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| <b>OMB APPROVAL</b>                          |           |
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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

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*<br><u>SMITH JOHN ALEXANDER</u><br><br>(Last) (First) (Middle)<br><u>2 TECH DRIVE</u><br><br>(Street)<br><u>ANDOVER MA 01810</u><br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>MKS INSTRUMENTS INC [ MKSI ]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)<br><br>Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><u>V.P. &amp; Chief Tech Officer</u> |
|  | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>03/10/2010</u>              |   |
|  | 4. If Amendment, Date of Original Filed (Month/Day/Year)                           | 6. Individual or Joint/Group Filing (Check Applicable Line)<br><br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br><br><input type="checkbox"/> Form filed by More than One Reporting Person            |

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) |            |         | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|---------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price   |   |  |   |
| Common Stock                    | 03/10/2010                           |  | M                              |   | 1,157   | A          | \$0     | 1,157   | D  |   |
| Common Stock                    | 03/10/2010                           |  | M                              |   | 1,667   | A          | \$0     | 2,824   | D  |   |
| Common Stock                    | 03/10/2010                           |  | F <sup>(1)</sup>               |   | 898   | D          | \$19.07 | 1,926   | D  |   |
| Common Stock                    | 03/11/2010                           |  | S                              |   | 1,926   | D          | \$19.04 | 0   | D  |   |

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) |       | 6. Date Exercisable and Expiration Date (Month/Day/Year) |                 | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |       |
|--|--|--------------------------------------|--|--------------------------------|---|--|-------|--|-----------------|---|--|--|---|--|-------|
|  |  |                                      |  | Code                           | V | (A)  | (D)   | Date Exercisable   | Expiration Date |   |  |  |   |  | Title |
| Restricted Stock Unit                      | (2)  | 03/10/2010                           |  | M                              |   |  | 1,157 | (3)  | (3)             | Common Stock  | 1,157                                      | \$0  | 13,057  | D  |       |
| Restricted Stock Unit                      | (2)  | 03/10/2010                           |  | M                              |   |  | 1,667 | (4)  | (4)             | Common Stock  | 1,667                                      | \$0  | 10,167  | D  |       |

**Explanation of Responses:**

- This transaction was effected pursuant to a Rule 10b5-1 trading plan previously adopted by the reporting person to satisfy tax withholding obligations.
- Each restricted stock unit represents the contingent right to receive one share of common stock of MKS Instruments, Inc.
- These RSUs are subject to the achievement of performance criteria determined in the first year of the grant and thereafter vests in equal annual installments over three years.
- The RSUs vest in equal annual installments over three years.

/s/Renee M. Donlan POA 03/12/2010

\*\* 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 4 (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.