

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934
or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Loomis Paul</u> <hr/> (Last) (First) (Middle) <u>C/O 2 TECH DRIVE, SUITE 201</u> <hr/> (Street) <u>ANDOVER MA 01810</u> <hr/> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 05/03/2010	3. Issuer Name and Ticker or Trading Symbol <u>MKS INSTRUMENTS INC [MKSI]</u> <hr/> 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <p style="text-align: center;"><u>VP & GM, Astex</u></p>	5. If Amendment, Date of Original Filed (Month/Day/Year) <hr/> 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person
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Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
<u>Common Stock</u>	1,861	D	

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
<u>Restricted Stock Unit</u>	(1)	(1)	<u>Common Stock</u>	706	(2)	D	
<u>Restricted Stock Unit</u>	(3)	(3)	<u>Common Stock</u>	16,225	(2)	D	

Explanation of Responses:

1. RSUs vest in one year from the August 28, 2009 grant date

2. Each restricted stock unit represents the contingent right to receive one share of common stock of MKS Instruments, Inc.

3. The RSUs vest 3 years after grant date, broken out by amount and corresponding grant date as follows: 5,000 on April 9, 2010, 4,000 on May 26, 2009, 4,225 on March 28, 2008, 3,000 on July 1, 2007 and 3,000 on March 5, 2007 grant dates.

/s/Renee M. Donlan POA 05/11/2010

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

POWER OF ATTORNEY

Know all by these presents, that the undersigned hereby constitutes and appoints each of Kathleen F. Burke and Renee M. Donlan, signing singly / jointly, the undersigned's true and lawful attorney in fact to:

(1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer and/or director of MKS Instruments Inc. (the ?Company?), Forms 3, 4, 5 and 144 in accordance with Section 16(a) of the Securities Exchange Act of 1934 and the rules thereunder;

(2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Forms, complete and execute any amendment or amendments thereto, and timely file such form with the United States Securities and Exchange Commission and any stock exchange or similar authority; and

(3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney in fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney in fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney in fact may approve in such attorney in fact's discretion.

The undersigned hereby grants to each such attorney in fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney in fact, or such attorney in fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys in fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Forms 3, 4, 5 and 144 with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys in fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 5th day of May, 2010.

_____/s/ Paul Loomis_____

Signature

Name: Paul Loomis_____