer.”) Please see Section 14 (“Material Income Tax Consequences”) for a description of the general tax consequences associated with options and RSUs.

If you participate in the exchange offer and are subject to tax or social insurance contributions in Germany, Japan or the United Kingdom, please refer to Schedules C, D and E of this exchange offer for a description of the tax and social insurance consequences that may apply to you.

You should consult with your tax advisor to determine the personal tax consequences to you of participating in the exchange offer. If you are a resident of or subject to the tax laws in more than one country, you should be aware that there may be additional or different tax and social insurance consequences that may apply to you.

Q19. Are there any conditions to the exchange offer?

A19. Yes. The completion of the exchange offer is subject to a number of customary conditions that are described in Section 7 (“Conditions of the Exchange Offer”). If any of these conditions are not satisfied, we will not be obligated to accept and exchange properly tendered eligible options, though we may do so at our discretion.

Q20. If you extend the exchange offer, how will you notify me?

A20. If we extend the exchange offer, we will issue an e-mail or other form of communication disclosing the extension no later than 6:00 a.m., Eastern Time, on the next business day following the previously scheduled expiration date. (See Sections 2, “Number of Restricted Stock Units; Expiration Time” and 15, “Extension of the Exchange Offer; Termination; Amendment.”)

Q21. How will you notify me if the exchange offer is changed?

A21. If we change the exchange offer, we will issue an e-mail or other form of communication disclosing the change no later than 6:00 a.m., Eastern Time, on the next business day following the date on which we change the exchange offer. (See Sections 2, “Number of Restricted Stock Units; Expiration Time,” and 15, “Extension of the Exchange Offer; Termination; Amendment.”)

Q22. Can I change my mind and withdraw from the exchange offer?

A22. Yes. You may change your mind after you have submitted an election and withdraw some or all of your eligible options from the exchange offer at any time before the expiration time (expected to be August 28, 2009). Please note, however, that withdrawals must be made on a grant-by-grant basis. This means you cannot withdraw one option received pursuant to a particular option grant without also withdrawing all other options received pursuant to such option grant. If we extend the expiration time, you may withdraw your election at any time until the extended offer expires. You may change your mind as many times as you wish, but you will be bound by the last properly submitted election and/or withdrawal we receive before the expiration time. Although we do not expect this to occur, under SEC rules governing the exchange offer, if we have not accepted your properly tendered eligible options by 11:59 p.m., Eastern Time, on September 28, 2009, you may withdraw your eligible options at any time thereafter. (See Section 5, “Withdrawal Rights and Change of Election.”)

Q23. Can I change my mind about which eligible options I want to exchange?

A23. Yes. You may change your mind after you have submitted an election and change the eligible options you tender for exchange at any time before the expiration time. If we extend the expiration time, you may change your election at any time until the extended offer expires. You may elect to exchange additional eligible options, fewer eligible options, all of your eligible options or none of your eligible options. You may change your mind as many times as you wish, but you will be bound by the last properly submitted election we receive before the expiration time. (See Section 4, "Procedures for Electing to Exchange Options" and Section 5, "Withdrawal Rights and Change of Election.")

Q24. How do I change my election?

A24. To change your election, you must do the following before the expiration time:

- access the exchange offer website at <https://mks.optionelection.com> and complete a new electronic election form; or
- although we encourage you to submit your election electronically via the exchange offer website, if you are unable to do so for any reason, including technical failures of the exchange offer website such as the exchange offer website being unavailable or the exchange offer website not accepting your election, you must complete a paper election form and return it via fax at (978) 557-5124 or e-mail to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com (via PDF or similar imaged document file). To obtain a paper election form please e-mail Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654. You can also view and print the election form at <https://mks.optionelection.com>.

Only responses that are complete and actually received by MKS, whether via the exchange offer website or via fax or e-mail, before 11:59 p.m., Eastern Time, on August 28, 2009 (unless we extend the exchange offer) will be accepted. Responses submitted by any other means, including hand delivery, interoffice, U.S. mail (or other post) and Federal Express (or similar delivery service) are not permitted. The delivery of all documents, including election forms and withdrawal forms, is at your risk. If you make an election or withdrawal via the exchange offer website, you will receive a website confirmation. If you make an election or withdrawal via fax or e-mail, MKS will confirm the receipt of your election or withdrawal within two business days. If you have not received a confirmation, it is your responsibility to send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654. (See Section 5, "Withdrawal Rights and Change of Election.")

Q25. What if I withdraw my election and then decide again that I want to participate in the exchange offer?

A25. If you have withdrawn your election to participate and then decide again that you would like to participate in the exchange offer, you may re-elect to participate by submitting a new, properly completed electronic election form (or faxed or e-mailed form) accepting the exchange offer before the expiration time, in accordance with the procedures described in Question 5 and Section 5 ("Withdrawal Rights and Change of Election").

Q26. Are you making any recommendation as to whether I should exchange my eligible options?

A26. No. We are not making any recommendation as to whether you should accept the exchange offer. We understand that the decision whether or not to exchange your eligible options in the exchange offer will be a challenging one for many employees. The program does carry risk, and there are no guarantees that you ultimately would receive greater value from the RSUs you will receive in exchange than you would if you had retained your corresponding options. (See “Risks of Participating in the Exchange Offer” for information regarding some of these risks.) As a result, you must make your own decision as to whether or not to participate in the exchange offer. For questions regarding personal tax implications or other investment- or tax-related questions, you should talk to your legal counsel, accountant, and/or financial advisor.

Q27. Whom can I contact if I have questions about the exchange offer, or if I need additional copies of the exchange offer materials?

A27. You should direct questions about the exchange offer and requests for additional copies of exchange offer materials to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com or (978) 645-5654. (See Section 10, “Information Concerning MKS; Financial Information.”)

Q28. What will be the sequence of events should I decide to participate in this exchange offer?

Exchange Election Period	You may elect to participate in this exchange offer during this time.	From August 3, 2009 until August 28, 2009 at 11:59 p.m., Eastern Time, unless the exchange offer is extended or terminated.
Determination of Final Exchange Ratios and Number of RSUs	We will determine the exchange ratios based on the closing price of our common stock on August 28, 2009 unless we extend the exchange offer. We will notify you of the exact exchange ratios and the number of RSUs you will receive after 4:00 p.m., Eastern Time, on the day the exchange offer expires.	After 4:00 p.m., Eastern Time, on August 28, 2009, unless the exchange offer is extended or terminated.
Conference Call	We will host a conference call for all eligible employees both as a further means of disclosing the final exchange ratios and to answer any remaining questions that you may have.	5:30 p.m., Eastern Time, on August 28, 2009, unless the exchange offer is extended or terminated.
Cancellation Date and RSU Grant Date	All elections and withdrawals will be final as of 11:59 p.m., Eastern Time, on the day the exchange offer expires, and this is when exchanged options will be cancelled and RSUs will be granted.	August 28, 2009, unless the exchange offer is extended or terminated.

RISKS OF PARTICIPATING IN THE EXCHANGE OFFER

Participating in the exchange offer involves a number of risks, including those described below. This list and the risk factors in our Annual Report on Form 10-K for the year ended December 31, 2008, and in our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2009 and June 30, 2009, filed with the SEC highlight the material risks relating to MKS. You should carefully consider these risks and are encouraged to speak with an investment and/or tax advisor, as necessary, before deciding whether or not to participate in the exchange offer. In addition, we strongly urge you to read the sections in this exchange offer discussing the U.S. federal tax consequences of participating in the exchange offer, as well as the rest of this exchange offer, for a more in-depth discussion of the risks that may apply to you before deciding to participate in the exchange offer.

Economic Risks

If the price of our common stock increases after the date on which your eligible options are cancelled, your cancelled eligible options might have been worth more than the RSUs that you receive in exchange for them.

For example, using the hypothetical exchange ratios in the table in Section 2, if you exchange an eligible option grant covering 1,000 shares with an exercise price of \$29.25 per share, you would receive 17 RSUs (i.e., 1,000 divided by the exchange ratio of 57.3 applicable to the eligible option grant rounded down to the nearest whole share). Assume, for illustrative purposes only that, one year after the RSU grant date, the fair market value of our common stock had increased to \$39.25 per share. Under this example, if you had kept your exchanged eligible option, exercised it, and sold the underlying shares at \$39.25 per share, you would have realized a pre-tax income of \$10,000, but if you exchanged your eligible option and sold the RSUs for \$39.25 per share, you would only realize a pre-tax income of \$667.25.

Once you have tendered your eligible option and we have accepted it for exchange, there will be no way to return your surrendered eligible option to you even if the fair market value of our common stock on the RSU grant date exceeds the exercise price of your surrendered eligible option.

Any RSU you receive in the exchange offer will be completely unvested at the time it is granted, regardless of the extent to which the corresponding eligible option was vested upon surrender. This means that you will be vested in fewer shares under your RSU and that if your employment with us terminates during that new vesting period (other than as a result of retirement, death or disability), or if the RSU otherwise terminates under certain circumstances during the vesting period, you might have been better off if you had continued holding the eligible option rather than exchanging it for a RSU.

The RSUs will have a vesting period of one year. (See Section 9, "Source and Amount of Consideration; Terms of Restricted Stock Units.") Vesting of the RSUs will be conditioned upon your continued service with us, subject to limited exceptions for retirement, death or disability. This means that you will generally be required to remain employed with MKS for one year after the RSU grant date in order to be vested in the RSUs.

If your employment with us terminates for any reason (other than as a result of retirement, death or disability) during the vesting period of your RSU, you will forfeit your RSUs at that time.

You should carefully consider the relative benefit to you of the extent to which your eligible options have already vested, compared to the benefit of a RSU with a vesting period of one year. If our stock price increases in the future to a value above the exercise price of an eligible option you surrendered in the exchange offer, you may have been better off retaining the eligible option with its higher price and current vesting schedule rather than having tendered it for the RSU with a new vesting schedule.

The exchange offer is not a promise of continued employment for any length of time. The exchange offer does not change the “at-will” nature of your employment. Your employment may be terminated by us or by you at any time, including prior to the expiration time, the RSU grant date or the date your RSU becomes vested, for any reason, with or without cause.

If we are acquired by or merge with another company, your cancelled eligible options might have been worth more than the RSU that you receive in exchange for them.

A transaction involving us, such as a merger or other acquisition, could have a substantial effect on our stock price, including significantly increasing the price of our common stock. Depending on the structure and terms of this type of transaction, eligible employees who elect to exchange their eligible options in the exchange offer might be deprived of the benefit of the appreciation in the price of our common stock resulting from the merger or acquisition. This could result in a greater financial benefit for those eligible employees who did not participate in the exchange offer and retained their eligible options.

Tax-Related Risks

We believe that the exchange of eligible options for RSUs pursuant to the exchange offer should be treated as a non-taxable exchange and neither we nor any of our employees should recognize any income for U.S. federal income tax purposes upon the surrender of eligible options and the grant of RSUs.

If you participate in this exchange offer, you should not recognize any income or be subject to income tax withholding upon the cancellation of your eligible options and receipt of your RSUs. However, in connection with the issuance of shares on the date that your RSUs vest, you will recognize income equal to the fair market value of the shares received, and we will generally have a corresponding deduction at the time you recognize income. When shares are delivered to you under your RSUs, you must make adequate provision for any sums required to satisfy applicable federal, state, local and foreign tax withholding obligations. The RSU agreement provides that MKS will automatically deduct and retain from the shares of common stock that would otherwise be issued in settlement of RSUs the appropriate number of whole shares, valued at their then fair market value, to satisfy our tax withholding obligations at the applicable minimum statutory withholding rate. Unless the foregoing tax withholding obligations are satisfied, we have no obligation to deliver any shares to you under your RSUs. You will have taxable income when you sell the shares delivered to you under your RSUs.

Business-Related Risks

In addition to the risks discussed above, you should carefully review the risk factors contained in our Annual Report on Form 10-K for the year ended December 31, 2008, and our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2009 and June 30, 2009, as well as the information provided in this exchange offer and the other materials that we have filed with the SEC, before making a decision on whether or not to tender your eligible options. These filings and our other SEC filings may be examined, and copies may be obtained, at the SEC’s public reference room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. Our SEC filings also are available to the public on the SEC’s Internet site at <http://www.sec.gov>. Each person to whom a copy of this exchange offer is delivered may obtain a copy of any or all of the documents to which we have referred you, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into such documents, at no cost, by writing to us at MKS Instruments, Inc., 2 Tech Drive, Suite 201, Andover, MA 01810, Attention: Marlene Maffe.

THE EXCHANGE OFFER

MKS Instruments, Inc., which we refer to herein as “MKS,” “we,” “our” or “us,” by this Offer to Exchange Certain Stock Options for Restricted Stock Units, or the exchange offer, is offering to our eligible employees the opportunity to voluntarily exchange eligible options for restricted stock units, or RSUs, granted under our 2004 Stock Incentive Plan, as amended. This exchange offer and withdrawal rights will expire at the “expiration time,” which is 11:59 p.m., Eastern Time, on August 28, 2009 unless we extend the exchange offer.

Section 1. Eligibility.

You are an “eligible employee” if you are:

- an employee of MKS or one of our subsidiaries located in the United States, Germany, Japan or the United Kingdom;
- employed on the date the exchange offer commences and remain employed through the date the RSUs are granted, hereinafter referred to as the RSU grant date;
- eligible to participate in the 2004 Stock Incentive Plan, as amended; and
- not an executive officer or a member of our board of directors.

Employees located in countries other than the United States, Germany, Japan and the United Kingdom are not eligible to participate in the exchange offer. We have excluded employees located in other jurisdictions where we believe extending the exchange offer would be inconsistent with the compensatory purposes of the exchange offer.

“Eligible options” are stock options held by eligible employees that were granted under our Second Restated 1995 Stock Incentive Plan and have a per share exercise price greater than \$23.35, which is the highest closing price of our common stock on Nasdaq in the 52-week period preceding the commencement date of the exchange offer.

For purposes of the exchange offer, the term “option” generally refers to an option to purchase one share of our common stock, and the term “option grant” refers to each grant of one or more options. You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. Eligible options properly tendered in this exchange offer and accepted by us for exchange will be cancelled and the RSUs granted immediately upon the expiration time.

If you do not remain employed by MKS through the RSU grant date, you will keep your current eligible options, and they will vest and expire in accordance with their terms. If we do not extend the exchange offer, the RSU grant date will be August 28, 2009. Except as provided by applicable law and/or any employment agreement between you and MKS, your employment with MKS will remain “at-will” and can be terminated by you or MKS at any time, with or without cause or notice. In order to vest in your RSUs, you must remain in continued service with MKS through the vesting date. If your employment with us terminates for any reason (other than as a result of retirement, death or disability) during the vesting period of your RSU, you will forfeit your RSUs at that time. See Section 9 (“Source and Amount of Consideration; Terms of Restricted Stock Units”).

Nothing in this exchange offer should be construed to confer upon you the right to remain an employee of MKS or one of our subsidiaries. The terms of your employment with us remain

unchanged. We cannot guarantee or provide you with any assurance that you will not be subject to involuntary termination or that you will otherwise remain in our employ until the RSU grant date or thereafter.

Section 2. Number of Restricted Stock Units; Expiration Time.

Subject to the terms and conditions of the exchange offer, we will accept for exchange options granted with a per share exercise price greater than \$23.35, which is the highest closing price of our common stock on Nasdaq in the 52-week period preceding the commencement date of the exchange offer, that (i) are held by eligible employees, (ii) are outstanding and unexercised as of the expiration time and (iii) are properly tendered and not validly withdrawn before the expiration time; provided, however, we will not accept tendered eligible options that would result in zero RSUs being granted. In order to be eligible, options must be outstanding as of the expiration time. For example, if an option expires during the offer period, that particular option is not eligible for exchange.

For a complete listing of your options, including any eligible options you may have, please refer to your account at <http://www.netbenefits.com> (employees outside the U.S. should click on the “login to NetBenefits Worldwide” link). Your account also lists the grant date of your options, the exercise price of your options and the number of shares subject to your option grants. Please note that not all of your options may be eligible for exchange.

As noted above, for purposes of the exchange offer, the term “option” refers to an option to purchase one share of our common stock, and the term “option grant” refers to each grant of one or more options. You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. For example, assume that you have received options pursuant to three separate option grants. In the first grant, you received 1,000 options, 700 of which have been exercised and 300 of which remain outstanding. In the second grant, you received 1,000 options, none of which have been exercised, and in the third grant, you received 3,000 options, none of which have been exercised. Under this scenario, you may choose to exchange all of the eligible options received pursuant to the three grants, all of the eligible options received pursuant to any two of the three grants, all of the eligible options received pursuant to any one of the three grants, or none of the eligible options. However, you may not choose to exchange less than all of the eligible options received pursuant to any one or more of such grants (such as an election to exchange only 150 of the remaining 300 options received pursuant to the first grant).

However, the rule above will not apply to any options subject to a domestic relations order (or comparable legal document resulting in the end of marriage) to the extent that such options are beneficially owned by a person who is not an employee of MKS. Any such options may not be exchanged pursuant to the exchange offer, even if title to such options is held by an eligible employee. The options beneficially owned by the eligible employee may be tendered in the exchange offer if eligible, but only if all such options received pursuant to the same grant are tendered at the same time. For instance, if the 3,000 options received pursuant to the third grant above are subject to a domestic relations order such that your former spouse is the beneficial owner of 1,000 of such options and you are beneficial owner of 2,000 of such options, then you may elect to participate in the exchange offer and exchange all 2,000 options that you beneficially own and that were received as part of the same option grant.

Exchange Ratios.

If you are an eligible employee and choose to participate in the exchange offer and surrender eligible options for exchange, and if we accept your surrendered eligible options, you will receive RSUs with the following terms:

- you will receive RSUs for a lesser number of shares of common stock than the cancelled eligible options that you tender. The number of RSUs will be determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs is approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted. The number of RSUs to be granted in exchange for each eligible option will be that number of RSUs (rounded down to the nearest whole) that would be derived by dividing the fair value of such eligible option grant (determined using the Black-Scholes option valuation model) by the closing sale price of our common stock on the day the exchange offer expires. The Black-Scholes option valuation model used to value eligible option grants will take into account (i) the closing price of our common stock on Nasdaq on the day the exchange offer expires, (ii) the exercise price of the option grant, (iii) the expected volatility of our common stock over the projected life of the option grant, (iv) the estimated expected life of the option grant, (v) the risk-free interest rate over the projected life of the option grant and (vi) the expected dividends on our common stock. Because the Black-Scholes valuation model takes into account certain assumptions on the day the exchange offer expires, including the closing price of our common stock, the Black-Scholes value of the tendered eligible options, the exact exchange ratios and number of RSUs to be granted will not be known until shortly after 4:00 p.m., Eastern Time, on the day the exchange offer expires. Set forth below is a table identifying hypothetical exchange ratios that would be used in the exchange offer assuming various closing prices of our common stock on the day the exchange offer expires. After 4:00 p.m., Eastern Time, on the day the exchange offer expires, we will distribute by e-mail (or other method) to all eligible employees the exact ratios to be used in the exchange offer. The exchange ratios separately apply to each eligible option grant based upon the exercise price and grant date of such option grants. This means that if you hold various eligible options grants, each may be subject to different exchange ratios;
- the RSUs will be granted under our 2004 Stock Incentive Plan, as amended; and
- the RSUs will have a vesting period of one year. (See Section 9, "Source and Amount of Consideration; Terms of Restricted Stock Units.") Vesting of the RSUs will be conditioned upon your continued service with us, subject to limited exceptions for retirement, death or disability. This means that you will generally be required to remain employed with MKS for one year after the RSU grant date in order to be vested in the RSUs.

We will grant the RSUs immediately upon the expiration time, which we expect to be 11:59 p.m., Eastern Time, on August 28, 2009. If the expiration time is extended, the RSU grant date will be similarly extended.

Due to the Black-Scholes valuation model, some eligible options will have exchange ratios that are so high that the number of RSUs that would be granted for any outstanding option grant would be zero. We strongly encourage you to:

- use the calculator on the exchange offer website to determine the number of RSUs that would be granted to you in exchange for each of your eligible option grants based upon the hypothetical exchange ratios; and

- when we provide you with the final exchange ratios, review and reconsider the number of RSUs that would be granted to you based up any election that you previously submitted.

We will not accept tendered eligible options that would result in zero RSUs being granted.

Table of Hypothetical Exchange Ratios Based on Various Assumed Closing Prices of Our Common Stock on August 28, 2009

In the following table, we have assumed that the closing price of our common stock on Nasdaq on the day the exchange offer expires will be \$17.00, which is equal to the trailing average closing price of our common stock for the 10-trading day period prior to July 24, 2009, rounded to the nearest dollar. We have also included additional closing prices that represent both 10% (\$18.70), 20% (\$20.40) and 30% (\$22.10) increases and 10% (\$15.30), 20% (\$13.60) and 30% (\$11.90) decreases to such assumed closing price. The valuation model underlying the table below assumes a volatility spread of up to 52%.

Grant Date of Options	Exercise Price of Options	Exchange Ratio ⁽¹⁾						
		Assumed Closing Price of \$11.90	Assumed Closing Price of \$13.60	Assumed Closing Price of \$15.30	Assumed Closing Price of \$17.00	Assumed Closing Price of \$18.70	Assumed Closing Price of \$20.40	Assumed Closing Price of \$22.10
1/4/2000	\$32.00	*	*	*	6136.4 to 1	1554.7 to 1	511.6 to 1	206.6 to 1
4/24/2000	\$41.88	*	*	*	*	*	901.4 to 1	429.2 to 1
5/1/2000	\$50.81	*	*	*	*	*	*	2489.9 to 1
5/5/2000	\$48.62	*	*	*	*	*	3323.1 to 1	1458.7 to 1
5/30/2000	\$41.50	*	*	*	2588.4 to 1	1038 to 1	481.7 to 1	251.1 to 1
6/30/2000	\$39.13	*	*	*	900 to 1	409.5 to 1	211.5 to 1	120.8 to 1
7/21/2000	\$32.25	2847.9 to 1	877.3 to 1	344.6 to 1	161.9 to 1	87.1 to 1	52.1 to 1	33.9 to 1
9/6/2000	\$29.50	702.6 to 1	266.5 to 1	123.7 to 1	66.7 to 1	40.2 to 1	26.4 to 1	18.6 to 1
9/25/2000	\$29.25	538.3 to 1	214.2 to 1	103.3 to 1	57.3 to 1	35.4 to 1	23.8 to 1	17 to 1
4/27/2001	\$24.62	54.2 to 1	31.3 to 1	20.2 to 1	14.2 to 1	10.6 to 1	8.4 to 1	6.8 to 1
5/30/2001	\$25.86	59.4 to 1	34.3 to 1	22.2 to 1	15.6 to 1	11.6 to 1	9.1 to 1	7.4 to 1
7/30/2001	\$26.50	53.2 to 1	31.7 to 1	21 to 1	15 to 1	11.3 to 1	9 to 1	7.4 to 1
8/13/2001	\$26.77	52.9 to 1	31.7 to 1	21 to 1	15.1 to 1	11.4 to 1	9.1 to 1	7.4 to 1
11/14/2001	\$24.50	29.4 to 1	19.1 to 1	13.5 to 1	10.2 to 1	8.1 to 1	6.6 to 1	5.6 to 1
1/30/2002	\$23.50	21.8 to 1	14.8 to 1	10.8 to 1	8.4 to 1	6.8 to 1	5.7 to 1	4.9 to 1
1/31/2002	\$24.03	23.3 to 1	15.7 to 1	11.4 to 1	8.9 to 1	7.2 to 1	6 to 1	5.1 to 1
2/1/2002	\$23.85	22.7 to 1	15.4 to 1	11.2 to 1	8.7 to 1	7 to 1	5.9 to 1	5.1 to 1
2/11/2002	\$25.90	28.9 to 1	19.1 to 1	13.7 to 1	10.5 to 1	8.3 to 1	6.9 to 1	5.9 to 1
3/5/2002	\$30.02	45.1 to 1	28.8 to 1	20 to 1	14.9 to 1	11.6 to 1	9.4 to 1	7.8 to 1
3/25/2002	\$32.00	53.7 to 1	33.9 to 1	23.4 to 1	17.2 to 1	13.3 to 1	10.7 to 1	8.8 to 1
6/3/2002	\$27.87	28.8 to 1	19.4 to 1	14.1 to 1	10.9 to 1	8.8 to 1	7.3 to 1	6.2 to 1
11/11/2003	\$27.11	12.6 to 1	9.7 to 1	7.8 to 1	6.5 to 1	5.6 to 1	4.9 to 1	4.4 to 1
12/3/2003	\$26.86	12.1 to 1	9.3 to 1	7.5 to 1	6.3 to 1	5.4 to 1	4.8 to 1	4.3 to 1
1/5/2004	\$29.93	14.7 to 1	11.2 to 1	8.9 to 1	7.4 to 1	6.3 to 1	5.5 to 1	4.9 to 1
3/1/2004	\$24.35	9.2 to 1	7.3 to 1	6 to 1	5.1 to 1	4.5 to 1	4 to 1	3.6 to 1

(1) Ratio of number of eligible options surrendered to the number of RSUs to be issued in exchange therefor.

* Due to the Black-Scholes valuation model we are using, at the assumed closing price shown above, eligible options granted at this exercise price will have an exchange ratio that is so high that the number of RSUs that

would be granted in exchange for any outstanding option grant would be zero. We will not accept tendered eligible options that would result in zero RSUs being granted.

The following are illustrative examples based upon the foregoing table, assuming no other changes in the Black-Scholes assumptions underlying the table above:

- assuming that the closing price of our common stock on the day the exchange offer expires is \$17.00, an eligible option to purchase 1,000 shares with a per share exercise price of \$29.25 will have an exchange ratio of 57.3:1. Therefore, this eligible option will be exchangeable for 17 RSUs, which is equal to the number of shares underlying the eligible option, or 1,000, divided by 57.3, rounded down to the nearest whole share.
- assuming that the closing price of our common stock on the day the exchange offer expires is \$20.40, an eligible option to purchase 5,000 shares with a per share exercise price of \$48.62 will have an exchange ratio of 3323.1:1. Therefore, this eligible option would be exchangeable for one RSU, which is equal to the number of shares underlying the eligible option, or 5,000, divided by 3323.1, rounded down to the nearest whole share.
- assuming that the closing price of our common stock on the day the exchange offer expires is \$20.40, an eligible option to purchase 1,000 shares with a per share exercise price of \$48.62 will have an exchange ratio of 3323.1:1. Therefore, this eligible option would be exchangeable for zero RSUs, which is equal to the number of shares underlying the eligible option, or 1,000, divided by 3323.1, rounded to the nearest whole share. Because the number of RSUs that would be granted is zero, we will not accept this option for exchange.

The exchange ratios shown in the table above illustrate the difference between the relatively lower estimated fair values of eligible options with higher exercise prices compared to the correspondingly higher estimated fair values of eligible options with lower exercise prices. The exchange ratios are derived from the eligible option's fair value using the Black-Scholes valuation model that weighs, among other things, exercise price and remaining term to expiration. The higher the eligible option's exercise price and the lower the closing price of our common stock on the day the exchange offer expires, the higher the exchange ratio will be, resulting in fewer RSUs. Similarly, options with longer terms to expiration result in lower exchange ratios and more RSUs.

The commencement date of this exchange offer is August 3, 2009. We are making this exchange offer upon the terms and subject to the conditions described in this exchange offer document and in the related Election Form distributed with this exchange offer document and available on the exchange offer website. You are not required to accept this exchange offer. You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. Eligible options properly tendered in this exchange offer and accepted by us for exchange will be cancelled and the RSUs granted as of the day the exchange offer expires of this exchange offer.

Our common stock is traded on Nasdaq under the symbol "MKSI." On July 31, 2009, the closing price of our common stock was \$19.37 per share. You should evaluate the risks related to our business, our common stock, and this exchange offer, and review current market quotes for our common stock, among other factors, before deciding to participate in the exchange offer. All RSUs will be subject to the terms of a RSU agreement between you and MKS under our 2004 Stock Incentive Plan, as amended. See Section 9 ("Source and Amount of Consideration; Terms of Restricted Stock Units").

The expiration time of the exchange offer will be 11:59 p.m., Eastern Time, on August 28, 2009, unless we extend the exchange offer. We may, in our discretion, extend the exchange offer, in which event the expiration time will refer to the latest time and date at which the extended offer expires. See Section 15 (“Extension of the Exchange Offer; Termination; Amendment”) for a description of our rights to extend, terminate and amend the exchange offer.

Section 3. Purposes of the Exchange Offer.

Many of our employees now hold stock options with exercise prices significantly higher than the current market price of our common stock. For example, on July 31, 2009, the closing price of our common stock on Nasdaq was \$19.37 per share. On that date, holders of eligible options held an aggregate of 2,060,133 options, over 70% of which were “underwater,” meaning that the exercise price of the outstanding stock option was higher than the market price for our common stock. On July 31, 2009, the weighted average exercise price of our eligible options was \$26.79. Although we continue to believe that equity awards are an important component of our employees’ total compensation, many of our employees view their existing options as having little or no value due to the difference between the exercise prices and the current market price of our common stock. As a result, for many employees, these options are ineffective at providing the incentive and retentive values that our board of directors believes are necessary to motivate our employees and to increase long-term shareholder value. We believe that the exchange offer provides the following benefits:

- the exchange offer will provide renewed incentives and motivation for the eligible employees to contribute to achieving future stock price growth. By realigning the value of previously granted stock options with the current value of our common stock, based on the exchange ratios described in Section 2 (“Number of Restricted Stock Units; Expiration Time”), we believe that the RSUs will become an important tool to help motivate the eligible employees to continue to create shareholder value;
- the exchange offer is designed to benefit our shareholders by providing renewed retention value due to the extended vesting terms of the RSUs. All of the eligible options will be fully vested at the expiration time. The RSUs will have a new 12-month vesting period, thus providing an incentive for eligible employees to continue their employment;
- the exchange offer will also enable us to recapture value from compensation costs that we already are incurring with respect to outstanding equity awards that currently have very little motivational impact. By replacing options that have little or no retentive or incentive value with a lesser number of RSUs, we will increase the retentive and incentive value of equity awards for which we have already incurred costs. In addition, replacing these options will not create additional compensation expense; and
- outstanding underwater options expose our shareholders to potential dilution and may place downward pressure on our stock price even if they are underwater and not likely to be exercised. This potential dilution and downward pressure caused by outstanding stock options is referred to as overhang. We estimate a reduction in our overhang of outstanding stock options of approximately 1,288,027 shares as a result of granting a lesser number of RSUs in exchange for the eligible options, assuming (a) full participation in the exchange offer, (b) an assumed closing price of our common stock of \$17.00 per share and (c) exchange ratios that have been calculated in accordance with the Black-Scholes option valuation model described in Section 2. The actual reduction in our total overhang that could result from the

exchange offer could vary significantly and is dependent upon a number of factors, including the actual level of participation in the exchange offer.

MKS continually evaluates and explores strategic opportunities as they arise, including business combination transactions, strategic partnerships, capital infusions and the purchase or sale of assets. At any given time, we may be engaged in discussions or negotiations with respect to various corporate transactions. We also grant stock options and other stock awards, including restricted stock units and restricted stock grants, in the ordinary course of business to our current and new employees, including our executive officers. Our employees, including our executive officers, from time to time acquire or dispose of our securities. Additionally, in the ordinary course of business, MKS makes changes in the composition and structure of its board of directors and/or management. Subject to the foregoing, and except as otherwise disclosed in the exchange offer materials or in our filings with the SEC, we presently have no plans or proposals that relate to or would result in:

- any extraordinary transaction, such as a material merger, reorganization or liquidation, involving MKS or any of its subsidiaries;
- any purchase, sale or transfer of a material amount of our assets or the assets of any of our subsidiaries;
- any material change in our present dividend rate or policy, or our indebtedness or capitalization;
- any change in our present board of directors or management, including, but not limited to, any plans or proposals to change the number or term of directors or to fill any existing board vacancies or to change any material term of the employment contract of any executive officer;
- any other material change in our corporate structure or business;
- our common stock being delisted from Nasdaq or not being authorized for quotation in an automated quotation system operated by a national securities association;
- our common stock becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Securities Exchange Act of 1934, as amended, or the Exchange Act;
- the suspension of our obligation to file reports pursuant to Section 15(d) of the Exchange Act;
- the acquisition by any person of additional of our securities or the disposition of our securities; or
- any changes in our certificate of incorporation or bylaws, or any actions that may impede the acquisition of control of us by any person.

Neither we nor our board of directors makes any recommendation as to whether you should accept the exchange offer, nor have we authorized any person to make any such recommendation. You should evaluate carefully all of the information in this exchange offer and consult your investment and tax advisors. You must make your own decision about whether to participate in the exchange offer.

Section 4. Procedures for Electing to Exchange Options.

Proper Election to Exchange Options.

Participation in the exchange offer is voluntary. If you are an eligible employee and you wish to surrender any of your eligible options for exchange in the exchange offer, you must notify MKS of your election before the exchange offer expires at 11:59 p.m., Eastern Time, on August 28, 2009 (or such later date as may apply if the exchange offer is extended). If we extend the exchange offer beyond that time, you may surrender your eligible options for exchange at any time until the extended expiration time.

You will be permitted to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you elect to exchange an eligible option grant, you must exchange the entire outstanding (i.e., unexercised) portion of that eligible option grant. If you elect to surrender one eligible option grant in the exchange offer, you do not need to surrender any other eligible option grants you may hold. If you attempt to exchange a portion but not all of an outstanding eligible option grant, your election form will be rejected.

You must notify MKS of your election to exchange such eligible options before the exchange offer expires. You may notify MKS of your election in one of the following two ways:

- by making an election online at the exchange offer website, which is available at <https://mks.optionelection.com>. Your online election must be submitted before the expiration deadline of 11:59 p.m., Eastern Time, on August 28, 2009 (or such later date as may apply if the exchange offer is extended); or
- by completing and returning the paper election form included in the materials provided to you with this exchange offer document and delivering it to MKS according to the instructions contained in the materials so that MKS receives it before the expiration deadline of 11:59 p.m., Eastern Time, on August 28, 2009 (or such later date as may apply if the exchange offer is extended).

You must allow for delivery time based on the method of submission that you choose to ensure that MKS receives your election form by the deadline.

We encourage you to submit your election electronically via the exchange offer website. Only responses that are complete and actually received by MKS (whether via the exchange offer website or via fax or e-mail) by the expiration time will be accepted. Responses submitted by any other means, including hand delivery, interoffice, U.S. mail (or other post) and Federal Express (or similar delivery service) are not permitted. The delivery of all documents, including election forms and withdrawal forms, is at your risk. If you make an election or withdrawal via the exchange offer website, you will receive a website confirmation. If you make an election or withdrawal via fax or e-mail, MKS will confirm the receipt of your election or withdrawal within two business days. If you have not received a confirmation, it is your responsibility to send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654.

You must complete the election process in the foregoing manner before 11:59 p.m., Eastern Time, on August 28, 2009. If we extend the exchange offer beyond that date, you must complete the process before the extended expiration time.

You may change your mind about which of your eligible options you wish to have exchanged. If you wish to add additional eligible options to your election, you must complete and submit a new election

form before the expiration time by following the procedures described above. This new election form must be properly completed and dated after your prior election form and must list all eligible options you wish to exchange. Any prior election form will be disregarded. If, instead, you wish to withdraw some or all of the eligible options you selected for exchange, you may do so at any time before the expiration time by following the procedures described in Section 5 (“Withdrawal Rights and Change of Election”).

Your election to participate becomes irrevocable after 11:59 p.m., Eastern Time, on August 28, 2009, unless we extend the exchange offer, in which case your election will become irrevocable after 11:59 p.m., Eastern Time, on the new expiration date. The exception to this rule is that if we have not accepted your properly tendered options by 11:59 p.m., Eastern Time, on September 28, 2009, you may withdraw your options at any time thereafter. You may change your mind after you have submitted an election form and withdraw from the exchange offer at any time before the expiration time, as described in Section 5 (“Withdrawal Rights and Change of Election”). You may change your mind as many times as you wish, but you will be bound by the last properly submitted election form we receive before the expiration time.

This is a one-time offer, and we are required to and will strictly enforce the expiration time. Elections after the expiration time will not be honored under any circumstances. We reserve the right to reject any eligible options tendered for exchange that we determine are not in appropriate form or are unlawful to accept. We will not accept tendered eligible options that would result in zero RSUs being granted. Subject to the terms and conditions of the exchange offer, we will accept all properly tendered options promptly after the expiration time.

We may extend the exchange offer. If we extend the exchange offer, we will issue an e-mail or other communication disclosing the extension no later than 6:00 a.m., Eastern Time, on the business day immediately following the previously scheduled expiration time.

Our receipt of your Election Form is not by itself an acceptance of your options for exchange. For purposes of the exchange offer, we will be deemed to have accepted eligible options for exchange that are properly tendered and not validly withdrawn as of the time when we give oral or written notice of our acceptance of options for exchange. We may issue this notice of acceptance by e-mail or other form of communication. Eligible options accepted for exchange will be cancelled immediately upon expiration time which we presently expect will be 11:59 p.m., Eastern Time, on August 28, 2009.

Determination of Validity; Rejection of Options Tendered For Exchange; Waiver of Defects; No Obligation To Give Notice Of Defects.

We will determine, in our discretion, all questions about the validity, form, eligibility (including time of receipt) and acceptance of any eligible options. Our determination of these matters will be final and binding on all persons. We reserve the right to reject any election form or any options tendered for exchange that we determine are not in appropriate form or are unlawful to accept. We will not accept tendered eligible options that would result in zero RSUs being granted. We will accept all properly tendered options that are not validly withdrawn. We also reserve the right to waive any of the conditions of the exchange offer or any defect or irregularity in any tender of any particular options or for any particular option holder, provided that if we grant any such waiver, it will be granted with respect to all option holders and tendered options. No tender of options will be deemed to have been properly made until all defects or irregularities have been cured by the tendering option holder or waived by us. Neither we nor any other person is obligated to give you notice of any defects or irregularities in any electronic election or paper election form, nor will anyone incur any liability for failure to give any notice.

Your election to exchange options through the procedures described above constitutes your acceptance of the terms and conditions of the exchange offer. **Our acceptance of your eligible options for exchange will constitute a binding agreement between MKS and you upon the terms and subject to the conditions of the exchange offer.**

Section 5. Withdrawal Rights and Change of Election.

You may change your election with respect to your eligible options only in accordance with the provisions of this section at any time before the expiration time, which is expected to be 11:59 p.m., Eastern Time, on August 28, 2009. If we extend the exchange offer, you may withdraw your tendered options at any time until the extended expiration time.

You will be permitted to withdraw your election to exchange your eligible stock options for RSUs on a grant-by-grant basis. No partial exchanges of a stock option grant will be permitted. If you withdraw an eligible option grant, you must withdraw the entire outstanding (i.e., unexercised) portion of that eligible option grant.

In addition, although we intend to accept all properly tendered options promptly upon the expiration time, if we have not accepted your options by 11:59 p.m., Eastern Time, on September 28, 2009, you may withdraw your tendered options at any time thereafter.

We encourage you to submit your withdrawals or election changes electronically via the exchange offer website. If you are unable to do so for any reason, including technical failures of the exchange offer website such as the exchange offer website being unavailable or the exchange offer website not accepting your election, you must complete a paper election form and return it via fax at (978) 557-5124 or e-mail to Marlene Maffe, the MKS stock plan administrator, at marlene_maffe@mksinst.com (via PDF or similar imaged document file), before 11:59 p.m., Eastern Time, on August 28, 2009, unless we extend the exchange offer. To obtain a paper election form please send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654. You can also view and print the election form from the exchange offer website at <https://mks.optionelection.com>.

If you submit an election form declining the exchange offer and you later decide that you would like to exchange your eligible options for RSUs, you may elect to participate at any time by submitting a new properly completed electronic election form (or paper election form) accepting the exchange offer before the expiration time, by following the procedures described in Section 4 ("Procedures for Electing to Exchange Options").

Neither we nor any other person is obligated to give you notice of any defects or irregularities in any electronic election or paper election form, nor will anyone incur any liability for failure to give any notice. We will determine, in our discretion, all questions about the validity, form, eligibility (including time of receipt) and acceptance of any eligible options. Our determination of these matters will be final and binding on all persons.

You may change your mind as many times as you wish, but you will be bound by the last properly submitted election and/or withdrawal form we receive before the expiration time. Any eligible option grants that you do not withdraw will be bound pursuant to your prior election form.

Only responses that are complete and actually received by MKS (whether via the exchange offer website or via fax or e-mail) by the expiration time will be accepted. Responses submitted by any other means, including hand delivery, interoffice, U.S. mail (or other post) and Federal Express (or similar delivery service) are not permitted. The delivery of all documents, including election

forms and withdrawal forms, is at your risk. If you make a withdrawal via the exchange offer website, you will receive a website confirmation. If you make a withdrawal via fax or e-mail, MKS will confirm the receipt of your withdrawal within two business days. If you have not received a confirmation, it is your responsibility to send an e-mail to Marlene Maffe at marlene_maffe@mksinst.com or call (978) 645-5654.

Section 6. Acceptance of Options for Exchange and Granting of Restricted Stock Units.

Upon the terms and conditions of the exchange offer and promptly following the expiration time, we will accept for exchange and cancel all eligible options properly tendered for exchange and not validly withdrawn before the expiration time; provided, however, that we will not accept tendered eligible options that would result in zero RSUs being granted. Once the eligible options are cancelled, you no longer will have any rights with respect to such options. Subject to the terms and conditions of the exchange offer, if your options are properly tendered by you for exchange and accepted by us, such options will be cancelled as of expiration time, which we anticipate to be 11:59 p.m., Eastern Time, on August 28, 2009. None of the shares subject to cancelled options will be available for future awards under our equity incentive plans.

Subject to our rights to terminate the exchange offer, as discussed in Section 15 (“Extension of the Exchange Offer; Termination; Amendment”), we will accept promptly upon the expiration time all properly tendered options that are not validly withdrawn except options that would result in zero RSUs being granted. We will give oral or written notice to the eligible employees generally of our acceptance for exchange of the eligible options. This notice may be made by e-mail or other method of communication.

We will grant the RSUs immediately upon the expiration time, which we expect to be 11:59 p.m., Eastern Time, on August 28, 2009. All RSUs will be granted under the 2004 Stock Incentive Plan, as amended, and will be subject to a RSU agreement between you and MKS. The number of RSUs you will receive will be determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs are approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted as described in Section 2 (“Number of Restricted Stock Units; Expiration Time”). As soon as practicable after the expiration time, we will send you your RSU agreement. You will be issued shares of common stock when and if your RSUs vest in accordance with the vesting schedule described in Section 9 (“Source and Amount of Consideration; Terms of Restricted Stock Units”).

Options that we do not accept for exchange will remain outstanding until they expire by their terms and will retain their current exercise price and current vesting schedule.

Section 7. Conditions of the Exchange Offer.

Notwithstanding any other provision of the exchange offer, we will not be required to accept any options tendered for exchange, and we may terminate the exchange offer, or postpone our acceptance and cancellation of any options tendered for exchange, in each case, subject to Rule 13e-4(f)(5) under the Exchange Act, if at any time on or after the date the exchange offer commences, and before the expiration time, any of the following events has occurred, or has been determined by us, in our reasonable judgment, to have occurred:

- there has been threatened in writing or instituted or is pending any action, proceeding or litigation seeking to enjoin, make illegal or delay beyond November 4, 2009 (the date by which the exchange offer must be completed in accordance with stockholder approval) the exchange offer;

- any order, stay, judgment or decree has been issued by any court, government, governmental authority or other regulatory or administrative authority and is in effect, or any statute, rule, regulation, governmental order or injunction has been proposed, enacted, enforced or deemed applicable to the exchange offer, any of which might restrain, prohibit or delay completion of the exchange offer or impair the contemplated benefits of the exchange offer to us (see Section 3, “Purposes of the Exchange Offer,” for a description of the contemplated benefits of the exchange offer to us);
- there has occurred:
 - any general suspension of trading in, or limitation on prices for, our securities on any national securities exchange or in an over-the-counter market in the United States;
 - the declaration of a banking moratorium or any suspension of payments in respect of banks in the United States;
 - any limitation, whether or not mandatory, by any governmental, regulatory or administrative agency or authority on, or any event that, in our reasonable judgment, might affect the extension of credit to us by banks or other lending institutions in the United States;
 - in our reasonable judgment, any extraordinary or material adverse change in U.S. financial markets generally, including, a decline of at least 10% in the Dow Jones Industrial Average, the Nasdaq Index or the Standard & Poor’s 500 Index from the date of commencement of the exchange offer;
 - the commencement, continuation or escalation of a war or other national or international calamity directly or indirectly involving the United States, which reasonably could be expected to affect materially or adversely, or to delay materially, the completion of the exchange offer; or
 - if any of the situations described above existed at the time of commencement of the exchange offer and that situation, in our reasonable judgment, deteriorates materially after commencement of the exchange offer;
- a tender or exchange offer, other than this exchange offer by us, for some or all of our shares of outstanding common stock, or a material merger, acquisition or other business combination proposal involving us or our subsidiaries, has been proposed, announced or made by another person or entity or has been disclosed publicly or we have learned that:
 - any person, entity or “group” within the meaning of Section 13(d)(3) of the Exchange Act has acquired more than 5% of our outstanding common stock, other than a person, entity or group that had publicly disclosed such ownership with the SEC prior to the date of commencement of the exchange offer;
 - any such person, entity or group that had publicly disclosed such ownership prior to such date will acquire additional common stock constituting more than 1% of our outstanding shares; or
 - any new group has been formed that beneficially owns more than 5% of our outstanding common stock that in our judgment in any such case, and regardless of the circumstances,

makes it inadvisable to proceed with the exchange offer or with such acceptance for exchange of eligible options;

- there has occurred any change, development, clarification or position taken in generally accepted accounting principles that could or would require us to record for financial reporting purposes compensation expense against our earnings in connection with the exchange offer, other than as contemplated as of the commencement date of the exchange offer (as described in Section 12, “Status of Options Acquired by Us in the Exchange Offer; Accounting Consequences of the Exchange Offer”);
- any event has occurred that has resulted or is reasonably likely to result, in our reasonable judgment, in a material adverse change in our business or financial condition;
- any event has occurred that has resulted or may result, in our reasonable judgment, in a material impairment of the contemplated benefits of the exchange offer to us (see Section 3, “Purposes of the Exchange Offer,” for a description of the contemplated benefits of the exchange offer to us); or
- any rules or regulations by any governmental authority, Nasdaq or other regulatory or administrative authority or any national securities exchange have been enacted, enforced or deemed applicable to MKS.

If any of the above events occur, we may:

- terminate the exchange offer and all tendered eligible options will continue to remain outstanding;
- complete and/or extend the exchange offer and, subject to your withdrawal rights, retain all tendered eligible options until the extended offer expires;
- amend the terms of the exchange offer; or
- waive any unsatisfied condition and, subject to any requirement to extend the period of time during which the exchange offer is open, complete the exchange offer.

The conditions to the exchange offer are for our benefit. We may assert them in our discretion regardless of the circumstances giving rise to them before the expiration time. We may waive any condition, in whole or in part, at any time and from time to time before the expiration time, in our discretion, whether or not we waive any other condition to the exchange offer. If we become aware that a condition to the exchange offer is triggered, we will promptly notify eligible employees in writing whether or not we have decided to waive such condition. Our failure at any time to exercise any of these rights will not be deemed a waiver of any such rights, but will be deemed a waiver of our ability to assert the condition that was triggered with respect to the particular circumstances under which we failed to exercise such rights. Subject to any order or decision by a court or arbiter of competent jurisdiction, any determination we make concerning the events described in this Section will be final and binding upon all persons.

Section 8. Price Range of Shares Underlying the Options and Restricted Stock Units.

The MKS common stock underlying your eligible options and the RSUs is traded on Nasdaq under the symbol “MKSI.” The following table shows, for the periods indicated, the high and low intraday sales price per share of our common stock as reported by Nasdaq.

	<u>High</u>	<u>Low</u>
Fiscal Year Ending December 31, 2009		
3rd Quarter (through July 31, 2009)	\$20.12	\$12.75
2nd Quarter	\$17.50	\$12.75
1st Quarter	\$16.29	\$11.38
Fiscal Year Ended December 31, 2008		
4th Quarter	\$19.79	\$11.76
3rd Quarter	\$25.00	\$19.00
2nd Quarter	\$25.88	\$20.91
1st Quarter	\$22.24	\$15.90
Fiscal Year Ended December 31, 2007		
4th Quarter	\$21.71	\$16.94
3rd Quarter	\$28.15	\$18.91
2nd Quarter	\$28.47	\$25.46
1st Quarter	\$26.00	\$21.11

On July 31, 2009, the last reported sale price of our common stock, as reported by Nasdaq, was \$19.37 per share.

You should evaluate current market quotes for our common stock, among other factors, before deciding whether or not to accept the exchange offer.

Section 9. Source and Amount of Consideration; Terms of Restricted Stock Units.

Consideration.

We will grant RSUs in exchange for eligible options properly tendered by you and accepted by us for such exchange. RSUs are equity awards under which MKS promises to issue common stock in the future, providing the vesting criteria have been satisfied.

Subject to the terms and conditions of the exchange offer, upon our acceptance of your properly tendered eligible options, you will be entitled to receive RSUs determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs are approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted as described in Section 2 (“Number of Restricted Stock Units; Expiration Time”). Fractional RSUs will be rounded down to the nearest whole RSU on a grant-by-grant basis.

If we receive and accept tendered options from eligible employees of all options eligible to be tendered (a total of options to purchase 1,454,947 shares subject to the terms and conditions of the exchange offer), based upon the Black-Scholes option pricing model described in Section 2 and assuming a closing price of our common stock of \$17.00, we will grant RSUs covering a total of approximately 166,920 shares of our common stock, or approximately 0.34% of the total shares of our common stock outstanding as of July 31, 2009.

General terms of RSUs.

RSUs will be granted under our 2004 Stock Incentive Plan, as amended, and subject to a RSU agreement between you and MKS. The following description summarizes the material terms of the RSUs and our 2004 Stock Incentive Plan, as amended, under which the RSUs will be granted. Our statements in this exchange offer concerning the 2004 Stock Incentive Plan, as amended, and the RSUs are merely

summaries and do not purport to be complete. The statements are subject to, and are qualified in their entirety by reference to, the 2004 Stock Incentive Plan, as amended, and the form of RSU agreement, which are incorporated herein by reference. The 2004 Stock Incentive Plan, as amended, and the applicable form of RSU agreement are incorporated by reference or filed as exhibits to the Schedule TO with which this exchange offer has been filed and are available on the or filed SEC website at <http://www.sec.gov>. You may also contact Marlene Maffe, the MKS stock plan administrator, to receive a copy of the 2004 Stock Incentive Plan, as amended, and the form of RSU agreement. We will promptly furnish to you copies of these documents upon request at our expense.

Each recipient of an award under the 2004 Stock Incentive Plan, as amended, is referred to as a participant.

Purchase Price. The purchase price, if any, of a RSU granted under the 2004 Stock Incentive Plan, as amended, is generally determined by the administrator of such plan. There will be no purchase price for the RSUs granted in the exchange offer. As a result, you do not have to make any cash payment to MKS to receive your RSUs or the common stock to be issued upon vesting, but you will be required to satisfy your tax obligation associated with the vesting of the shares.

Vesting. Each RSU will have a vesting period of one year. Vesting of the RSUs will be conditioned upon your continued service with us, subject to limited exceptions for retirement, death or disability. This means that you will generally be required to remain employed with MKS for one year after the RSU grant date in order to be vested in the RSUs. However, if your employment with us terminates by reason of retirement, death or disability, the vesting of the RSUs will accelerate such that your RSUs will be fully vested. Under the RSU agreement, “retirement” means a voluntary termination of employment by the participant after he or she is at least age sixty (60) and has a combination of years of age plus Years of Service with MKS equal to seventy (70) or more, and “Years of Service” means full years of employment since the participant’s original hire date with MKS (or parent or subsidiary of MKS).

Additionally, if, prior to any vesting of a RSU, and within two years after the effectiveness of a Change in Control (as defined in the RSU agreement), the participant is (i) terminated by MKS without Cause (as defined in the RSU agreement) or (ii) terminates his or her employment for Good Reason (as defined in the RSU agreement), then 100% of the participant’s RSUs shall become immediately and fully vested.

Transferability of RSUs. RSUs granted in the exchange offer may not be transferred, except to or for the benefit of any spouse, children, parents, uncles, aunts, siblings, grandchildren and any other relatives approved by the board of directors or to a trust established solely for the benefit of the participant and/or such relatives. In the event of your death, any person who acquires the RSUs by bequest or inheritance may be issued the shares subject to the RSUs.

Registration and Sale of Shares Underlying RSUs. All of the shares of MKS common stock issuable upon the vesting of the RSUs have been registered under the Securities Act of 1933, as amended (the “Securities Act”) on registration statements on Form S-8 filed with the SEC. Unless you are an employee who is considered an affiliate of MKS for purposes of the Securities Act, you will be able to sell the shares issuable upon the vesting of your RSUs free of any transfer restrictions under applicable U.S. securities laws.

Federal income tax consequences. You should refer to Section 14 (“Material Income Tax Consequences — Material U.S. Federal Income Tax Consequences”) for a discussion of the U.S. federal income tax consequences of the RSUs and eligible options, as well as the consequences of accepting or

rejecting the exchange offer. If you are a taxpayer of the United States, but also are subject to the tax laws of another non-U.S. jurisdiction, you should be aware that there might be other tax and social insurance consequences that may apply to you. If you are a taxpayer in Germany, Japan or the United Kingdom, the tax consequences of the exchange offer to you are described in Schedules C, D and E, respectively. We strongly recommend that you consult with your advisors to discuss the consequences to you of this transaction.

2004 Stock Incentive Plan, as amended.

The 2004 Stock Incentive Plan, as amended, provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, awards of restricted stock and unrestricted stock, and other stock-based awards, including RSUs and performance shares. As of January 1, 2009, an aggregate of 13,442,295 shares of common stock was authorized for issuance under the 2004 Stock Incentive Plan, as amended (subject to adjustment for certain changes in our capitalization).

Incentive Stock Options and Nonstatutory Options. Optionees receive the right to purchase a specified number of shares of common stock at some time in the future at an option price and subject to such terms and conditions as are specified at the time of the grant. Incentive stock options and options that the board of directors or Compensation Committee intends to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code may not be granted at an exercise price less than the fair market value of the common stock on the date of grant (or less than 110% of the fair market value in the case of incentive stock options granted to optionees holding 10% or more of the total combined voting stock of MKS or any of its subsidiaries). Non-qualified options may be granted with an exercise price that may be less than, equal to or greater than the fair market value of the common stock on the date of grant. The 2004 Stock Incentive Plan, as amended, permits the following forms of payment of the exercise price of options: (i) payment by cash, check or in connection with a “cashless exercise” through a broker, (ii) delivery to MKS of a promissory note, (iii) any other lawful means or (iv) any combination of these forms of payment.

Restricted Stock. Restricted stock awards entitle recipients to acquire shares of common stock, subject to the right of MKS to repurchase all or part of such shares at their issue price from the recipient in the event that the conditions specified in the applicable stock award are not satisfied prior to the end of the applicable restriction period established for such award, or portion of such award, in the case of restrictions that lapse ratably.

RSUs. RSUs awards entitle recipients to acquire shares of common stock to be delivered at the time the RSU vests. RSU awards to executive officers typically vest in equal annual installments over three years, with half of the award subject to achievement of the performance goal. RSU awards to non-executive officers (other than those granted in the exchange offer) typically vest on the third anniversary of the date of grant.

Stock Appreciation Rights and Performance Shares. A stock appreciation right is based on the value of common stock and entitles the holder to receive consideration to the extent that the fair market value on the date of exercise of the shares of common stock underlying the right exceeds the fair market value of the underlying shares on the date the right was granted. A performance share award entitles the recipient to acquire shares of common stock upon the attainment of specified performance goals.

Administration. The 2004 Stock Incentive Plan, as amended, is administered by the board of directors and the Compensation Committee. The board of directors has the authority to grant awards under the 2004 Stock Incentive Plan, as amended, and to accelerate, waive or amend certain provisions of outstanding awards. The board of directors has authorized the Compensation Committee to administer

certain aspects of the 2004 Stock Incentive Plan, as amended. The board of directors has authorized the Chief Executive Officer of MKS to make awards to non-executive officer employees, subject to the limitations that (i) option awards may not be for more than 35,000 shares, and restricted stock and RSU awards may not be for more than 15,000 shares, each subject to adjustment as set forth in the plan, and (ii) in addition, such awards may not exceed a maximum fair market value on the date of grant of \$150,000. The maximum number of shares with respect to which awards may be granted to any one participant in any calendar year is 900,000 shares.

Subject to any applicable limitations contained in the 2004 Stock Incentive Plan, as amended, the board of directors or any committee or individual to whom the board of directors delegates authority, as the case may be, selects the recipients of awards and determines (i) the number of shares of common stock covered by awards and the dates upon which such options become exercisable, (ii) the exercise price of options, (iii) the duration of options (which may not exceed 10 years) and (iv) the number of shares of common stock subject to any restricted stock, RSU or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase or vesting, and any issue price or repurchase price.

The board of directors is required to make appropriate adjustments in connection with the 2004 Stock Incentive Plan, as amended, and any outstanding awards to reflect stock splits, stock dividends, recapitalizations, spin-offs and other similar changes in capitalization. The 2004 Stock Incentive Plan, as amended, also contains provisions addressing the consequences of any Reorganization Event, which is defined as (a) any merger or consolidation of the company with or into another entity as a result of which all of the common stock of the company is converted into or exchanged for the right to receive cash, securities or other property, (b) any exchange of all of the common stock of the company for cash, securities or other property pursuant to a share exchange transaction or (c) the liquidation or dissolution of the company. Upon the occurrence of a Reorganization Event, the board of directors will take one or more of the following actions as to all or any outstanding awards on such terms as the board determines: (i) provide that awards are assumed or be substituted by the acquiring or succeeding corporation, (ii) upon written notice to a participant, provide that the participant's unexercised options or other unexercised awards become exercisable in full and will terminate immediately prior to the consummation of the Reorganization Event unless exercised by the participant within a specified period following the date of such notice, (iii) provide that outstanding awards become realizable or deliverable, or restrictions applicable to an award lapse, in whole or in part prior to or upon such Reorganization Event, (iv) make or provide for a cash payment to a participant, (v) provide that, in connection with a liquidation or dissolution of the company, awards convert into the right to receive liquidation proceeds and (vi) any combination of the foregoing. Upon the occurrence of a Reorganization Event, the repurchase and other rights of the company under each outstanding restricted stock award will inure to the benefit of the acquiring or succeeding corporation. The board of directors will specify the effect of a Reorganization Event on any other award at the time the award is granted.

If any award expires or is terminated, surrendered, canceled or forfeited, the unused shares of common stock covered by such award will again be available for grant under the 2004 Stock Incentive Plan, as amended, subject, however, in the case of incentive stock options, to any limitations under the Code. Notwithstanding the foregoing, none of the shares subject to options cancelled in the exchange offer will be available for future awards under our equity incentive plans.

Eligibility to Receive Awards. Employees, officers, directors, consultants and advisors of MKS and its subsidiaries are eligible to be granted awards under the 2004 Stock Incentive Plan, as amended. Under present law, however, incentive stock options may only be granted to employees of MKS and its subsidiaries. The maximum number of shares with respect to which awards may be granted to any

participant under the 2004 Stock Incentive Plan, as amended, may not exceed 900,000 shares per calendar year.

Plan Benefits. The granting of awards under the 2004 Stock Incentive Plan, as amended, is discretionary, and we cannot determine the number or type of awards to be granted in the future to any particular person or group. All of the employees, officers, directors, consultants and advisors of MKS and its subsidiaries who are expected to contribute to MKS' future growth and success are eligible to participate in the 2004 Stock Incentive Plan, as amended.

Amendment or Termination. No award may be made under the 2004 Stock Incentive Plan, as amended, after March 3, 2014, but awards previously granted may extend beyond that date. The board of directors may at any time amend, suspend or terminate the 2004 Stock Incentive Plan, as amended, except that no award designated as subject to Section 162(m) of the Code by the board of directors after the date of such amendment shall become exercisable, realizable or vested (to the extent such amendment was required to grant such award) unless and until such amendment shall have been approved by our shareholders.

Section 10. Information Concerning MKS; Financial Information.

Information Concerning MKS.

Our principal executive offices are located at 2 Tech Drive, Suite 201, Andover, Massachusetts 01810, and our main telephone number is (978) 645-5500. Questions regarding the exchange offer should be directed to:

Marlene Maffe

MKS Instruments, Inc.
2 Tech Drive, Suite 201
Andover, MA 01810
E-Mail: marlene_maffe@mksinst.com
Telephone: (978) 645-5654
Fax: (978) 557-5124

MKS Instruments, Inc. was founded in 1961 and is a leading worldwide provider of instruments, subsystems and process control solutions that measure, control, power, monitor and analyze critical parameters to improve process performance and productivity of advanced manufacturing processes. MKS is managed as one operating segment which is organized around three product groups: Instruments and Control Systems, Power and Reactive Gas Products and Vacuum Products. MKS' products are derived from its core competencies in pressure measurement and control, materials delivery, gas composition analysis, electrostatic charge management, control and information technology, power and reactive gas generation and vacuum technology.

Financial Information

The financial information, including financial statements and the notes thereto, included under the caption "Item 8. Financial Statements and Supplementary Data" in our Annual Report on Form 10-K for the year ended December 31, 2008, filed with the SEC on February 27, 2009, and under the caption "Part I. Financial Information" in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2009, filed with the SEC on August 7, 2009 are incorporated herein by reference. Attached as Schedule B to this Offer to Exchange is a summary of certain financial information contained in the above-referenced reports, as well as information on book value per share and ratio of earnings to fixed charges.

We recommend that you review the materials that we have filed with the SEC before making a decision on whether or not to surrender your eligible options for exchange. See Section 17 ("Additional Information") for more information regarding reports we file with the SEC and how to obtain copies of or otherwise review such reports.

Section 11. Interests of Directors and Executive Officers; Transactions and Arrangements Concerning Our Securities.

A list of our directors and executive officers is attached to this exchange offer as Schedule A. Our executive officers and the members of our board of directors may not participate in the exchange offer. As of July 31, 2009, our executive officers and directors (14 persons) as a group held options unexercised and outstanding under each of our stock incentive plans to purchase a total of 1,256,916 our shares, which represented approximately 31% of the shares subject to all options outstanding under each of our stock incentive plans as of that date. We also refer you to our 2009 annual meeting proxy statement, filed with the SEC on March 23, 2009, for information concerning agreements, arrangements and understandings between us and our officers and directors.

Neither we nor any of our executive officers or directors or any affiliates of ours were engaged in transactions involving eligible options during the past 60 days. Our executive officers and directors are not eligible employees and do not hold eligible options.

Except for outstanding options to purchase shares of our common stock and other stock awards, such as restricted stock units, granted or to be granted from time to time to certain of our employees (including executive officers) and non-employee directors pursuant to our equity compensation plans, and the purchase rights that are outstanding from time to time under our employee stock purchase plan, and except as set forth in this document, neither we nor any person controlling us nor, to our knowledge, any of our directors or executive officers, is a party to any contract, arrangement, understanding or relationship with any other person relating, directly or indirectly, to the exchange offer with respect to any of our securities (including, but not limited to, any contract, arrangement, understanding or relationship concerning the transfer or the voting of any such securities, joint ventures, loan or option arrangements, puts or calls, guarantees of loans, guarantees against loss or the giving or withholding of proxies, consents or authorizations).

Section 12. Status of Options Acquired by Us in the Exchange Offer; Accounting Consequences of the Exchange Offer.

Options that we acquire through the exchange offer will be cancelled. None of the shares subject to cancelled options will be available for future awards under our equity incentive plans.

As of January 1, 2006, we adopted the provisions of Financial Accounting Standards Board Statement of Financial Accounting Standards No. 123 (Revised), or SFAS 123(R), on accounting for share-based payments. Under SFAS 123(R), we will recognize incremental compensation expense, if any, resulting from the RSUs granted in the exchange program. The incremental compensation cost will be measured as the excess, if any, of the fair value of each RSU granted to employees in exchange for surrendered eligible options, measured as of the date the RSUs are granted, over the fair value of the eligible options surrendered in the exchange for the RSUs, measured immediately prior to the exchange.

The number of RSUs will be determined using an exchange ratio that is intended to ensure that the fair value, for accounting purposes, of the RSUs are approximately equal to the fair value of the eligible option tendered for exchange at the time the RSUs are granted. As a result, the exchange offer may allow us to realize real incentive and retention benefits from the RSUs issued, while recognizing only minimal incremental compensation expense due to the exchange. The actual amount of compensation expense will depend on the exchange ratios, Black-Scholes values and vesting schedules for options actually exchanged as part of the exchange offer, as well as the market price of our common stock on the date of the exchange. In the event that any of the RSUs are forfeited prior to their vesting due to termination of employment, the compensation expense for the forfeited RSUs will not be recognized.

Section 13. Legal Matters; Regulatory Approvals.

We are not aware of any material pending legal proceedings relating to the exchange offer or any margin requirements or anti-trust laws applicable to the exchange offer. We are not aware of any regulatory requirements that must be complied with or approvals that must be obtained in connection with the exchange offer. Should any additional approval or other action be required, we presently contemplate that we will seek such approval or take such other action. We cannot assure you that any such approval or other action, if needed, could be obtained or what the conditions imposed in connection with such approvals would entail or whether the failure to obtain any such approval or other action would result in adverse consequences to our business. Our obligation under the exchange offer to accept tendered options for exchange and to grant RSUs for tendered options is subject to the conditions described in Section 7 (“Conditions of the Exchange Offer”).

If we are prohibited by applicable laws or regulations from granting RSUs on the RSU grant date, we will not grant any RSUs. However, we are not currently aware of any circumstances in which we would be prohibited by applicable law from granting RSUs, and we will use reasonable efforts to effect the grant, but if the grant is prohibited on the RSU grant date, we will not grant any RSUs and you will not receive any other benefit for the eligible options you tendered and your eligible options will not be accepted for exchange.

Section 14. Material Income Tax Consequences.

Material U.S. Federal Income Tax Consequences.

The following is a summary of the material U.S. federal income tax consequences of the exchange of eligible options for RSUs pursuant to the exchange offer for those eligible employees subject to U.S. federal income tax. The summary includes a description of the tax consequences of participating and of not participating in the offer. This discussion is based on the United States Internal Revenue Code, its legislative history, treasury regulations promulgated thereunder and administrative and judicial interpretations as of the date of this exchange offer, all of which are subject to change, possibly on a retroactive basis. This summary does not discuss all of the tax consequences that may be relevant to you in light of your particular circumstances, nor is it intended to be applicable in all respects to all categories of option holders. We strongly recommend that you consult with your own advisors to discuss the consequences to you of this exchange offer.

Tax Consequences of Participating in the Exchange Offer.

Eligible employees who exchange options for RSUs will not be required to recognize income for U.S. federal income tax purposes at the time of the exchange. We believe that the exchange of eligible options for RSUs will be treated as a non-taxable exchange. You will not recognize income upon the receipt of the RSUs.

You will recognize ordinary compensation income when the RSUs vest in an amount equal the fair market value of the shares on the vesting date. The compensation income is subject to income and employment tax withholding. The RSU agreement provides that MKS will automatically deduct and retain from the shares of common stock that would otherwise be issued in settlement of RSUs the appropriate number of whole shares, valued at their then fair market value, to satisfy our tax withholding obligations at the applicable minimum statutory withholding rate. Unless the foregoing tax withholding obligations are satisfied, we have no obligation to deliver any shares to you under your RSUs. When you sell the shares, you will recognize capital gain (or loss) equal to the amount by which the sale price exceeds (or is less than) the fair market value of the stock on the vesting date. This capital gain (or loss) will be long-term if you have held the shares for at least one year at the time of sale and otherwise will be short-term. For this purpose, your holding period will start the day after the vesting date.

We recommend that you consult your tax advisor with respect to the federal, state and local tax consequences of participating in the exchange offer, as the tax consequences to you are dependent on your individual tax situation.

In addition, if you are a resident of more than one country, you should be aware that there might be tax and social insurance consequences for more than one country that may apply to you. We strongly recommend that you consult with your own advisors to discuss the consequences to you of this transaction.

Tax Consequences of Not Participating in the Exchange Offer.

If you participate in the exchange offer, your eligible options will be exchanged for RSUs. If you do not participate in the exchange offer, you will continue to hold your outstanding stock options, which are treated as nonstatutory stock options for U.S. federal income tax purposes. So that you are able to compare the tax consequences of the RSUs to that of your eligible options, we have included the following summary as a description of the tax consequences generally applicable to nonstatutory stock options under U.S. federal tax law.

When you exercise a nonstatutory stock option, you recognize ordinary compensation income in an amount equal to the excess of the fair market value of the shares on the date of exercise over your exercise price. The compensation income is subject to income and employment tax withholding.

Upon disposition of the shares, you will recognize capital gain (or loss) equal to the amount by which the sale price exceeds (or is less than) the fair market value of the stock on the date of exercise. The capital gain or loss and will be long-term if the shares were held for more than one year and otherwise will be long-term. The holding period for the shares generally will begin the day after exercise.

Material Income Tax and Other Considerations for Employees Who Reside Outside the U.S.

Attached as Schedules C, D and E to this exchange offer are short summaries of the general tax consequences of the exchange offer in countries other than the U.S. where residents are eligible to participate in the exchange offer. If you are subject to the tax laws in any of these countries, please see the relevant section(s) under Schedules C, D and E for information regarding the tax consequences to you of participating in the exchange offer. You should review the information carefully and consult your own tax advisor regarding your personal situation before deciding whether or not to participate in the exchange offer.

We recommend that you consult your tax advisor with respect to the federal, state and local tax consequences of participating in the exchange offer. In addition, if you are a resident of more

than one country, you should be aware that there might be tax and social insurance consequences for more than one country that may apply to you. We strongly recommend that you consult with your advisors to discuss the consequences to you of this transaction.

Section 15. Extension of the Exchange Offer; Termination; Amendment.

We reserve the right, in our discretion, at any time and regardless of whether or not any event listed in Section 7 (“Conditions of the Exchange Offer”) has occurred or is deemed by us to have occurred, to extend the period of time during which the exchange offer is open and delay the acceptance for exchange of any eligible options. If we elect to extend the period of time during which the exchange offer is open, we will give you written notice of the extension and delay, as described below. If we extend the expiration time, we also will extend your right to withdraw tenders of eligible options until such extended expiration time. In the case of an extension, we will issue an e-mail or other form of communication no later than 6:00 a.m., Eastern Time, on the next business day after the previously scheduled expiration time.

We also reserve the right, in our reasonable judgment, before the expiration time to terminate or amend the exchange offer and to postpone our acceptance and cancellation of any options elected to be exchanged if any of the events listed in Section 7 (“Conditions of the Exchange Offer”) occurs, by giving written notice of the termination or postponement to you or by making a public announcement of the termination. Our reservation of the right to delay our acceptance and cancellation of options elected to be exchanged is limited by Rule 13e-4(f)(5) under the Exchange Act, which requires that we must pay the consideration offered or return the eligible options promptly after termination or withdrawal of a tender offer.

Subject to compliance with applicable law, we further reserve the right, before the expiration time, in our discretion and regardless of whether any event listed in Section 7 (“Conditions of the Exchange Offer”) has occurred or is deemed by us to have occurred, to amend the exchange offer in any respect. As a reminder, if a particular option expires after commencement, but before cancellation under the exchange offer, that particular option is not eligible for exchange. Therefore, if we extend the exchange offer for any reason and if a particular option that was tendered before the originally scheduled expiration time expires after such originally scheduled expiration time but before the actual cancellation date under the extended offer, that option would not be eligible for exchange.

The minimum period during which the exchange offer will remain open following material changes in the terms of the exchange offer or in the information concerning the exchange offer will depend on the facts and circumstances of such change, including the relative materiality of the terms or information changes. Because our shareholders approved the option exchange and the basis for determining the number of eligible options being sought in the exchange offer and the method of determining the consideration being offered by us for the eligible options in the exchange offer, we cannot amend the offer to change the number of eligible options being sought in the exchange offer or the consideration being offered by us. If any term of the exchange offer is amended in a manner that we determine constitutes a material change adversely affecting any holder of eligible options, we will promptly disclose the amendments in a manner reasonably calculated to inform holders of eligible options of such amendment, and we will extend the exchange offer’s period so that at least five business days, or such longer period as may be required by the tender offer rules, remain after such change.

For purposes of the exchange offer, a “business day” means any day other than a Saturday, Sunday or a U.S. federal holiday and consists of the time period from 12:00 a.m. through 11:59 p.m., Eastern Time.

Section 16. Fees and Expenses.

We will not pay any fees or commissions to any broker, dealer or other person for soliciting options to be exchanged through the exchange offer.

Section 17. Additional Information.

This exchange offer is part of a Tender Offer Statement on Schedule TO that we have filed with the SEC. This exchange offer does not contain all of the information contained in the Schedule TO and the exhibits to the Schedule TO. We recommend that you review the Schedule TO, including its exhibits, and the following materials that we have filed with the SEC before making a decision on whether to elect to exchange your eligible options:

- our annual report on Form 10-K for our fiscal year ended December 31, 2008, filed with the SEC on February 27, 2009;
- our quarterly report on Form 10-Q for the quarter ended March 31, 2009, filed with the SEC on May 7, 2009;
- our quarterly report on Form 10-Q for the quarter ended June 30, 2009, filed with the SEC on August 7, 2009;
- our definitive proxy statement on Schedule 14A for our 2009 annual meeting of shareholders, filed with the SEC on March 23, 2009 and amended on April 27, 2009;
- the information contained in our current reports on Form 8-K filed with the SEC; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on March 2, 1999, including any amendments or reports filed for purposes of updating such description.

These filings, our other annual, quarterly and current reports, our proxy statements and our other SEC filings may be examined, and copies may be obtained, at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. Our SEC filings also are available to the public on the SEC's Internet site at <http://www.sec.gov>.

Each person to whom a copy of this exchange offer is delivered may obtain a copy of any or all of the documents to which we have referred you, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into such documents, at no cost, by writing to us at MKS Instruments, Inc., 2 Tech Drive, Suite 201, Andover, MA 01810, attention Marlene Maffe.

As you read the documents listed above, you may find some inconsistencies in information from one document to another. If you find inconsistencies between the documents, or between a document and this exchange offer, you should rely on the statements made in the most recent document.

The information contained in this exchange offer about us should be read together with the information contained in the documents to which we have referred you, in making your decision as to whether or not to participate in the exchange offer.

Section 18. Miscellaneous.

We have not authorized any person to make any recommendation on our behalf as to whether you should elect to exchange your options through the exchange offer. You should rely

only on the information in this document or materials to which we have referred you. We have not authorized anyone to give you any information or to make any representations in connection with the exchange offer other than the information and representations contained in this document and in the related exchange offer materials. If anyone makes any recommendation or representation to you or gives you any information, you must not rely upon that recommendation, representation or information as having been authorized by us.

MKS Instruments, Inc.
August 3, 2009

SCHEDULE A
INFORMATION CONCERNING THE EXECUTIVE OFFICERS AND DIRECTORS OF MKS

The directors and executive officers of MKS are set forth in the following table:

<u>Name</u>	<u>Position and Offices Held</u>
John R. Bertucci	Director, Chairman
Christina H. Amon	Director
Robert R. Anderson	Director
Gregory R. Beecher	Director
Leo Berlinghieri	Director, Chief Executive Officer and President
Richard S. Chute	Director, Secretary
Peter R. Hanley	Director
Hans-Jochen Kahl	Director
Louis P. Valente	Director
Gerald G. Colella	Vice President, Chief Business Officer and Acting Group Vice President, PRG Products
John T.C. Lee	Group Vice President, CIT Products
John A. Smith	Vice President and Chief Technology Officer
William D. Stewart	Group Vice President, Vacuum Products and PFM&C Products
Ronald C. Weigner	Vice President, Chief Financial Officer and Treasurer

The address of each executive officer and director is c/o MKS Instruments, Inc., 2 Tech Drive, Suite 201, Andover, Massachusetts 01810. Our executive officers and members of our board of directors are not eligible to participate in the exchange offer.

SCHEDULE B
SUMMARY FINANCIAL INFORMATION OF MKS INSTRUMENTS, INC.

We have presented below a summary of our consolidated financial data. The following summary consolidated financial data should be read in conjunction with the "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the notes thereto included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008 and with "Part I. Financial Information" of our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2009. The selected consolidated statements of operations data for the fiscal years ended December 31, 2008 and 2007 and the selected consolidated balance sheet data as of December 31, 2008 and 2007 are derived from our audited consolidated financial statements that are included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008. The selected consolidated statements of operations data for the fiscal quarter ended June 30, 2009 and the selected consolidated balance sheet data as of June 30, 2009 are derived from our unaudited condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2009. Our interim results are not necessarily indicative of results for the full fiscal year, and our historical results are not necessarily indicative of the results to be expected in any future period.

	Quarter Ended		Year Ended	
	June 30, 2009	June 30, 2008	December 31, 2008	December 31, 2007
	(unaudited)			
Consolidated Statements of Operations Data:				
(in thousands, except per share data)				
Net sales	\$ 79,155	\$171,002	\$646,994	\$780,487
Gross profit	\$ 25,528	\$ 70,488	\$259,943	\$331,487
Income (loss) from operations	\$(222,242)	\$ 12,905	\$ 35,533	\$106,985
Net (loss) income	\$(207,134)	9,234	\$ 30,117	\$ 86,360
Earnings per share:				
Basic	\$ (4.20)	\$ 0.19	\$ 0.61	\$ 1.53
Diluted	\$ (4.20)	\$ 0.18	\$ 0.59	\$ 1.51
Shares used in computing earnings per share:				
Basic	49,307	49,691	49,717	56,349
Diluted	49,307	50,866	50,754	57,173

	June 30, 2009	As of	
	(unaudited)	December 31, 2008	December 31, 2007
	(in thousands)		
Consolidated Balance Sheet Data:			
Cash and cash equivalents	\$139,703	\$119,261	\$ 223,968
Short-term investments	\$118,838	\$159,608	\$ 99,797
Working capital	\$441,982	\$452,793	\$ 514,235
Total assets	\$742,921	\$984,939	\$1,076,260
Short-term obligations	\$ 9,403	\$ 18,678	\$ 20,203
Long-term obligations, less current portion	\$ 177	\$ 396	\$ 5,871
Stockholders' equity	\$664,282	\$886,698	\$ 954,009

Book Value Per Share

Our book value per share as of June 30, 2009 was \$13.43.

Ratio of Earnings to Fixed Charges

The following table sets forth our ratio of earnings to fixed charges for the periods specified:

	Six months Ended June 30, 2009	Year ended December 31, 2008	Year ended December 31, 2007
Ratio of Earnings to Fixed Charges	(269.8)	17.0	49.8

The ratio of earnings to fixed charges is computed by dividing earnings by fixed charges. For the purposes of computing the ratio of earnings to fixed charges, earnings consist of income before provision for income taxes plus fixed charges. Fixed charges consist of interest expense and the interest portion of rental expense (estimated to equal 20% of such expense, which is considered a reasonable approximation of the interest factor).

SCHEDULE C
GUIDE TO TAX ISSUES IN GERMANY

The following is a general summary of the material tax consequences of the voluntary cancellation of eligible options in exchange for the grant of restricted stock units ("RSUs") for eligible employees subject to tax in Germany. This summary is based on the tax laws in effect in Germany as of June 2009. This summary is general in nature and does not discuss all of the tax consequences that may be relevant to you in light of your particular circumstances, nor is it intended to be applicable in all respects to all categories of eligible employees. Also, please note that tax laws change frequently and occasionally on a retroactive basis. As a result, the information contained in this summary may be out-of-date at grant or vesting of the RSUs, or when you sell shares acquired at vesting of the RSUs.

This summary may also include other country-specific requirements that may affect your participation in the Stock Option Exchange Program.

If you are a citizen or resident of more than one country, or are considered a resident of more than one country for local law purposes, the information contained in this summary may not be applicable to you. *Accordingly, you are strongly advised to seek appropriate professional advice as to how the tax or other laws in your country apply to your specific situation.*

Tax Information

Option Exchange/Grant of RSUs

You likely will not be subject to tax as a result of the exchange of eligible options for the grant of RSUs. As a general rule, options and RSUs are taxed at the moment when the employee gains economic ownership in the respective shares, i.e., at vesting. However, tax authorities may hold that a portion of the value / built-in gain of an option or RSU will be realized at an earlier stage when old options are traded against RSUs. However, it is rather unlikely that German tax authorities will take this position, although neither court law nor clear guidance by the tax authorities are currently available.

Vesting

You will be subject to income tax and social insurance contributions (to the extent you have not reached already the applicable contribution ceiling) when the RSUs vest and shares are issued to you. The taxable amount will be the fair market value of the shares issued to you at vesting.

Please note that a personal allowance of €360 per calendar year may be available pursuant to Section 3 No. 39 of the German Income Tax Act (*Einkommensteuergesetz*) because the income results from the acquisition of stock in your employer's parent company. *Please consult your personal tax advisor to determine whether this deduction may apply at vesting of the RSUs.*

Sale of Shares

When you subsequently sell any shares acquired at vesting of the RSUs, you will be subject to capital gains tax at a flat rate of 25% (plus 5.5% solidarity surcharge thereon plus church tax, if any) provided you do not own 1% or more of the stated capital of MKS (and have not owned 1% or more at any time in the last five years) and the shares are not held as a business asset. Please note that you may elect to be taxed at your marginal tax rate if the 25% flat rate exceeds your marginal tax rate. The amount, whether at the flat rate or at your marginal tax rate, will be the difference between the sale price and the fair market value of the shares issued at vesting.

Withholding and Reporting

Your German employer will withhold and report income tax and social security contributions (to the extent applicable) when the RSUs vest. To qualify as a German employer, the employing company must either have its place of management, a permanent establishment or a representative in Germany. As a guideline you may check whether tax is withheld on your cash salary in which case tax would also be withheld on the vested RSUs. However, you are responsible for reporting and paying any additional taxes due if your tax liability exceeds the amount withheld and for reporting and paying any tax resulting from the sale of shares.

SCHEDULE D
GUIDE TO TAX ISSUES IN JAPAN

The following is a general summary of the material tax consequences of the voluntary cancellation of eligible options in exchange for the grant of restricted stock units (“RSUs”) for eligible employees subject to tax in Japan. This summary is based on the tax laws in effect in Japan as of June 2009. This summary is general in nature and does not discuss all of the tax consequences that may be relevant to you in light of your particular circumstances, nor is it intended to be applicable in all respects to all categories of eligible employees. Also, please note that tax laws change frequently and occasionally on a retroactive basis. As a result, the information contained in this summary may be out-of-date at grant or vesting of the RSUs, or when you sell shares acquired at vesting of the RSUs.

This summary may also include other country-specific requirements that may affect your participation in the Stock Option Exchange Program.

If you are a citizen or resident of more than one country, or are considered a resident of more than one country for local law purposes, the information contained in this summary may not be applicable to you. *Accordingly, you are strongly advised to seek appropriate professional advice as to how the tax or other laws in your country apply to your specific situation.*

Tax Information

Option Exchange

You likely will not be subject to tax as a result of the exchange of eligible options for the grant of RSUs. Please note, however, that the Japanese tax treatment of an exchange of stock options for RSUs is uncertain because there are no specific tax provisions related to such an exchange. *Therefore, we recommend that you consult your personal tax advisor regarding the potential tax consequences of the Stock Option Exchange Program.*

Grant

Although the tax treatment of RSUs is uncertain in Japan, under the current practice of the tax authorities, you likely will not be subject to tax when the RSUs are granted to you.

Vesting

You likely will be subject to income tax, but not social insurance contributions, when the RSUs vest and shares are issued to you. The taxable amount will be the fair market value of the shares issued to you at vesting. This income likely will be characterized as remuneration income.

Sale of Shares

When you subsequently sell any shares acquired at vesting of the RSUs, you will be subject to capital gains tax on any gain you realize. The taxable gain will be the difference between the sale price and the fair market value of the shares at vesting. Generally, you will be subject to capital gains tax at a flat rate of 20%. However, you may be eligible for a reduced tax rate if certain conditions are met. *Please consult your personal tax advisor to determine whether you may be eligible for a reduced capital gains rate.*

Withholding and Reporting

Your employer will not withhold or report tax at the vesting of the RSUs. You are responsible for reporting and paying any tax resulting from the vesting of the RSUs and the sale of shares.

Other Information**Exchange Control**

If the value of shares you acquire in a single transaction exceeds ¥100 million, you must submit a Securities Acquisition Report to the Minister of Finance through the Bank of Japan within 20 days after such acquisition.

SCHEDULE E
GUIDE TO TAX ISSUES IN THE UNITED KINGDOM

The following is a general summary of the material tax consequences of the voluntary cancellation of eligible options in exchange for the grant of restricted stock units ("RSUs") for eligible employees subject to tax in the United Kingdom ("U.K."). This summary is based on the tax laws in effect in the U.K. as of June 2009. This summary is general in nature and does not discuss all of the tax consequences that may be relevant to you in light of your particular circumstances, nor is it intended to be applicable in all respects to all categories of eligible employees. Also, please note that tax laws change frequently and occasionally on a retroactive basis. As a result, the information contained in this summary may be out-of-date at grant or vesting of the RSUs, or when you sell shares acquired at vesting of the RSUs.

This summary may also include other country-specific requirements that may affect your participation in the Stock Option Exchange Program.

If you are a citizen or resident of more than one country or are considered a resident of more than one country for local law purposes, or if you are not treated as resident and ordinarily resident in the U.K., the information contained in this summary may not be applicable to you. *Accordingly, you are strongly advised to seek appropriate professional advice as to how the tax or other laws in your country apply to your specific situation.*

Tax Information

Option Exchange

You likely will not be subject to tax as a result of the exchange of eligible options for the grant of RSUs.

Grant

You will not be subject to tax when RSUs are granted to you.

Vesting

You will be subject to income tax and employee national insurance contributions ("NICs") when the RSUs vest and shares are issued to you. The taxable amount will be the fair market value of the shares issued to you at vesting.

Sale of Shares

When you subsequently sell any shares acquired at vesting of the RSUs, you will be subject to capital gains tax if your total capital gain exceeds the annual exemption amount (£10,100 for the tax year April 6, 2009 to April 5, 2010), in which case you will be subject to tax at a flat rate of 18% on the difference between the sale price and the fair market value of the shares at vesting.

Please note that, when you sell any shares acquired at vesting, you may need to take into account the share-identification rules in calculating your capital gains tax liability, particularly if you have acquired shares of MKS common stock from other sources. *Please consult your personal tax advisor to determine how share-identification rules apply in your particular situation.*

Withholding and Reporting

Your employer will calculate the income tax and employee and employer NICs due at the vesting of RSUs and account for these amounts to Her Majesty's Revenue & Customs ("HMRC"). Your employer will account for and withhold any applicable income tax and employee and employer NICs under the Pay As You Earn system or by any other means set forth in your RSU agreement.

If a sufficient amount is not accounted for, you must reimburse your employer for the income tax due within 90 days of the vesting of the RSUs to avoid further tax consequences. If you fail to pay this amount to the employer within that time limit, the income tax paid by your employer on your behalf and not reimbursed within 90 days of vesting will constitute a loan owed by you to your employer. The loan will be effective as of the date of vesting, will be immediately due and repayable, will bear interest at the then-current official rate of HMRC and may be recovered by MKS or your employer at any time by any of the means set forth in your RSU agreement.

Your employer also is required to report the grant and vesting of the RSUs, the acquisition of shares and the tax withheld on its annual tax returns filed with HMRC.

In addition to your employer's reporting obligations, you are responsible for reporting any income resulting from the vesting of the RSUs and the sale of shares on your annual tax return. You also are responsible for paying any tax resulting from the sale of shares.

August 17, 2009

Via EDGAR

SECURITIES AND EXCHANGE COMMISSION
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549
Attention: Mellissa Duru, Esq.

Re: MKS Instruments, Inc.
Schedule TO-I
Filed August 3, 2009
File No. 5-58011

Dear Ms. Duru:

We are writing on behalf of our client, MKS Instruments, Inc. (the "Company"), in response to the comments of the staff (the "Staff") of the Securities Exchange Commission (the "SEC") set forth in the letter to me, dated August 11, 2009, from Mellissa Duru, Special Counsel, Office of Mergers and Acquisitions (the "Letter"). Submitted herewith for filing is Amendment No. 2 to the Schedule TO-I, as amended by Amendment No. 1 filed with the SEC on August 12, 2009, referenced above (collectively, the "Schedule TO") and the revised Exhibit (a)(1)(A) thereto (the "Offer to Exchange").

We have set forth below in italics each of the Staff's comments set forth in the Letter and have keyed the Company's responses to the heading and numbering of those comments. The responses are based on information provided to us by representatives of the Company.

Schedule TO-I

Exhibit 99(a)(1)(A): Offering Memorandum

- 1. Your current offer provides a range of hypothetical exchange ratios, each of which will be determined based on the closing price of the company's common stock on the expiration time of the offer. Accordingly, as currently structured, optionholders who tender in your offer will not know whether they are eligible to receive any restricted stock units or the reduced number of restricted stock units until the close of business on the expiration time. Such information would appear to constitute material terms of the offer. Please supplementally provide us with your analysis of the offer's compliance with Item 4 of Schedule TO and corresponding Item 1004(a) of Regulation M-A.*

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels London Los Angeles New York Oxford Palo Alto Waltham Washington

Securities and Exchange Commission

August 17, 2009

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The following response is intended to address the Staff's comments numbered 1 and 2 in the Letter because the requested factual and legal analysis is relevant both to the question of the adequacy of the type and amount of information disclosed in the Schedule TO, and also to the question of whether the structure gives eligible employees sufficient time to consider whether to tender or withdraw after announcement of the material terms.

Compensatory Purpose of Exchange Offer. The Company has implemented this exchange offer solely for compensatory purposes. The Company initiated the exchange offer because the majority of its outstanding stock options are not achieving their compensatory purpose. The Company believes the exchange offer will permit it to improve the effectiveness of its equity compensation program by increasing the benefits to eligible employees, reducing the overhang of outstanding stock options and recapturing value from compensation costs the Company is already incurring with respect to stock options that have exercise prices lower than the current market value of the Company's common stock.

The Company's success depends to a large extent upon the efforts and abilities of its employees, particularly those with expertise in the semiconductor manufacturing and similar industrial manufacturing industries. The loss of employees could have a material adverse effect on its business, financial condition and results of operations. Further, the Company believes that its future success will depend in part on its ability to attract and retain highly skilled technical, financial, managerial and marketing personnel by providing stock options and other equity awards. Stock options and other equity awards constitute an important part of the Company's incentive and retention programs because competition for these types of employees is intense and many of the Company's peer companies use stock options and other equity awards as a means of attracting, motivating and retaining employees.

As of August 13, 2009, the 60 day trailing average closing price of the Company's common stock was \$16.39 per share. As such, the eligible options, which have an exercise price in excess of \$23.35, are significantly "underwater." Many of the Company's employees view their existing options as having little value due to the difference between the exercise prices and the current market price of the Company's common stock. As a result, these options are ineffective at providing the incentive and retentive values that the Company's board of directors believes are necessary to motivate the Company's employees and to increase long-term shareholder value.

The Company believes that the exchange offer will provide renewed incentive and motivation for eligible employees, promoting contribution to the achievement of future stock price growth. By realigning the value of previously granted stock options with the current market value of the Company's common stock, the Company believes that the RSUs will become an important tool to motivate the eligible employees to continue to create

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shareholder value. Additionally, the exchange offer is designed to provide renewed retention value due to the extended vesting terms of the RSUs. The RSUs will have a new 12-month vesting period, thus providing an incentive to stay with the Company for eligible employees who all currently hold fully vested eligible options.

Rationale for Structure of Exchange Offer. The exchange offer has been structured as a value-for-value exchange, in which the fair value of the RSUs is approximately equal to the eligible options cancelled as of the expiration time. The Company believes that this structure best achieves its compensatory objectives and is in the best interest of its stockholders. Additionally, at the annual meeting of stockholders held on May 4, 2009, the Company's stockholders approved the exchange offer structure, which specified a value-for-value exchange, calculated based on the closing price of the Company's common stock on the day the exchange offer expires, and that the number of RSUs is to be rounded down to the nearest whole.

The Company believes that this approach best achieves its compensatory objectives without adversely affecting its reported earnings. The Company has adopted the provisions of Financial Accounting Standards Board Statement of Financial Accounting Standards No. 123 (Revised), or SFAS No. 123(R), regarding accounting for share-based payments. Under SFAS No. 123(R), the Company is required to recognize any incremental compensation cost of the RSUs granted in the exchange offer. Incremental compensation cost is measured as the excess, if any, of the fair value of each RSU granted to employees in exchange for surrendered eligible options, measured as of the date the RSUs are granted, over the fair value of the eligible options surrendered in exchange for the RSUs, measured immediately prior to the cancellation of the eligible options, which will occur on the expiration of the exchange offer. Such incremental compensation cost, if any, is recognized ratably over the vesting period of the RSUs. The Company has structured the exchange offer such that the exchange ratios will be calculated to result in the fair value of eligible options surrendered being equal to the fair value of the RSUs replacing them in order to avoid having to recognize any incremental compensation expense for financial reporting purposes as a result of the exchange offer. Also, the Company believes that the value-for-value structure avoids a situation in which eligible employees actually receive a greater benefit, i.e., an award in excess of fair value, than employees who are not eligible, who would continue to hold awards having only fair value.

Disclosure Regarding Material Terms of Offer. In view of its value-for-value exchange structure, the Company recognizes that eligible employees will not know the final number of RSUs that they will receive until the close of the stock market on the date the exchange offer expires. Based upon its analysis of SEC No-Action letters that have addressed comparable pricing structures (discussed below), the Company's Schedule TO and the Offer to Exchange included disclosure and undertook initiatives that it believes provide its eligible

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employees with material information regarding the exchange offer, including the expected number of RSUs, based upon hypothetical trading prices that are closely aligned to the Company's likely range of trading prices on the date the exchange offer expires. Specifically, the Company has done or will do the following:

- the Offer to Exchange includes a detailed table that shows, for each exercise price of an eligible option, the expected exchange ratio for calculating the number of RSUs based upon an assumed closing price for the Company's common stock on the date the exchange offer expires, as well as additional closing prices that represent both 10%, 20% and 30% upward and downward departures from such assumed closing price. The table is also accompanied by illustrative examples of how to calculate the number of RSUs to be received based upon the hypothetical exchange ratios;
- the Company has provided a website calculator to all eligible employees that can be accessed at any time and which permits eligible employees to calculate the number of RSUs they could receive based upon assumed closing prices at \$.10 increments; and
- the Company has designated a Company employee, who is available by telephone and email throughout the pendency of the exchange offer, to respond to any questions that eligible employees may have with respect to the exchange offer.

In addition to the foregoing, the Company has taken or will take the following steps to communicate the final exchange ratios, and number of RSUs, after the close of trading on the date the exchange offer expires:

- immediately following the determination of the final exchange ratios on August 28, 2009, the Company will provide all eligible employees with such final exchange ratios in a written communication;
 - at 5:30 p.m. on August 28, 2009, the Company will host a conference call for all eligible employees as a further means of disclosing the final exchange ratio and to answer any questions that eligible employees may have;
 - a designated Company employee will be available until 11:59 p.m. to respond to any questions that eligible employees may have with respect to the exchange offer, the final exchange ratios or the number of RSUs that will be granted; and
 - as soon as possible, on August 28, 2009, the Company will file an amendment to the Schedule TO announcing the final exchange ratios.
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The Company has described prominently in the Offer to Exchange the withdrawal rights of eligible employees, which exist until the expiration time, and the fact that the final exchange ratios will be made available immediately after the close of trading on the date the exchange offer expires. The Company will continue to make such prominent disclosures in any supplemental materials that it furnishes to eligible employees. Moreover, eligible employees have been provided information with regard to the relative value relationship of the eligible options and RSUs and the valuation methodology that will be used to calculate the final exchange ratios. These metrics will not change during the exchange offer period. Due to the small spread between the current trading price of the Company's common stock and the likely closing price on the day the exchange offer expires, and taking into account the expected volatility trends in the Company's stock price, the Company does not anticipate that the difference between the hypothetical exchange ratios and the final exchange ratios will be material to a participant's election decision.

Legal Analysis. The Staff has commented on the Company's compliance with Item 4 of Schedule TO and corresponding Item 1004(a) of Regulation M-A, which requires that the exchange offer documents specify the material terms of the offer. The Staff has also commented on the Company's compliance with Rules 13e-4(f)(1)(ii) and 14e-1(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which require that the exchange offer be extended for at least ten business days from the date that notice of any increase or decrease in the consideration offered is first published or sent to the holders subject to the exchange offer.

The Company believes that its exchange offer satisfies the Exchange Act's objective of protecting offerees by ensuring that its eligible employees have information regarding the material terms of the exchange offer throughout the exchange offer period and an opportunity for tenders and withdrawals after the final exchange ratios have been communicated to them. A key feature of the Company's program is its ongoing disclosure of material information to eligible employees regarding, among other things (i) the structure of the exchange offer, (ii) the methodology for calculating the exchange ratio, which is objective and rational and remains fixed throughout the exchange offer, (iii) hypothetical exchange ratios based upon assumed closing prices which the Company believes will approximate the closing price on the date the exchange offer expires, (iv) the relative value relationship between the eligible options and the RSUs, which does not change and (v) the availability of a tool to calculate hypothetical exchange ratios; and the Company's plans and ability to rapidly disseminate pricing information to the limited pool of eligible employees, both during the exchange offer and after the determination of the actual exchange ratios, within timeframes that are consistent with, and in some cases better than, comparable timeframes addressed by the Staff in SEC No-Action letters.

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The SEC has granted relief in several recent exchange offers that, like the Company's, propose to disclose on the expiration time the final exchange ratio for the consideration to be offered. See e.g., *Kraft Foods Inc.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (July 1, 2008) (stock exchange offer whereby the final exchange ratio was determined at the expiration of the exchange offer based on the arithmetic average of the daily volume-weighted average price of each stock on each of the last three trading days of the exchange offer); *EMC Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (July 9, 2007) (option and restricted stock award exchange offer whereby the final exchange ratio was determined at the expiration of the exchange offer based on the initial public offering price of EMC Corporation's wholly-owned subsidiary, VMware, Inc.); *Halliburton Co.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Mar. 23, 2007) (stock exchange offer whereby the final exchange ratio was determined at the expiration of the exchange offer based on the daily volume-weighted average trading prices during the final three trading days of the exchange offer); *Weyerhaeuser Co.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Feb. 23, 2007) (stock exchange offer whereby the final exchange ratio was determined at the expiration of the exchange offer based on the arithmetic average of the daily volume-weighted average price of each stock on each of the last three trading days of the exchange offer); *Washington Service Bureau, Inc.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Sept. 27, 2006) (stock exchange offer whereby the exchange value was determined at the expiration of the exchange offer based on daily volume-weighted average trading prices during the final two business days of the exchange offer).

We believe that the Company's exchange offer has characteristics that are similar to those discussed in these other offers. An illustrative example is *EMC Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (July 9, 2007), in which the Staff granted relief in an option and restricted stock award exchange offer whereby the final exchange ratio was determined at the expiration of the exchange offer based on the initial public offering ("IPO") price of EMC Corporation's ("EMC's") wholly-owned subsidiary, VMware, Inc. ("VMware"). In granting the relief, the Staff considered the following factors, amongst others:

- from the commencement of their offers, EMC and VMware would disclose the relative value relationship between the VMware options to be received by EMC security holders for the EMC options tendered;
 - the formula for determining the number and exercise price of VMware options to be received in the exchange for tendered EMC options would be disclosed in the offering materials and would remain fixed throughout the duration of the exchange offer;
 - EMC and VMware were conducting the exchange offer for compensatory purposes;
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- EMC and VMware would publish a website, accessible to all eligible participants and maintain a daily indicative exchange ratio based upon an assumed VMware IPO price equal to the mid-point of the estimated price range for the IPO and would provide a toll-free number where EMC security holders could obtain offering price related information; and
- promptly after the calculation of the exchange ratio, EMC and VMware would issue a press release announcing the exchange ratio, post the exchange ratio on the website and file an amendment to its Schedule TO containing the press release disclosing the exchange ratio.

As is the case in *EMC Corp.*, the Company has disclosed in the Offer to Exchange the relative value relationship between the eligible options and the RSUs, which structure will not change during the pendency of the exchange offer. The Company has also disclosed the formula for determining the number of RSUs to be granted in exchange for the eligible options, which formula shall remain fixed throughout the duration of the exchange offer. The Company is providing eligible employees with tabular disclosure of estimated exchange ratios based upon hypothetical closing prices that are expected to represent a reasonable range of the likely actual closing price on the day the exchange offer expires. The Company is maintaining an exchange offer website whereby eligible employees can review, at any time, the tabular information about assumed exchanged ratios and calculate expected exchange ratios based on assumed closing prices selected by the employee. The Company has designated employees to respond to questions via telephone on the day the exchange offer expires. As described herein, immediately following the calculation of the final exchange ratio, the Company intends to provide written correspondence to each eligible employee with disclosure regarding the final exchange ratios and a reminder and dial-in information for the conference call. Finally, the Company will also file an amendment to its Schedule TO setting forth the final exchange ratios.

The SEC has previously granted relief from the relevant Exchange Act rules for compensatory exchange offers in which pricing was not determined until after the expiration time which, in some cases, was a considerable period of time after expiration. See e.g., *Comcast Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Oct. 7, 2004) (option for cash exchange offer whereby the cash payment was based on the average closing price of the relevant classes of Comcast Corporation's stock during a ten trading day averaging period beginning shortly after the expiration of the exchange offer); *Microsoft Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Oct. 15, 2003) (option for cash exchange offer whereby the cash payment was based on the average closing price of Microsoft Corporation's common stock during a fifteen trading day averaging period beginning shortly after the expiration of the exchange offer).

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In granting relief to Comcast Corporation (“Comcast”) and Microsoft Corporation (“Microsoft”), the Staff particularly noted (i) the compensatory objectives of each option program and (ii) the amount of information that would be available to employees regarding such program. Specifically, in both *Comcast Corp.* and *Microsoft Corp.*, eligible participants (a) were able to estimate the total payments they would receive by reference to a table that listed possible payments based upon hypothetical average closing prices and (b) had access to a calculator to calculate payments based upon these hypothetical prices. As discussed above, the Company’s program, like *Comcast Corp.* and *Microsoft Corp.*, is for compensatory purposes. The Company has provided comparable tabular disclosure and a comparable calculator tool based upon the pricing methodology in the Company’s exchange offer.

In addition, the structure of the Company’s exchange offer involves disclosure that is an improvement over both Comcast and Microsoft’s facts and circumstances. In particular, we note that Comcast and Microsoft participants were not given information about the final terms of the exchange offer until 10 to 15 days after the expiration time. In contrast, the Company proposes to furnish the final exchange ratios on the expiration time and, as described above, will undertake a number of steps to insure participants have an opportunity to consider such information before the expiration time. In short, the Company proposes to provide the same level of information during the exchange offer as Comcast and Microsoft, but will provide information regarding the final exchange ratio before the exchange offer expires, rather than significantly later. Additionally, the Company has the advantage of a having a small number of eligible employees with whom to communicate the final terms.

In *Lazard Freres & Co.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (Aug. 11, 1995), the Staff provided interpretive advice to the effect that a pricing mechanism determined based upon average trading prices over a specified period, ending not later than the second full business day prior to the expiration day, was consistent with Rule 14e-1(b) and that a bidder would not be required to extend the exchange offer period for ten business days following the determination of the offer price in such case. In *Lazard Freres & Co.*, (i) the offered securities and the securities subject to the offer were listed on a national securities exchange, (ii) the final offer price would be publicly announced by the offeror by means of press release prior to the opening of trading on the second trading day prior to the date of the expiration of the offer and (iii) the offeror provided in the offering circular a toll-free number for an information agent who would provide callers with daily hypothetical exchange ratios as if the exchange ratio had been determined on that date. In addition, the *Lazard Freres & Co.* structure also contemplated that the offeror would file an amendment to the offeror’s Schedule TO setting forth the final exchange ratio and including the press release as an exhibit. See also, *TXU Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (September 13, 2004) (relief from Rules 13e-4(d)(1), 13e-4(f)(1)(ii) and 14e-4(b) of the Exchange Act in a self-tender of TXU Corporation shares for cash based upon a weighted

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average trading price during a period of ten days ending at the close of trading on a date at least two business days prior to the expiration period); *Epicor Software Corp.*, SEC No-Action Letter, Fed. Sec. L. Rep (CCH) (May 21, 2004) (relief from Rules 13e-4(d)(1), 13e-4(f)(1)(ii) and 14e-4(b) of the Exchange Act in an offer to exchange target shares for Epicor Software Corporation shares based upon a weighted average trading price during a period of ten days ending at the close of trading on a date at least two business days prior to the expiration period).

The facts presented by the Company's exchange offer are similar to *Lazard Freres & Co.* in a number of respects. As in *Lazard Freres & Co.*, the value relationship between the exchanged securities is fixed and remains constant during the exchange offer period. The Company will furnish its eligible employees with the final exchange ratios by written communication and conference call and will make designated employees available to answer questions from eligible employees after the exchange ratios are announced and prior to the expiration of the exchange offer. The Company will amend its Schedule TO in order to include the final exchange ratios.

Although *Lazard Freres & Co.*, *TXU Corp.* and *Epicor Software Corp.* priced the exchange offer two days before the expiration of the exchange offer, the facts of those offers are distinguishable from the Company's facts and circumstances in several ways. First, these exchange offers were not undertaken for compensatory purposes. Rather, these offers were made in the context of target company acquisition arrangements or, in the case of TXU Corporation, a self tender, which are more likely to implicate the stock manipulation considerations that underlie the tender offer rules. Instead, the Company's compensatory purpose is aligned with the purpose underlying the offers considered by the Staff in *Comcast Corp.*, *Microsoft Corp.*, and *EMC Corp.*, where the Staff did not require exchange ratios to be fixed prior to the expiration period. Moreover, we believe that the two-day notice requirement of *Lazard Freres & Co.* and its progeny is unnecessary in the Company's situation because the Company has approximately 350 eligible employees and, as such, has the means to rapidly and effectively communicate with offerees in real time after the final exchange ratio is known and before the expiration period ends. We also note that the SEC has granted relief in several SEC No-Action letters relating to target company acquisition exchanges that had similar characteristics to *Lazard Freres & Co.*, but determined such exchange ratios at the end of the expiration period. See e.g., *Kraft Foods Inc.*, *Weyerhaeuser Co.*, *Halliburton Co.* and *Washington Service Bureau, Inc.*

Conclusion. In conclusion, after consideration of the structure of Company's exchange offer and the SEC No-Action letters described above, the Company believes that the disclosure to be disseminated prior to the expiration time, when considered with the steps to be undertaken on the date the exchange ratios are finalized, will provide eligible employees with adequate knowledge about the material terms of the exchange offer and sufficient time

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to consider whether to tender or withdraw following the announcement of the final exchange ratios for the exchange offer. As such, the Company respectfully submits that eligible employees will have knowledge about the material terms of the exchange offer, such that the requirements of Item 4 of Schedule TO and corresponding Item 1004(a) of Regulation MA have been met. Finally, the structure of the exchange offer allows eligible employees sufficient time to consider whether to tender or withdraw following the announcement of the final exchange ratios and complies with Rules 13e-4(f)(1)(ii) and 14e-1(b).

2. *Please note our previous comment. We note that the offer is scheduled to expire at 11:59 pm on the expiration time. The terms of the offer (i.e., number of RSUs receivable in exchange and whether optionholders will receive any RSUs), will not be known until the close of business on the expiration time. As the filing persons are aware, Rules 13e-4(f)(1)(ii) and 14e-1(b) of the Exchange Act require that you extend the offering period for any increase or decrease in the consideration offered so at least ten business days remain in the offer after the information is first sent to optionholders. If you do not intend to revise the offer in compliance with the time frame set forth in Rule 13e-4(f)(1)(ii), then provide us with a legal analysis explaining how your offer complies with Rules 13e-4(f)(1)(ii) and 14e-1(b). Please cite to relevant no-action letters, staff interpretative positions and any other relevant facts unique to the current offer that you believe support your analysis.*

We respectfully refer the Staff to the information set forth in response to comment numbered 1 above, which, as noted therein, is intended to address the Staff's comment numbered 2.

3. *Disclosure on page 3 indicates the company is conducting the offer to incentivize employees who currently hold underwater options with an exercise price of greater than \$23.35 and who otherwise meet the eligibility requirements. However, the terms of the offer exclude holders who are otherwise eligible from receiving restricted stock units in exchange for underwater options if, on the date of expiration, the Black Scholes valuation model yields an exchange ratio that would result in less than one RSU being issued to the employee. As such, the offer would appear to potentially differentially and adversely impact optionholders who are similarly situated in that they hold the same class of eligible options. If you are relying on the global exemptive order applicable to stock option exchanges, please supplementally explain the compensatory purpose served by this exclusion and explain how the offer as structured fits within the parameters set forth in the March 21, 2001 Global Exemptive Order. Your analysis should address how the offer's purposes, as listed on page 18, can be reconciled with the exclusion of certain optionholders. Alternatively, please revise your offer such that it is consistent with the requirements set forth in Exchange Act Rule 13e-4(f)(8) or the parameters set forth in the global exemptive order.*
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In structuring the exchange offer, the Company considered the Division of Corporation Finance's "No Action, Interpretive and/or Exemptive Letter: Issuer exchange offers Conducted for Compensatory Purposes under the Securities and Exchange Act of 1934" dated March 21, 2001 (the "Exemptive Order"), in which the SEC granted an exemption from Rules 13e-4(f)(8)(i) and (ii) for employee stock option exchange offers that meet four specified conditions listed and determined that the Company satisfied each of the required conditions, as detailed below.

1. *The issuer is eligible to use Form S-8, the options subject to the exchange offer were issued under an employee benefit plan as defined in Rule 405 under the Securities Act of 1933 (the "Securities Act"), and the securities offered in the exchange offer will be issued under such an employee benefit plan.*

The Company is eligible to use Form S-8, as it is subject to filing reports pursuant to Section 13 or 15(d) of the Exchange Act, and has filed all reports and other materials required to be filed by such requirements during the preceding 12 months. The Company is not a "shell company" as defined in Rule 405 of the Securities Act. The stock options subject to the Company's exchange offer were issued under the Company's Second Restated 1995 Stock Option Plan, which is an "employee benefit plan" as defined in Rule 405 under the Securities Act. The RSUs will all be issued under the 2004 Stock Incentive Plan, as amended, which is an employee benefit plan as defined in Rule 405.

2. *The exchange offer is conducted for compensatory purposes.*

As discussed under the subheading "Compensatory Purpose of Exchange Offer" in the response to the Staff's comment numbered 1 above, the Company is conducting the exchange offer for compensatory purposes.

3. *The issuer discloses in the offer to purchase the essential features and significance of the exchange offer, including risks that option holders should consider in deciding whether to accept the offer.*

The Company discloses in the Schedule TO and the Offer to Exchange the essential features and significance of the exchange offer, including the risks that option holders should consider in deciding whether to accept the exchange offer.

4. *Except as exempted in this order, the issuer complies with Rule 13e-4.*

Except as otherwise exempted pursuant to the Exemptive Order, the Company believes it has complied with Rule 13e-4 of the Exchange Act. The Company will continue to comply

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with the requirements of Rule 13e-4 of the Exchange Act through the completion of the exchange offer.

Consistent with the Exemptive Order, the Company structured the exchange offer to be consistent with its compensation policies and practices and is conducting the exchange offer solely for compensatory purposes. As discussed above, the exchange offer is structured as a value-for-value exchange based upon the Black-Scholes option valuation methodology. Additionally, the stockholder approval of the exchange offer specified a value-for-value exchange, calculated based on the closing price of the Company's common stock on the day the exchange offer expires, and further specified that the number of RSUs is to be rounded down to the nearest whole. The Company believes that granting zero RSUs is not consistent with compensatory purposes because an underwater option, while not providing the incentive and retentive value originally intended, still provides some incentive and retentive value on an individual basis, as compared to not holding an award. Further, because the Company anticipates that it will not exclude many eligible employees, if any, the Company does not believe that the exclusion of certain option holders is inconsistent with the compensatory purposes of the exchange offer as a whole, including those set forth on page 18 of the Offer to Exchange. For example, the Company has specified that one of the compensatory purposes is a reduction in overhang. As noted in the Offer to Exchange, the actual reduction of overhang that will result from the exchange offer could vary significantly and is dependent upon a number of factors, including the actual level of participation in the exchange offer. Thus, even if there were exclusions of a small number of option holders, the exclusions would not materially impact the compensatory purpose of a reduction in overhang. The Company believes that the exclusions, if any, will not have any material impact on any of the compensatory purposes of the exchange offer, in the aggregate, and, as discussed, the exclusion serves to enhance the compensatory purposes on an individual level.

Summary Term Sheet-Questions & Answers, page 1

Who may participate in the offer, page 2

4. *You disclose that employees located outside of the United States, Germany, Japan and the United Kingdom are not eligible to participate. Please note that the all-holders provision in Exchange Act Rule 13e-4(f)(8) applies equally to U.S. holders as well as non-U.S. holders. Refer to the interpretive guidance in section II.G.1. of SEC Release 33-8957. If you are relying on the global exemptive order applicable to employee stock option exchanges, please explain in your response letter how the exclusion of employees in certain foreign jurisdictions is related to a compensatory purpose, or revise to include them in the offer.*

Consistent with the Exemptive Order, the Company designed the exchange offer to be consistent with its compensation policies and practices and is conducting the exchange offer

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for compensatory purposes. Thus, the Company respectfully submits that the exclusion of employees in certain foreign jurisdictions is related to a compensatory purpose.

The compensation plans and programs that the Company has adopted for its foreign employees are designed to meet local objectives, which primarily involves competitiveness in each such jurisdiction while maintaining compliance with local regulatory requirements. As a result of differences in competitive compensation and benefit arrangements, tax and regulatory requirements and the costs of administering compensation and benefit plans in the United States, as compared to some of the foreign countries in which the Company operates, the Company's foreign employees typically have compensation packages with components that differ in form and amount from the compensation packages of the Company's domestic employees. For example, the Company's foreign employees are often eligible for programs not generally made available to employees in the United States, including programs providing for housing allowances, auto allowances and more extensive vacation time. Additionally, during cyclical industry downturns, including the overall economic downturn that began in 2008, the Company's domestic employees have been subject to multiple unpaid shutdown weeks, whereas employees in other jurisdictions are subject to no, or significantly fewer, shutdown weeks. The Company's foreign employees often have different programs and arrangements for cash compensation, equity awards and health care benefits than do employees in the United States. Accordingly, changes in compensation arrangements for the Company's domestic employees are not necessarily replicated for foreign employees, and vice versa, and significant differences exist among the various foreign jurisdictions.

Based on its belief that foreign tax and regulatory requirements could limit the cost-effectiveness and value of the exchange offer to the Company and its foreign employees, jurisdictions where less than 50 employees are located have been excluded from the exchange offer. Of those jurisdictions, only four have employees that hold eligible options as follows: Israel (8 employees), Denmark (1 employee), Singapore (1 employee) and Hong Kong (2 employees). Additionally, in the locations where the Company employs few employees, including the four jurisdictions where there are employees that hold eligible options, the Company generally does not compete for talent on the basis of equity compensation. As noted above, while competition for the employees that the Company needs in some jurisdictions is intense in general, and many of the Company's peer companies provide stock options and other equity awards, such stock options and other equity awards are not significant means of attracting, motivating and retaining employees in the jurisdictions in which the Company employs few employees. Finally, given the small number of eligible options held by employees in these jurisdictions, excluding them from the exchange offer does not have a material effect on the general compensatory purposes. As a result, replacing underwater options with RSUs in these

jurisdictions does not provide compensatory benefits comparable to those in jurisdictions in which the Company has a significant employee base.

The Company believes that differentiating between its foreign and domestic employees in the adoption and administration of the Company's compensation and benefit programs and distinguishing amongst its locations on the basis of the number of employees is within the Company's discretion and authority. Further, the Company believes that exclusion of foreign employees in jurisdictions where less than 50 employees are located from the exchange offer, in furtherance of its compensation policies and programs, is permissible under the Exemptive Order, which specifically states that "this exemption eliminates the limitations that the all holders and best price rules place on issuers' ability to structure exchange offers in a manner consistent with their compensation policies and practices."

In response to the Staff's comment, the Company has amended the Offer to Exchange in order to clarify that it has excluded employees in jurisdictions where the Company believes that extending the exchange offer would be inconsistent with the compensatory purposes of the exchange offer.

Section 7. Conditions to the Offer, page 23

5. *A tender offer may be conditioned on a variety of events and circumstances, provided that they are not within the direct or indirect control of the bidder and are drafted with sufficient specificity to allow for objective verification whether or not the conditions have been satisfied. In the first bullet point on page 23, a listed condition is that there has not been threatened...any action...seeking to...delay completion of the exchange offer or otherwise relating to the exchange offer..." (emphasis added). Please clarify the condition as it appears to be overly broad. Similarly, please clarify the statement in the last bullet point of conditions on page 25. Would the enactment of "any" rule or regulation, whether or not such enactment materially impacted the company or impacted the offer, result in a trigger of this condition? As drafted, the condition appears to be overly broad. Please revise your disclosure to clarify the circumstances in which this condition would be deemed to apply.*

In response to the Staff's comment, the Company has amended the Offer to Exchange in order to clarify the first bullet on page 23 to eliminate the seemingly overbroad conditions noted by the Staff.

6. *Please refer to the last paragraph of this section relating to your failure to exercise any of the rights described in this section. Note that when a condition is triggered and you decide to proceed with the offer anyway, we believe that this constitutes a waiver of the triggered condition(s). Depending on the materiality of the waived condition and the number of days remaining in the offer, you may be required to extend the offer and recirculate new disclosure to security holders. You may not, as this language seems to imply, simply fail to*
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assert a triggered offer condition and thus effectively waive it without officially doing so. Please confirm your understanding in your response letter.

In response to the Staff's comment, the Company has amended the Offer to Exchange in order to clarify that the Company may not simply fail to assert a triggered exchange offer condition and thus effectively waive it without officially doing so. The Company confirms the understanding that it shall not fail to assert a triggered exchange offer condition and thus effectively waive it without officially doing so.

7. *Please see our comment above. When an offer condition is triggered by events that occur during the offer period and before the expiration of the offer, the company should inform holders of eligible options how it intends to proceed promptly, rather than wait until the end of the offer period, unless the condition is one where satisfaction of the condition may be determined only upon expiration. Please confirm the company's understanding in your response letter.*

The Company acknowledges the Staff's comment and understands that, in the event of a triggered exchange offer condition, it shall promptly inform holders of eligible options how it intends to proceed, rather than wait until the end of the exchange offer period, unless the condition is one where satisfaction of the condition may be determined only upon expiration.

Section 10. Information Concerning MKS: Financial Information, page 30

8. *Please include all the information required by Item 1010(c) of Regulation M-A. For example, revise to include disclosure of the ratio of earnings to fixed charges, update the book value per share to reflect the most recent balance sheet information, and if material, pro forma financial information for the relevant periods required.*

In response to the Staff's comment, the Company has amended the Offer to Exchange in order to provide additional disclosure, including the ratio of fixed earnings to fixed charges, the updated book value per share and to reflect the most recent balance sheet information. The Company respectfully submits that pro forma financial information is not material to the Offer to Exchange as the structure of the exchange offer is specifically designed to avoid any material impact to the Company's financial statements.

Section 13. Legal Matter: Regulatory Approvals, page 32

9. *Please supplementally advise us of the circumstances in which you would be prohibited by applicable law from granting RSUs. Please also note our prior comment above regarding the applicability of Exchange Act Rule 13e-4(f)(8) to both U.S. and foreign holders.*
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The Company acknowledges the Staff's comments and supplementally advises the Staff that the circumstances in which it might be prohibited by applicable law from granting RSUs are circumstances that would arise during the exchange offer period. For example, subsequent to the commencement of the exchange offer and prior to its expiration, laws in any of the relevant jurisdictions, including the United States, could be amended to prohibit the granting of RSUs or the holding of certain securities. The Company acknowledges that any such circumstances would need to arise during the pendency of the exchange offer in order to affect the grant of RSUs pursuant to the exchange offer. The Company is not aware of any such potential circumstances and has therefore amended the Offer to Exchange to clarify that it is not currently aware of any circumstances in which it would be prohibited by applicable law from granting RSUs.

Section 15. Extension of the exchange offer: Termination: Amendment page 34

10. *Refer to the language in the second paragraph of this section, You may not terminate or amend an offer by giving only oral notice to option holders. Please revise to clarify.*

In response to the Staff's comment, the Company has amended the Offer to Exchange to clarify that that it may not terminate or amend its exchange offer by giving only oral notice to option holders.

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Please do not hesitate to telephone the undersigned at 617-526- 6675 if you have any questions regarding this response letter, the Amendment or any related matters.

Very truly yours,

/s/ Mark G. Borden

Mark G. Borden, Esq.

cc: Leo Berlinghieri
Kathleen Burke, Esq.