
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of Earliest Event Reported): May 5, 2014

MKS Instruments, Inc.
(Exact name of registrant as specified in its charter)

Massachusetts
(State or other jurisdiction
of incorporation)

000-23621
(Commission
File Number)

04-2277512
(I.R.S. Employer
Identification No.)

**2 Tech Drive, Suite 201
Andover, Massachusetts**
(Address of principal executive offices)

01810
(Zip Code)

Registrant's telephone number, including area code: 978-645-5500

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(e) At the annual meeting of stockholders of the Company held on May 5, 2014 (the “2014 Annual Meeting”), the Company’s stockholders approved the 2014 Stock Incentive Plan (the “2014 Stock Incentive Plan”) and the 2014 Employee Stock Purchase Plan (the “2014 ESPP”). The Board of Directors of the Company (the “Board”) adopted the 2014 Stock Incentive Plan and the 2014 ESPP on February 10, 2014, subject to stockholder approval.

2014 Stock Incentive Plan

Under the 2014 Stock Incentive Plan, up to 18,000,000 shares of our Common Stock (subject to adjustment in the event of stock splits and other similar events) may be issued pursuant to awards granted thereunder in the form of incentive stock options, non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards.

The foregoing summary of the 2014 Stock Incentive Plan is qualified in its entirety by reference to the detailed summary of the 2014 Stock Incentive Plan set forth in the section “Proposal Two—Approval of The 2014 Stock Incentive Plan—Description of the 2014 Plan” in the Company’s Proxy Statement filed with the Securities and Exchange Commission on March 24, 2014 and to the full text of the 2014 Stock Incentive Plan, a copy of which is filed as Exhibit 10.1 to this Current Report on Form 8-K and is incorporated herein by reference.

2014 Employee Stock Purchase Plan

Under the 2014 ESPP, we are authorized to sell to our eligible employees, through payroll deductions, up to an aggregate of 2,500,000 shares of our Common Stock. The 2014 ESPP is intended to qualify as an “employee stock purchase plan” as defined in Section 423 of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder.

The foregoing summary of the 2014 ESPP is qualified in its entirety by reference to the detailed summary of the 2014 ESPP set forth in the section “Proposal Three—Approval of The 2014 Employee Stock Purchase Plan—Summary of the 2014 ESPP” in the Company’s Proxy Statement filed with the Securities and Exchange Commission on March 24, 2014 and to the full text of the 2014 ESPP, a copy of which is filed as Exhibit 10.2 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

On May 5, 2014, the Company’s Board of Directors amended and restated the Company’s by-laws. Many of the amendments were made to conform the by-laws to the provisions and language of the Massachusetts Business Corporation Act (the “MBCA”). The description herein of the amendments made to the by-laws is qualified in its entirety by reference to the by-laws, a copy of which is filed as Exhibit 3.1 to this Current Report on Form 8-K and is incorporated herein by reference. The changes made include the following:

- change the office of “clerk” to “secretary” in conformity with MBCA;

- modify the advance notice procedures that a shareholder must follow, including the timing of notice and what information a shareholder must provide, in order to bring business before a meeting of the shareholders or to nominate persons for election to the Board;
- permit the directors to set rules and procedures for the conduct of stockholder meetings;
- require that notices of stockholder meetings be sent no more than 60 days before the meeting in conformity with MBCA;
- permit the record date for dividends and stockholder action to be up to 70 days in advance instead of 60 days in conformity with MBCA;
- clarify that board meetings may be held solely by telephone and that stockholders can participate in stockholder meetings by telephone if permitted by the Company;
- allow for proxies to be valid for 11 months instead of 6 months in conformity with MBCA;
- allow for electronic notice of meetings and voting of proxies in accordance with electronic instructions in conformity with MBCA;
- add sections on standard of conduct for directors and conflicts of interests involving directors in conformity with MBCA; and
- add requirements for the maintenance and inspection of corporate records in conformity with MBCA.

Item 5.07 Submission of Matters to a Vote of Security Holders.

The following sets forth the results of voting by stockholders at the 2014 Annual Meeting:

- a) Election of three Class III Directors to serve for a three year term and until their successors are elected:

<u>Director Nominee</u>	<u>Votes For</u>	<u>Votes Withheld</u>
John R. Bertucci	48,372,552	1,248,198
Robert R. Anderson	48,723,544	897,206
Gregory R. Beecher	49,495,720	125,030

There were broker non-votes of 2,128,910 shares on this proposal.

b) Approval of the 2014 Stock Incentive Plan

<u>Votes For</u>	<u>Vote Against</u>	<u>Votes Abstained</u>
43,388,103	6,078,602	154,045

There were broker non-votes of 2,128,910 shares on this proposal.

c) Approval of the 2014 Employee Stock Purchase Plan

<u>Votes For</u>	<u>Vote Against</u>	<u>Votes Abstained</u>
49,022,407	521,333	77,010

There were broker non-votes of 2,128,910 shares on this proposal.

d) Approval of the compensation paid to the Company's Named Executive Officers, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, the compensation tables and any related material disclosed in the Proxy Statement for this meeting.

<u>Votes For</u>	<u>Vote Against</u>	<u>Votes Abstained</u>
47,483,058	2,031,115	106,577

There were broker non-votes of 2,128,910 shares on this proposal.

e) Ratification of the appointment of PricewaterhouseCoopers LLP as the Company's independent registered public accounting firm for the year ended December 31, 2014.

<u>Votes For</u>	<u>Vote Against</u>	<u>Votes Abstained</u>
51,552,540	110,542	86,578

There were no broker non-votes for this proposal.

Item 9.01. Financial Statements and Exhibits.**(d) Exhibits**

- 3.1 Amended and Restated By-Laws
- 10.1* 2014 Stock Incentive Plan
- 10.2* 2014 Employee Stock Purchase Plan
- 10.3* Form of Restricted Stock Unit Agreement for Non-Employee Directors under the 2014 Stock Incentive Plan
- 10.4* Form of Restricted Stock Unit Agreement for Employees under the 2014 Stock Incentive Plan

* Management contract or compensatory plan arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MKS Instruments, Inc.

Date: May 6, 2014

By: /s/ Seth H. Bagshaw

Name: Seth H. Bagshaw

Title: Vice President, Chief Financial Officer and Treasurer

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
3.1	Amended and Restated By-Laws
10.1*	2014 Stock Incentive Plan
10.2*	2014 Employee Stock Purchase Plan
10.3*	Form of Restricted Stock Unit Agreement for Non-Employee Directors under the 2014 Stock Incentive Plan
10.4*	Form of Restricted Stock Unit Agreement for Employees under the 2014 Stock Incentive Plan

* Management contract or compensatory plan arrangement.

AMENDED AND RESTATED BY-LAWS
OF
MKS INSTRUMENTS, INC.

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ARTICLE I
STOCKHOLDERS

1.1. Annual Meeting. The Corporation shall hold an annual meeting of stockholders at a time to be fixed by the Board of Directors, the Chief Executive Officer or the President and stated in the notice of the meeting. The purposes for which the annual meeting is to be held, in addition to those prescribed by the Articles of Organization, shall be for electing Directors and for such other purposes as shall be specified in the notice for the meeting, and only business within such purposes may be conducted at the meeting. In the event an annual meeting is not held at the time fixed in accordance with these By-Laws or the time for an annual meeting is not fixed in accordance with these By-Laws to be held within 13 months after the last annual meeting, the Corporation may designate a special meeting as a special meeting in lieu of the annual meeting, and such meeting shall have all of the effect of an annual meeting.

1.2. Notice of Business at Annual Meetings.

(a) At any annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors. For business to be properly brought before an annual meeting by a stockholder, (i) if such business relates to the nomination of a person for election as a Director of the Corporation, the procedures in Section 1.9 must be complied with and (ii) if such business relates to any other matter, the business must constitute a proper matter under Massachusetts law for stockholder action and the stockholder must (x) have given timely notice thereof in writing to the Secretary in accordance with the procedures in Section 1.2(b), (y) be a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such annual meeting and (z) be entitled to vote at such annual meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal executive offices of the Corporation not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the seventh day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. In no event shall the adjournment or postponement of an annual meeting (or the public announcement thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice.

The stockholder's notice to the Secretary shall set forth: (A) as to each matter the stockholder proposes to bring before the annual meeting (1) a brief description of the business desired to be brought before the annual meeting, (2) the text of the proposal (including the exact text of any resolutions proposed for consideration and, in the event that such business includes a

proposal to amend the By-laws, the exact text of the proposed amendment), and (3) the reasons for conducting such business at the annual meeting, and (B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the proposal is being made (1) the name and address of such stockholder, as they appear on the Corporation's books, and of such beneficial owner, (2) the class and number of shares of stock of the Corporation which are, directly or indirectly, owned, beneficially or of record, by such stockholder and such beneficial owner, (3) a description of any material interest of such stockholder or such beneficial owner and the respective affiliates and associates of, or others acting in concert with, such stockholder or such beneficial owner in such business, (4) a description of any agreement, arrangement or understanding between or among such stockholder and/or such beneficial owner and any other person or persons (including their names) in connection with the proposal of such business or who may participate in the solicitation of proxies in favor of such proposal, (5) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or such beneficial owner with respect to shares of stock of the Corporation, (6) any other information relating to such stockholder and such beneficial owner that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the business proposed pursuant to Section 14 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the rules and regulations promulgated thereunder, (7) a representation that such stockholder intends to appear in person or by proxy at the annual meeting to bring such business before the meeting and (8) a representation whether such stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such proposal (and such representation shall be included in any such solicitation materials). Not later than 10 days after the record date for the meeting, the stockholder giving such notice shall provide an update, as of the record date, of the information required by Items (A)(3) and (B)(1)-(6) of the prior sentence. Notwithstanding anything in these By-laws to the contrary, no business shall be conducted at any annual meeting of stockholders except in accordance with the procedures in this Section 1.2; provided that any stockholder proposal which complies with Rule 14a-8 of the proxy rules (or any successor provision) promulgated under the Exchange Act and is to be included in the Corporation's proxy statement for an annual meeting of stockholders shall be deemed to comply with the notice requirements of this Section 1.2. A stockholder shall not have complied with this Section 1.2(b) if the stockholder (or beneficial owner, if any, on whose behalf the proposal is made) solicits or does not solicit, as the case may be, proxies in support of such stockholder's proposal in contravention of the representations with respect thereto required by this Section 1.2.

(c) The chairman of any annual meeting shall have the power and duty to determine whether business was properly brought before the annual meeting in accordance with the provisions of this Section 1.2 (including whether the stockholder or beneficial owner, if any, on whose behalf the proposal is made solicited (or is part of a group which solicited) or did not

so solicit, as the case may be, proxies in support of such stockholder's proposal in compliance with the representation with respect thereto required by this Section 1.2), and if the chairman should determine that business was not properly brought before the annual meeting in accordance with the provisions of this Section 1.2, the chairman shall so declare to the meeting and such business shall not be brought before the annual meeting.

(d) Except as otherwise required by law, nothing in this Section 1.2 shall obligate the Corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board of Directors information with respect to any proposal submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.2, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present business, such business shall not be considered, notwithstanding that proxies in respect of such business may have been received by the Corporation. For purposes of this Section 1.2, to be considered a "qualified representative of the stockholder", a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, at the meeting of stockholders.

(f) For purposes of this Section 1.2, "public disclosure" shall include disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act.

1.3. Special Meetings. Special meetings of stockholders may be called by the President or by the Board of Directors. In addition, upon written application of one or more stockholders who are entitled to vote and who hold at least the Required Percentage (as defined below) of the capital stock entitled to vote at the meeting, special meetings shall be called by the Secretary, or in case of the death, absence, incapacity or refusal of the Secretary, by any other officer.

Only business within the purpose or purposes described in the meeting notice may be conducted at a special meeting of stockholders.

For purposes of this Section 1.3, the "Required Percentage" shall be (i) 10% at any time at which the Corporation shall not have a class of voting stock registered under the Exchange Act, and (ii) 40% at any time at which the Corporation shall have a class of voting stock registered under the Exchange Act.

Any request for a call of a special meeting of stockholders (a "Call") by the holders of the Required Percentage of the capital stock entitled to vote at the meeting (the "Voting Stock") shall be governed by and subject to the following:

(a) Any stockholder of record seeking to solicit requests for a Call pursuant to this Section 1.3 shall so notify the Corporation in writing to the Secretary of the Corporation and such written notification shall set forth the reason or reasons for the Call and the purpose of such special meeting.

(b) No solicitation of stockholder requests for a Call (a “Call Solicitation”) may be commenced (i) before the Call Request Record Date (as defined in paragraph (c) of this Section 1.3) or (ii) during the period of 90 days following the most recent meeting of the stockholders of the Corporation.

(c) In order that the Corporation may determine the stockholders entitled to request a Call, the Board of Directors of the Corporation shall fix a record date (the “Call Request Record Date”). Any stockholder of record seeking to solicit stockholder requests for a Call shall, with delivery to the Corporation of the written information specified in paragraph (a), request in writing that the Board of Directors fix the Call Request Record Date. The Board of Directors shall, within 10 days after the date on which such request is received, adopt a resolution fixing the Call Request Record Date and such Call Request Record Date shall be not more than 10 days after the date upon which such resolution is adopted by the Board of Directors.

(d) All requests for a Call and revocations thereof shall be delivered to the Corporation no later than the 30th day (the “Delivery Date”) after the Call Request Record Date.

(e) Any stockholder may revoke a prior request for a Call or opposition to a Call by an instrument in writing delivered prior to the Delivery Date.

(f) Promptly after the Delivery Date, requests for a Call and revocations thereof shall be counted and verified by an independent party selected by the Corporation.

(g) If, in response to any Call Solicitation, the holders of record of the Required Percentage of the Voting Stock as of the Call Request Record Date submit valid and unrevoked requests for a Call no later than the Delivery Date, the Board of Directors of the Corporation shall fix a record date pursuant to Section 1.12 hereof and a meeting date for the special meeting; provided that the date to be fixed for such meeting shall be no earlier than 60 days or later than 90 days after the Delivery Date; and provided, further, that the Board of Directors shall not be obligated to fix a meeting date or to hold any meeting of stockholders within 60 days of the next scheduled meeting of the stockholders of the Corporation.

(h) In the absence of a quorum at any special meeting called pursuant to a Call Solicitation, such special meeting may be postponed or adjourned from time to time only by the officer of the Corporation entitled to preside at such meeting.

1.4. Place of Meetings. All meetings of stockholders shall be held at the principal office of the Corporation unless a different place is fixed by the Board of Directors, the Chief Executive Officer or the President and specified in the notice of the meeting.

1.5. Requirement of Notice. A written notice of the date, time and place of each annual and special stockholders’ meeting describing the purposes of the meeting shall be given to stockholders entitled to vote at the meeting (and, to the extent required by law or the Articles of Organization, to stockholders not entitled to vote at the meeting) no fewer than seven nor more

than 60 days before the meeting date. If an annual or special meeting of stockholders is adjourned to a different date, time or place, notice need not be given of the new date, time or place if the new date, time or place is announced at the meeting before adjournment. If a new record date for the adjourned meeting is fixed, however, notice of the adjourned meeting shall be given under this Section 1.5 to persons who are stockholders as of the new record date. All notices to stockholders shall conform to the requirements of Article III of these By-Laws.

1.6. Waiver of Notice. A stockholder may waive any notice required by law, the Articles of Organization or these By-Laws before or after the date and time stated in the notice. The waiver shall be in writing, be signed by the stockholder entitled to the notice, and be delivered to the Corporation for inclusion with the records of the meeting. A stockholder's attendance at a meeting: (a) waives objection to lack of notice or defective notice of the meeting, unless the stockholder at the beginning of the meeting objects to holding the meeting or transacting business at the meeting; and (b) waives objection to consideration of a particular matter at the meeting that is not within the purpose or purposes described in the meeting notice, unless the stockholder objects to considering the matter when it is presented.

1.7. Quorum. The holder or holders of a majority in interest of all stock issued, outstanding, and entitled to vote at a meeting, present in person or represented by proxy, shall constitute a quorum, but the majority of a lesser interest so present may, from time to time, postpone to a new time or place any meeting and the postponed meeting may be held without further notice, except as provided in Section 1.5.

1.8. Voting and Proxies. Each stockholder entitled to vote shall have one vote, to be exercised in person or by proxy, for each share of stock held by him, and a proportionate vote for a fractional share. When a quorum is present at any meeting the vote of the holders of a majority in interest of the stock represented which is entitled to vote and voting shall decide any matter properly brought before the meeting, except in the case of elections by stockholders, which shall be decided by a plurality of the votes cast by stockholders entitled to vote at the election, and except when a larger vote is required by law, the Articles of Organization or these By-Laws. No vote need be taken by ballot unless so requested by any stockholder entitled to vote thereon. Proxies must be in writing and filed with the Secretary of the meeting before being voted. The person named in a proxy may vote at any adjournment of the meeting for which the proxy was given, but the proxy shall terminate after final adjournment of the meeting. Except to the extent permitted by law, no proxy dated more than eleven months before the meeting named in it shall be valid. A proxy purporting to be executed by or on behalf of a stockholder shall be deemed valid unless challenged at or prior to its exercise and the burden of proving invalidity shall rest on the challenger. A proxy with respect to stock held in the name of two or more persons shall be valid if executed by any one of them unless at or prior to the exercise of the proxy the Corporation receives a specific notice to the contrary from any one of them. Inspectors of election, if any, shall be appointed by the Board of Directors or, in the absence of such appointment, by the officer presiding at any meeting of the stockholders.

1.9. Nomination of Directors.

(a) Except for (1) any Directors entitled to be elected by the holders of any class or series of Preferred Stock, (2) any Directors elected by the Board of Directors in accordance with Section 2.3 of these By-Laws to fill vacancies or newly created directorships or (3) as otherwise required by applicable law or stock market regulation, only persons who are nominated in accordance with the procedures in this Section 1.9 shall be eligible for election as Directors. Nomination for election to the Board of Directors at a meeting of stockholders may be made (i) by or at the direction of the Board of Directors or (ii) by any stockholder of the Corporation who (x) complies with the notice procedures set forth in Section 1.9(b), (y) is a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such meeting and (z) be entitled to vote at such annual meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal executive offices of the Corporation as follows: (i) in the case of an election of Directors at an annual meeting of stockholders, not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the seventh day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs; or (ii) in the case of an election of Directors at a special meeting of stockholders, provided that the Board of Directors has determined that Directors shall be elected at such meeting, not earlier than the 120th day prior to such special meeting and not later than the close of business on the later of (x) the 90th day prior to such special meeting and (y) the seventh day following the day on which notice of the date of such special meeting was mailed or public disclosure of the date of such special meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a stockholders' meeting (or the public announcement thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice.

The stockholder's notice to the Secretary shall set forth: (A) as to each proposed nominee (1) such person's name, age, business address and, if known, residence address, (2) such person's principal occupation or employment, (3) the class and number of shares of stock of the Corporation which are directly or indirectly, owned, beneficially or of record by such person, (4) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among (x) the stockholder, the beneficial owner, if any, on whose behalf the nomination is being made and the respective affiliates and associates of, or others acting in concert with, such stockholder and such beneficial owner, on the one hand, and (y) each proposed nominee, and his or her respective affiliates and associates, or others acting in concert with such nominee(s), on the other hand, including all information that would be required to be disclosed pursuant to Item 404 of Regulation S-K under the Exchange Act if the stockholder making the nomination and any beneficial owner on whose behalf the nomination is made or any affiliate or associate thereof or person acting in concert therewith were the "registrant" for purposes of such Item and the proposed nominee were a director or executive officer of such registrant, and (5) any other information concerning such person that must be disclosed as to nominees in proxy solicitations pursuant to Regulation 14A under the Exchange Act; and (B) as

to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is being made or who may participate in the solicitation of proxies in favor of electing such nominee(s), (1) such stockholder's name and address, as they appear on the Corporation's books, and the name and address of such beneficial owner, (2) the class and number of shares of stock of the Corporation which are directly or indirectly, owned, beneficially or of record, by such stockholder and such beneficial owner, (3) a description of all agreements, arrangements or understandings between or among such stockholder and/or such beneficial owner and each proposed nominee and any other person or persons (including their names) pursuant to which the nomination(s) are to be made by such stockholder, (4) a description of any agreement, arrangement or understanding (including any derivative or short positions, swaps, profit interests, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or beneficial owner with respect to shares of stock of the Corporation, (5) any other information relating to such stockholder that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the election of directors in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, (6) a representation that such stockholder intends to appear in person or by proxy at the meeting to nominate the person(s) named in its notice, and (7) a representation whether the stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to elect the nominee (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such nomination (and such representation shall be included in any such proxy statement and form of proxy). Not later than 10 days after the record date for the meeting, the stockholder giving such notice shall provide an update, as of the record date, of the information required by Items (A)(1)-(5) and (B)(1)-(5) of the prior sentence. In addition, to be effective, the stockholder's notice must be accompanied by the written consent of the proposed nominee to serve as a Director if elected. The Corporation may require any proposed nominee to furnish such other information as may reasonably be required to determine the eligibility of such proposed nominee to serve as a Director of the Corporation. A stockholder shall not have complied with this Section 1.9(b) if the stockholder (or beneficial owner, if any, on whose behalf the nomination is made) solicits or does not solicit, as the case may be, proxies in support of such stockholder's nominee in contravention of the representations with respect thereto required by this Section 1.9.

(c) The chairman of any meeting shall have the power and duty to determine whether a nomination was made in accordance with the provisions of this Section 1.9 (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination is made solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies in support of such stockholder's nominee in compliance with the representations with respect thereto required by this Section 1.9), and if the chairman should determine that a nomination was not made in accordance with the provisions of this Section 1.9, the chairman shall so declare to the meeting and such nomination shall be disregarded.

(d) Except as otherwise required by law, nothing in this Section 1.9 shall obligate the Corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the Corporation or the Board of Directors information with respect to any nominee for Director submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 1.9, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination, such nomination shall be disregarded, notwithstanding that proxies in respect of such vote may have been received by the Corporation.

(f) For purposes of this Section 1.9, the terms “qualified representative of the stockholder” and “public disclosure” shall have the same meaning as in Section 1.2.

1.10. Conduct of Meetings. The Board of Directors may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders as it shall deem appropriate, including without limitation such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations and procedures as adopted by the Board of Directors, the chairman of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (a) the establishment of an agenda or order of business for the meeting; (b) rules and procedures for maintaining order at the meeting and the safety of those present; (c) limitations on attendance at or participation in the meeting to stockholders, their duly authorized and constituted proxies or attorneys or such other persons as shall be determined; (d) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (e) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

1.11. Action By Consent. Any action required or permitted to be taken by stockholders may be taken without a meeting if all stockholders entitled to vote on the matter consent in writing to the action and such written consents are filed with the records of the meetings of stockholders. Such consents shall be treated for all purposes as a vote at a meeting.

1.12. Record Date. The Board of Directors may fix the record date in order to determine the stockholders entitled to notice of a stockholders' meeting, to demand a special meeting, to vote or to take any other action. If a record date for a specific action is not fixed by the Board of Directors, and is not supplied by law, except as provided for in Section 1.3, the record date shall be (a) the close of business either on the day before the first notice is sent to stockholders, or, if no notice is sent, on the day before the meeting or (b) in the case of action without a meeting by written consent, the date the first stockholder signs the consent or (c) for purposes of determining stockholders entitled to demand a special meeting of stockholders, the date the first stockholder signs the demand or (d) for purposes of determining stockholders entitled to a distribution, other

than one involving a purchase, redemption or other acquisition of the Corporation's shares, the date the Board of Directors authorizes the distribution. A record date fixed under this Section 1.12 may not be more than 70 days before the meeting or action requiring a determination of stockholders. A determination of stockholders entitled to notice of or to vote at a stockholders' meeting is effective for any adjournment of the meeting unless the Board of Directors fixes a new record date, which it shall do if the meeting is adjourned to a date more than 120 days after the date fixed for the original meeting.

1.13. Meetings by Remote Communication. Unless otherwise provided in the Articles of Organization, if authorized by the Board of Directors: subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication: (a) participate in a meeting of stockholders; and (b) be deemed present in person and vote at a meeting of stockholders, provided that: (1) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder; (2) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings; and (3) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

1.14. Form of Stockholder Action.

(a) Any vote, consent, waiver, proxy appointment or other action by a stockholder or by the proxy or other agent of any stockholder shall be considered given in writing, dated and signed, if, in lieu of any other means permitted by law, it consists of an electronic transmission that sets forth or is delivered with information from which the Corporation can determine (1) that the electronic transmission was transmitted by the stockholder, proxy or agent or by a person authorized to act for the stockholder, proxy or agent; and (2) the date on which such stockholder, proxy, agent or authorized person transmitted the electronic transmission. The date on which the electronic transmission is transmitted shall be considered to be the date on which it was signed. The electronic transmission shall be considered received by the Corporation if it has been sent to any address specified by the Corporation for the purpose or, if no address has been specified, to the principal office of the Corporation, addressed to the Secretary or other officer or agent having custody of the records of proceedings of stockholders.

(b) Any copy, facsimile or other reliable reproduction of a vote, consent, waiver, proxy appointment or other action by a stockholder or by the proxy or other agent of any stockholder may be substituted or used in lieu of the original writing for any purpose for which the original writing could be used, but the copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

1.15. Stockholder List for Meeting.

(a) After fixing a record date for a stockholders' meeting, the Corporation shall prepare an alphabetical list of the names of all its stockholders who are entitled to notice of the meeting. The list shall be arranged by voting group, and within each voting group by class or series of shares, and show the address of and number of shares held by each stockholder, but need not include an electronic mail address or other electronic contact information for any stockholder.

(b) The list of stockholders shall be available for inspection by any stockholder, beginning two business days after notice is given of the meeting for which the list was prepared and continuing through the meeting: (1) at the Corporation's principal office or at a place identified in the meeting notice in the city where the meeting will be held; or (2) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting.

(c) A stockholder or his or her agent or attorney is entitled on written demand to inspect and, subject to the requirements of Section 6.2(c) of these By-Laws, to copy the list, during regular business hours and at his or her expense, during the period it is available for inspection.

(d) The Corporation shall make the list of stockholders available at the meeting, and any stockholder or his or her agent or attorney is entitled to inspect the list at any time during the meeting or any adjournment.

ARTICLE II

DIRECTORS

2.1. Powers. The business of the Corporation shall be managed by a Board of Directors, who may exercise all the powers of the Corporation except as otherwise provided by law, by the Articles of Organization or by these By-Laws. In the event of a vacancy in the Board of Directors, the remaining Directors, except as otherwise provided by law, may exercise the powers of the full Board until the vacancy is filled.

2.2. Number and Election. The number of Directors which shall constitute the whole Board of Directors shall be determined by vote of the stockholders or the Board of Directors, but shall consist of not less than three Directors (except that whenever there shall be only two stockholders the number of Directors shall be not less than two and whenever there shall be only one stockholder or prior to the issuance of any stock, there shall be at least one Director). The number of Directors may be decreased at any time and from time to time either by the stockholders or by a majority of the Directors then in office, but only to eliminate vacancies existing by reason of the death, resignation, removal or expiration of the term of one or more Directors. The Directors shall be elected at the annual meeting of stockholders by such stockholders as have the right to vote on such election. No Director need be a stockholder of the Corporation.

Notwithstanding the foregoing provisions, if the Corporation is a “public corporation” as defined in the Massachusetts Business Corporation Act, as in effect from time to time (the “MBCA”), and has not elected, pursuant to Section 8.06(c) of the MBCA, to be exempt from the provisions of Section 8.06(b) of the MBCA, then:

(a) In accordance with such Section 8.06(e)(4) of the MBCA, the number of directors shall be fixed only by vote of the Board of Directors.

(b) In accordance with Section 8.06(a) of the MBCA, the Directors of the Corporation shall be classified with respect to the time for which they severally hold office, into three classes, as nearly equal in number as possible; each Director shall serve for a term ending on the date of the third annual meeting following the meeting at which such Director was elected and, as of the effective date of these Amended and Restated By-Laws, the term of office of those of the first class (“Class I Directors”) shall continue until the Corporation’s annual meeting of stockholders held in 2015 and until their successors are duly elected and qualified; the term of office of those of the second class (“Class II Directors”) shall continue until the Corporation’s annual meeting of stockholders held in 2016 and until their successors are duly elected and qualified; and the term of office of those of the third class (“Class III Directors”) shall continue until the Corporation’s annual meeting of stockholders held in 2017 and until their successors are duly elected and qualified.

2.3. Enlargement of the Board. The number of Directors may be increased at any time and from time to time by a majority of the Directors then in office. Notwithstanding the foregoing provisions, if the Directors of the Corporation are classified with respect to the time for which they severally hold office pursuant to Section 8.06(c) of the MBCA, the Board of Directors may be enlarged only in accordance with the provisions of 8.06(e).

2.4. Tenure. Except as otherwise provided by law, these By-Laws or the Articles of Organization, each Director shall hold office until the next annual meeting of stockholders and until his successor is elected and qualified, or until his earlier death, resignation or removal

2.5. Vacancies. Unless and until filled by the stockholders, any vacancy in the Board of Directors, however occurring, including a vacancy resulting from an enlargement of the Board of Directors, may be filled by vote of a majority of the Directors present at the meeting of Directors at which a quorum is present. Each such successor shall hold office for the unexpired term of his predecessor and until his successor is chosen and qualified or until his earlier death, resignation or removal. Notwithstanding the foregoing provisions, if the directors of the Corporation are classified with respect to the time for which they severally hold office pursuant to Section 8.06(c) of the MBCA, any vacancy in the Board of Directors, however occurring, shall be filled solely in accordance with the provisions of Section 8.06(e) of the MBCA.

2.6. Resignation. A Director may resign at any time by delivering written notice of resignation to the Board of Directors, the Chairman of the Board or the Corporation. A resignation is effective when the notice is delivered unless the notice specifies a later effective date.

2.7. Removal. A director may be removed from office with or without cause by vote of the holders of a majority of the shares entitled to vote in the election of directors. However, the directors elected by the holders of a particular class or series of stock may be removed from

office with or without cause only by vote of the holders of a majority of the outstanding shares of such class or series. In addition, a director may be removed from office for cause by vote of a majority of the directors then in office. A director may be removed for cause only after reasonable notice and opportunity to be heard before the body proposing to remove him. Notwithstanding the foregoing provision, if the directors of the corporation are classified with respect to the time for which they severally hold office pursuant to paragraph (a) of Section 50A of the Massachusetts Business Corporation Law, as it may be amended from time to time, directors may only be removed for cause pursuant to paragraph (c) of such Section 50A.

2.8. Regular Meetings. Regular meetings of the Board of Directors may be held at such times and places as shall from time to time be fixed by the Board of Directors without notice of the date, time, place or purpose of the meeting.

2.9. Special Meetings. Special meetings of the Board of Directors may be called by the Chairman of the Board, the Chief Executive Officer, the President, the Secretary, any two Directors or one Director in the event that there is only one Director.

2.10. Notice. Special meetings of the Board of Directors must be preceded by at least two days' notice of the date, time and place of the meeting. The notice need not describe the purpose of the special meeting. All notices to Directors shall conform to the requirements of Article III of these By-Laws.

2.11. Waiver of Notice. A Director may waive any notice before or after the date and time of the meeting. The waiver shall be in writing, signed by the Director entitled to the notice, or in the form of an electronic transmission by the Director to the Corporation, and filed with the minutes or corporate records. A Director's attendance at or participation in a meeting waives any required notice to him or her of the meeting unless the Director at the beginning of the meeting, or promptly upon his or her arrival, objects to holding the meeting or transacting business at the meeting and does not thereafter vote for or assent to action taken at the meeting.

2.12. Quorum. Unless otherwise provided by law, the Articles of Organization or these By-Laws, a quorum of the Board of Directors consists of a majority of the Directors then in office, provided always that any number of Directors (whether one or more and whether or not constituting a quorum) constituting a majority of Directors present at any meeting or at any adjourned meeting may make an adjournment thereof.

2.13. Action at Meeting. If a quorum is present when a vote is taken, the affirmative vote of a majority of Directors present is the act of the Board of Directors unless the Articles of Organization or these By-Laws require the vote of a greater number of Directors. A Director who is present at a meeting of the Board of Directors or a committee of the Board of Directors when corporate action is taken is considered to have assented to the action taken unless: (a) he or she objects at the beginning of the meeting, or promptly upon his or her arrival, to holding it or transacting business at the meeting; (b) his or her dissent or abstention from the action taken is entered in the minutes of the meeting; or (c) he or she delivers written notice of his or her dissent or abstention to the presiding officer of the meeting before its adjournment or to the Corporation immediately after adjournment of the meeting. The right of dissent or abstention is not available to a Director who votes in favor of the action taken.

2.14. Action Without Meeting. Any action required or permitted to be taken by the Directors may be taken without a meeting if the action is taken by the unanimous consent of the members of the Board of Directors. The action must be evidenced by one or more consents describing the action taken, in writing, signed by each Director, or delivered to the Corporation by electronic transmission, to the address specified by the Corporation for the purpose or, if no address has been specified, to the principal office of the Corporation, addressed to the Secretary or other officer or agent having custody of the records of proceedings of Directors, and included in the minutes or filed with the corporate records reflecting the action taken. Action taken under this Section 2.14 is effective when the last Director signs or delivers the consent, unless the consent specifies a different effective date. A consent signed or delivered under this Section 2.14 has the effect of a meeting vote and may be described as such in any document.

2.15. Telephone Conference Meetings. The Board of Directors may permit any or all Directors to participate in a regular or special meeting by, or conduct the meeting through the use of, any means of communication by which all Directors participating may simultaneously hear each other during the meeting. A Director participating in a meeting by this means is considered to be present in person at the meeting.

2.16. Chairman of the Board and Vice-Chairman of the Board. The Board of Directors may appoint a Chairman of the Board. If the Board of Directors appoints a Chairman of the Board, he shall perform such duties and possess such powers as are assigned to him by the Board of Directors. If the Board of Directors appoints a Vice-Chairman of the Board, he shall, in the absence or disability of the Chairman of the Board, perform the duties and exercise the powers of the Chairman of the Board and shall perform such other duties and possess such other powers as may from time to time be vested in him by the Board of Directors.

2.17. Committees. The Board of Directors may create one or more committees and appoint members of the Board of Directors to serve on them. Each committee may have one or more members, who serve at the pleasure of the Board of Directors. The creation of a committee and appointment of members to it must be approved by a majority of all the Directors in office when the action is taken. Article III and Sections 2.10 through 2.15 of these By-Laws shall apply to committees and their members. To the extent specified by the Board of Directors, each committee may exercise the authority of the Board of Directors to the extent permitted by law. The creation of, delegation of authority to, or action by a committee does not alone constitute compliance by a Director with the standards of conduct described in Section 2.19 of these By-Laws.

2.18. Compensation. The Board of Directors may fix the compensation of Directors.

2.19. Standard of Conduct for Directors.

(a) A Director shall discharge his or her duties as a Director, including his or her duties as a member of a committee: (1) in good faith; (2) with the care that a person in a like position would reasonably believe appropriate under similar circumstances; and (3) in a manner the Director reasonably believes to be in the best interests of the Corporation. In determining what the Director reasonably believes to be in the best interests of the Corporation, a Director may consider the interests of the Corporation's employees, suppliers, creditors and customers,

the economy of the state, the region and the nation, community and societal considerations, and the long-term and short-term interests of the Corporation and its stockholders, including the possibility that these interests may be best served by the continued independence of the Corporation.

(b) In discharging his or her duties, a Director who does not have knowledge that makes reliance unwarranted is entitled to rely on information, opinions, reports or statements, including financial statements and other financial data, if prepared or presented by: (1) one or more officers or employees of the Corporation whom the Director reasonably believes to be reliable and competent with respect to the information, opinions, reports or statements presented; (2) legal counsel, public accountants or other persons retained by the Corporation, as to matters involving skills or expertise the Director reasonably believes are matters (i) within the particular person's professional or expert competence or (ii) as to which the particular person merits confidence; or (3) a committee of the Board of Directors of which the Director is not a member if the Director reasonably believes the committee merits confidence.

(c) A Director is not liable for any action taken as a Director, or any failure to take any action, if he or she performed the duties of his or her office in compliance with this Section 2.19.

2.20. Conflict of Interest.

(a) A conflict of interest transaction is a transaction with the Corporation in which a Director of the Corporation has a material direct or indirect interest. A conflict of interest transaction is not voidable by the Corporation solely because of the Director's interest in the transaction if any one of the following is true:

(1) the material facts of the transaction and the Director's interest were disclosed or known to the Board of Directors or a committee of the Board of Directors and the Board of Directors or committee authorized, approved or ratified the transaction;

(2) the material facts of the transaction and the Director's interest were disclosed or known to the stockholders entitled to vote and they authorized, approved or ratified the transaction; or

(3) the transaction was fair to the Corporation.

(b) For purposes of this Section 2.20, and without limiting the interests that may create conflict of interest transactions, a Director of the Corporation has an indirect interest in a transaction if: (1) another entity in which he or she has a material financial interest or in which he or she is a general partner is a party to the transaction; or (2) another entity of which he or she is a director, officer or trustee or in which he or she holds another position is a party to the transaction and the transaction is or should be considered by the Board of Directors.

(c) For purposes of clause (1) of subsection (a) of this Section 2.20, a conflict of interest transaction is authorized, approved or ratified if it receives the affirmative vote of a majority of the Directors on the Board of Directors (or on the committee) who have no direct or indirect interest in the transaction, but a transaction may not be authorized, approved or ratified

under this Section 2.20 by a single Director. If a majority of the Directors who have no direct or indirect interest in the transaction vote to authorize, approve or ratify the transaction, a quorum is present for the purpose of taking action under this Section 2.20. The presence of, or a vote cast by, a Director with a direct or indirect interest in the transaction does not affect the validity of any action taken under clause (1) of subsection (a) of this Section 2.20 if the transaction is otherwise authorized, approved or ratified as provided in that subsection.

(d) For purposes of clause (2) of subsection (a) of this Section 2.20, a conflict of interest transaction is authorized, approved or ratified if it receives the vote of a majority of the shares entitled to be counted under this subsection (d). Shares owned by or voted under the control of a Director who has a direct or indirect interest in the transaction, and shares owned by or voted under the control of an entity described in clause (1) of subsection (b) of this Section 2.20, may not be counted in a vote of stockholders to determine whether to authorize, approve or ratify a conflict of interest transaction under clause (2) of subsection (a) of this Section 2.20. The vote of those shares, however, is counted in determining whether the transaction is approved under other provisions of these By-Laws. A majority of the shares, whether or not present, that are entitled to be counted in a vote on the transaction under this subsection constitutes a quorum for the purpose of taking action under this Section 2.20.

ARTICLE III MANNER OF NOTICE

Except as otherwise provided by law, all notices provided for under these By-Laws shall conform to the following requirements:

(a) Notice shall be in writing unless oral notice is reasonable under the circumstances. Notice by electronic transmission is written notice.

(b) Notice may be communicated in person; by telephone, voice mail, telegraph, teletype or other electronic means; by mail; by electronic transmission; or by messenger or delivery service. If these forms of personal notice are impracticable, notice may be communicated by a newspaper of general circulation in the area where published; or by radio, television or other form of public broadcast communication.

(c) Written notice, other than notice by electronic transmission, by the Corporation to any of its stockholders, if in a comprehensible form, is effective upon deposit in the United States mail, if mailed postpaid and correctly addressed to the stockholder's address shown in the Corporation's current record of stockholders.

(d) Written notice by electronic transmission by the Corporation to any of its stockholders, if in comprehensible form, is effective: (1) if by facsimile telecommunication, when directed to a number furnished by the stockholder for the purpose; (2) if by electronic mail, when directed to an electronic mail address furnished by the stockholder for the purpose; (3) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, directed to an electronic mail address furnished by the stockholder for the purpose, upon the later of (i) such posting and (ii) the giving of such separate notice; and (4) if

by any other form of electronic transmission, when directed to the stockholder in such manner as the stockholder shall have specified to the Corporation. An affidavit of the Secretary or an Assistant Secretary of the Corporation, the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

(e) Except as provided in subsection (c) of this Article III, written notice, other than notice by electronic transmission, if in a comprehensible form, is effective at the earliest of the following: (1) when received; (2) five days after its deposit in the United States mail, if mailed postpaid and correctly addressed; (3) on the date shown on the return receipt, if sent by registered or certified mail, return receipt requested; or if sent by messenger or delivery service, on the date shown on the return receipt signed by or on behalf of the addressee; or (4) on the date of publication if notice by publication is permitted.

(f) Oral notice is effective when communicated if communicated in a comprehensible manner.

ARTICLE IV

OFFICERS

4.1. Enumeration. The Corporation shall have a President, a Treasurer, a Secretary and such other officers as may be appointed by the Board of Directors from time to time in accordance with these By-Laws, including, but not limited to, a Chief Executive Officer and one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries.

4.2. Appointment. The officers shall be appointed by the Board of Directors. A duly appointed officer may appoint one or more officers or assistant officers if authorized by the Board of Directors. Each officer has the authority and shall perform the duties set forth in these By-Laws or, to the extent consistent with these By-Laws, the duties prescribed by the Board of Directors or by direction of an officer authorized by the Board of Directors to prescribe the duties of other officers. The appointment of an officer shall not itself create contract rights.

4.3. Qualification. The same individual may simultaneously hold more than one office in the Corporation. No officer need be a stockholder.

4.4. Tenure. Except as otherwise provided by law, the Articles of Organization or these By-Laws, each officer shall hold office until his or her successor is duly appointed, unless a different term is specified in the vote appointing him or her, or until his or her earlier death, resignation or removal.

4.5. Resignation. An officer may resign at any time by delivering notice of the resignation to the Corporation. A resignation is effective when the notice is delivered unless the notice specifies a later effective date. If a resignation is made effective at a later date and the Corporation accepts the future effective date, the Board of Directors may fill the pending vacancy before the effective date if the Board of Directors provides that the successor shall not take office until the effective date. An officer's resignation shall not affect the Corporation's contract rights, if any, with the officer.

4.6. Removal. The Board of Directors may remove any officer at any time with or without cause. An officer's removal shall not affect the officer's contract rights, if any, with the Corporation.

4.7. Vacancies. The Board of Directors may fill any vacancy occurring in any office for any reason and may, in its discretion, leave unfilled for such period as it may determine any offices other than those of President, Treasurer and Secretary. Each such successor shall hold office for the unexpired term of his or her predecessor and until his or her successor is duly appointed, or until he or she sooner dies, resigns or is removed.

4.8. President; Chief Executive Officer. Unless the Board of Directors has designated another person as Chief Executive Officer, the President shall be the Chief Executive Officer. The Chief Executive Officer shall have general charge and supervision of the business of the Corporation, subject to the direction of the Board of Directors. The President shall perform such other duties and shall have such other powers as the Board of Directors or the Chief Executive Officer (if the President is not the Chief Executive Officer) may from time to time prescribe. In the event of the absence, inability or refusal to act of the Chief Executive Officer or the President (if the President is not the Chief Executive Officer), the Vice President (or, if there shall be more than one, the Vice Presidents in the order determined by the Board of Directors) shall perform the duties of the Chief Executive Officer and, when so performing such duties, shall have all the powers of and be subject to all the restrictions upon, the Chief Executive Officer.

4.9. Vice Presidents. Any Vice President shall perform such duties and shall possess such powers as the Board of Directors, the Chief Executive Officer or the President may from time to time prescribe. The Board of Directors may assign to any Vice President the title Executive Vice President, Senior Vice President or any other title selected by the Board of Directors.

4.10. Treasurer and Assistant Treasurers. The Treasurer shall perform such duties and shall have such powers as may from time to time be assigned to him or her by the Board of Directors, the Chief Executive Officer or the President. In addition, the Treasurer shall perform such duties and have such powers as are incident to the office of treasurer, including without limitation the duty and power to keep and be responsible for all funds and securities of the Corporation, to deposit funds of the Corporation in depositories, to disburse such funds as ordered by the Board of Directors, the Chief Executive Officer or the President, to make proper accounts of such funds, and to render as required by the Board of Directors, the Chief Executive Officer or the President statements of all such transactions and of the financial condition of the Corporation.

Any Assistant Treasurer shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer, the President or the Treasurer may from time to time prescribe. In the event of the absence, inability or refusal to act of the Treasurer, the Assistant Treasurer (or if there shall be more than one, the Assistant Treasurers in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Treasurer.

4.11. Secretary and Assistant Secretaries. The Secretary shall perform such duties and shall possess such powers as the Board of Directors, the Chief Executive Officer or the President may from time to time prescribe. In addition, the Secretary shall perform such duties and shall have such powers as are incident to the office of the secretary, including without limitation the duty and power to give notices of all meetings of stockholders and Directors, to attend all meetings of stockholders and Directors, to prepare minutes of the meetings of stockholders and Directors, to authenticate the records of the Corporation, to maintain a stock ledger and prepare lists of stockholders and their addresses as required, to be custodian of corporate records and the corporate seal and to affix and attest to the same on documents.

Any Assistant Secretary shall perform such duties and possess such powers as the Board of Directors, the Chief Executive Officer, the President or the Secretary may from time to time prescribe. In the event of the absence, inability or refusal to act of the Secretary, the Assistant Secretary (or if there shall be more than one, the Assistant Secretaries in the order determined by the Board of Directors) shall perform the duties and exercise the powers of the Secretary.

In the absence of the Secretary or any Assistant Secretary at any meeting of stockholders or Directors, the person presiding at the meeting shall designate a temporary secretary to prepare the minutes of the meeting.

4.12. Salaries. Officers of the Corporation shall be entitled to such salaries, compensation or reimbursement as shall be fixed or allowed from time to time by the Board of Directors.

4.13. Standard of Conduct for Officers. An officer shall discharge his or her duties: (a) in good faith; (b) with the care that a person in a like position would reasonably exercise under similar circumstances; and (c) in a manner the officer reasonably believes to be in the best interests of the Corporation. In discharging his or her duties, an officer who does not have knowledge that makes reliance unwarranted is entitled to rely on information, opinions, reports or statements, including financial statements and other financial data, if prepared or presented by: (1) one or more officers or employees of the Corporation whom the officer reasonably believes to be reliable and competent with respect to the information, opinions, reports or statements presented; or (2) legal counsel, public accountants or other persons retained by the Corporation as to matters involving skills or expertise the officer reasonably believes are matters (i) within the particular person's professional or expert competence or (ii) as to which the particular person merits confidence. An officer shall not be liable to the Corporation or its stockholders for any decision to take or not to take any action taken, or any failure to take any action, as an officer, if the duties of the officer are performed in compliance with this Section 4.13.

ARTICLE V

PROVISIONS RELATING TO SHARES

5.1. Issuance and Consideration. The Board of Directors may issue the number of shares of each class or series authorized by the Articles of Organization. The Board of Directors may authorize shares to be issued for consideration consisting of any tangible or intangible property or benefit to the Corporation, including cash, promissory notes, services performed, contracts for services to be performed, or other securities of the Corporation. Before the

Corporation issues shares, the Board of Directors shall determine that the consideration received or to be received for shares to be issued is adequate. The Board of Directors shall determine the terms upon which the rights, options or warrants for the purchase of shares or other securities of the Corporation are issued and the terms, including the consideration, for which the shares or other securities are to be issued.

5.2. Share Certificates. If shares are represented by certificates, at a minimum each share certificate shall state on its face: (a) the name of the Corporation and that it is organized under the laws of The Commonwealth of Massachusetts; (b) the name of the person to whom issued; and (c) the number and class of shares and the designation of the series, if any, the certificate represents. Every certificate for shares of stock that are subject to any restriction on the transfer or registration of transfer of such shares pursuant to the Articles of Organization, these By-Laws, an agreement among stockholders or an agreement among stockholders and the Corporation, shall have conspicuously noted on the front or back of such certificate the existence of such restrictions. If different classes of shares or different series within a class are authorized, then the variations in rights, preferences and limitations applicable to each class and series, and the authority of the Board of Directors to determine variations for any future class or series, must be summarized on the front or back of each certificate. Alternatively, each certificate may state conspicuously on its front or back that the Corporation will furnish the stockholder this information on request in writing and without charge. Each share certificate shall be signed, either manually or in facsimile, by the Chief Executive Officer, the President or a Vice President and by the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, or any two officers designated by the Board of Directors, and may bear the corporate seal or its facsimile. If the person who signed, either manually or in facsimile, a share certificate no longer holds office when the certificate is issued, the certificate shall be nevertheless valid.

5.3. Uncertificated Shares. The Board of Directors may authorize the issue of some or all of the shares of any or all of the Corporation's classes or series without certificates. The authorization shall not affect shares already represented by certificates until they are surrendered to the Corporation. Within a reasonable time after the issue or transfer of shares without certificates, the Corporation shall send the stockholder a written statement of the information required by the MBCA to be on certificates.

5.4. Transfers; Record and Beneficial Owners. Subject to the restrictions, if any, stated or noted on the stock certificates, shares of stock may be transferred on the books of the Corporation by the surrender to the Corporation or its transfer agent of the certificate representing such shares properly endorsed or accompanied by a written assignment or power of attorney properly executed, and with such proof of authority or the authenticity of signature as the Corporation or its transfer agent may reasonably require. The Corporation shall be entitled to treat the record holder of shares as shown on its books as the owner of such shares for all purposes, including the payment of dividends and other distributions and the right to vote with respect thereto, regardless of any transfer, pledge or other disposition of such shares until the shares have been transferred on the books of the Corporation in accordance with the requirements of these By-Laws. Notwithstanding anything to the contrary herein, to the extent the Board of Directors has established a procedure by which the beneficial owner of shares that are registered in the name of a nominee will be recognized by the Corporation as a stockholder, the Corporation shall be entitled to treat the beneficial owner of shares as the stockholder to the extent of the rights granted by a nominee certificate on file with the Corporation.

5.5. Replacement of Certificates. The Board of Directors may, subject to applicable law, determine the conditions upon which a new share certificate may be issued in place of any certificate alleged to have been lost, destroyed or wrongfully taken. The Board of Directors may, in its discretion, require the owner of such share certificate, or his or her legal representative, to give a bond, sufficient in its opinion, with or without surety, to indemnify the Corporation against any loss or claim which may arise by reason of the issue of the new certificate.

ARTICLE VI CORPORATE RECORDS

6.1. Records to be Kept.

(a) The Corporation shall keep as permanent records minutes of all meetings of its stockholders and Board of Directors, a record of all actions taken by the stockholders or Board of Directors without a meeting, and a record of all actions taken by a committee of the Board of Directors in place of the Board of Directors on behalf of the Corporation. The Corporation shall maintain appropriate accounting records. The Corporation or its agent shall maintain a record of its stockholders, in a form that permits preparation of a list of the names and addresses of all stockholders, in alphabetical order by class of shares showing the number and class of shares held by each. The Corporation shall maintain its records in written form or in another form capable of conversion into written form within a reasonable time.

(b) The Corporation shall keep within The Commonwealth of Massachusetts a copy of the following records at its principal office or an office of its transfer agent or of its Secretary or Assistant Secretary or of its registered agent:

(1) its Articles or Restated Articles of Organization and all amendments to them currently in effect;

(2) its By-Laws or Restated By-Laws and all amendments to them currently in effect;

(3) resolutions adopted by its Board of Directors creating one or more classes or series of shares, and fixing their relative rights, preferences and limitations, if shares issued pursuant to those resolutions are outstanding;

(4) the minutes of all stockholders' meetings, and records of all action taken by stockholders without a meeting, for the past three years;

(5) all written communications to stockholders generally within the past three years, including the financial statements furnished under Section 16.20 of the MBCA, or any successor Section thereto, for the past three years;

(6) a list of the names and business addresses of its current Directors and officers; and

(7) its most recent annual report delivered to the Massachusetts Secretary of State.

6.2. Inspection of Records by Stockholders.

(a) A stockholder is entitled to inspect and copy, during regular business hours at the office where they are maintained pursuant to Section 6.1(b) of these By-Laws, copies of any of the records of the Corporation described in said Section 6.1(b) if he or she gives the Corporation written notice of his or her demand at least five business days before the date on which he or she wishes to inspect and copy.

(b) A stockholder is entitled to inspect and copy, during regular business hours at a reasonable location specified by the Corporation, any of the following records of the Corporation if the stockholder meets the requirements of subsection (c) of this Section 6.2 and gives the Corporation written notice of his or her demand at least five business days before the date on which he or she wishes to inspect and copy:

(1) excerpts from minutes reflecting action taken at any meeting of the Board of Directors, records of any action of a committee of the Board of Directors while acting in place of the Board of Directors on behalf of the Corporation, minutes of any meeting of the stockholders, and records of action taken by the stockholders or Board of Directors without a meeting, to the extent not subject to inspection under subsection (a) of this Section 6.2;

(2) accounting records of the Corporation, but if the financial statements of the Corporation are audited by a certified public accountant, inspection shall be limited to the financial statements and the supporting schedules reasonably necessary to verify any line item on those statements; and

(3) the record of stockholders described in Section 6.1(a) of these By-Laws.

(c) A stockholder may inspect and copy the records described in subsection (b) of this Section 6.2 only if:

(1) his or her demand is made in good faith and for a proper purpose;

(2) he or she describes with reasonable particularity his or her purpose and the records he or she desires to inspect;

(3) the records are directly connected with his or her purpose; and

(4) the Corporation shall not have determined in good faith that disclosure of the records sought would adversely affect the Corporation in the conduct of its business or, in the case of a public corporation, constitutes material non-public information at the time when the stockholder's notice of demand to inspect and copy is received by the Corporation.

(d) For purposes of this Section 6.2, “stockholder” includes a beneficial owner whose shares are held in a voting trust or by a nominee on his or her behalf.

6.3. Scope of Inspection Right.

(a) A stockholder’s agent or attorney has the same inspection and copying rights as the stockholder represented.

(b) The Corporation may, if reasonable, satisfy the right of a stockholder to copy records under Section 6.2 of these By-Laws by furnishing to the stockholder copies by photocopy or other means chosen by the Corporation, including copies furnished through an electronic transmission.

(c) The Corporation may impose a reasonable charge, covering the costs of labor, material, transmission and delivery, for copies of any documents provided to the stockholder. The charge may not exceed the estimated cost of production, reproduction, transmission or delivery of the records.

(d) The Corporation may comply at its expense with a stockholder’s demand to inspect the record of stockholders under clause (3) of subsection (b) of Section 6.2 of these By-Laws by providing the stockholder with a list of stockholders that was compiled no earlier than the date of the stockholder’s demand.

(e) The Corporation may impose reasonable restrictions on the use or distribution of records by the demanding stockholder.

6.4. Inspection of Records by Directors. A Director is entitled to inspect and copy the books, records and documents of the Corporation at any reasonable time to the extent reasonably related to the performance of the Director’s duties as a Director, including duties as a member of a committee, but not for any other purpose or in any manner that would violate any duty to the Corporation.

ARTICLE VII
MISCELLANEOUS

7.1. Fiscal Year. Except as otherwise determined from time to time by the Board of Directors, the fiscal year of the Corporation shall in each year end on December 31.

7.2. Seal. The seal of the Corporation shall, subject to alteration by the Board of Directors, bear the Corporation’s name, the word “Massachusetts” and the year of its incorporation.

7.3. Voting of Securities. Except as the Board of Directors may otherwise designate, the Chief Executive Officer, President or Treasurer may waive notice of, and act as, or appoint any person or persons to act as, proxy or attorney-in-fact for the Corporation (with or without power of substitution) at, any meeting of stockholders of any other corporation or organization, the securities of which may be held by the Corporation.

7.4. Checks, Notes, Drafts and Other Instruments. Checks, notes, drafts and other instruments for the payment of money drawn or endorsed in the name of the Corporation may be signed by any officer or officers or person or persons authorized by the directors to sign the same. No officer or person shall sign any such instrument as aforesaid unless authorized by the directors to do so.

7.5. Evidence of Authority. A certificate by the Secretary, an Assistant Secretary or a temporary Secretary as to any action taken by the stockholders, Directors, any committee or any officer or representative of the Corporation shall as to all persons who rely on the certificate in good faith be conclusive evidence of such action.

7.6. Articles of Organization. All references in these By-Laws to the Articles of Organization shall be deemed to refer to the Articles of Organization of the Corporation, as amended and in effect from time to time.

7.7. Severability. Any determination that any provision of these By-Laws is for any reason inapplicable, illegal or ineffective shall not affect or invalidate any other provision of these By-Laws.

7.8. Pronouns. All pronouns used in these By-Laws shall be deemed to refer to the masculine, feminine or neuter, singular or plural, as the identity of the person or persons may require.

7.9. Massachusetts Control Share Acquisition Act. The provisions of Chapter 110D of the Massachusetts General Laws shall not apply to the Corporation.

7.10. Interpretation. All references to "Section 50A of the Massachusetts Business Corporation Law, as it may be amended from time to time" or "such Section 50A" are deemed to include Section 8.06 of the MBCA.

ARTICLE VIII

AMENDMENTS

These By-Laws may be amended by vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) of the shares of each class of the capital stock at the time outstanding and entitled to vote at any annual or special meeting of stockholders, if notice of the substance of the proposed amendment is stated in the notice of such meeting. If authorized by the Articles of Organization, the Board of Directors, by a majority of their number then in office, may also make, amend or repeal these By-Laws, in whole or in part, except with respect to (a) the provisions of these By-Laws governing (i) the removal of directors and (ii) the amendment of these By-Laws and (b) any provision of these By-Laws which by law, the Articles of Organization or these By-Laws requires action by the stockholders.

Not later than the time of giving notice of the meeting of stockholders next following the making, amending or repealing by the Board of Directors of any By-Law, notice stating the substance of such change shall be given to all stockholders entitled to vote on amending the By-Laws.

Approved as Amended and Restated by the
Board of Directors on May 5, 2014

MKS Instruments, Inc.

2014 STOCK INCENTIVE PLAN1. Purpose

The purpose of this 2014 Stock Incentive Plan (the “**Plan**”) of MKS Instruments, Inc., a Massachusetts corporation (the “**Company**”), is to advance the interests of the Company’s stockholders by enhancing the Company’s ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company’s stockholders. Except where the context otherwise requires, the term “**Company**” shall include any of the Company’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations thereunder (the “**Code**”) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the “**Board**”).

2. Eligibility

All of the Company’s employees, officers and directors, as well as consultants and advisors to the Company (as such terms are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the “**Securities Act**”), or any successor form) are eligible to be granted Awards under the Plan. Each person who is granted an Award under the Plan is deemed a “**Participant**.” “**Award**” means Options (as defined in Section 5), SARs (as defined in Section 6), Restricted Stock (as defined in Section 7), Restricted Stock Units (as defined in Section 7) and Other Stock-Based Awards (as defined in Section 8).

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board’s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a “**Committee**”). All references in the Plan to the “**Board**” shall mean the Board or a Committee of the Board to the extent that the Board’s powers or authority under the Plan have been delegated to such Committee.

(c) Awards to Non-Employee Directors. Discretionary Awards to non-employee directors may be granted and administered only by a Committee, all of the members of which are independent directors as defined by Section 5605(a)(2) of the NASDAQ Marketplace Rules.

4. Stock Available for Awards(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 10, Awards may be made under

the Plan for up to 18,000,000 shares of common stock, no par value per share, of the Company (the “**Common Stock**”), any or all of which Awards may be in the form of Incentive Stock Options (as defined in Section 5(b)).

(2) **Fungible Share Pool.** Subject to adjustment under Section 10, any Award that is not a Full-Value Award shall be counted against the share limit specified in Section 4(a)(1) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limit specified in Section 4(a)(1) as 2.4 shares for each one share of Common Stock subject to such Full-Value Award. “Full-Value Award” means any Restricted Stock Award or Other Stock-Based Award with a per share price or per unit purchase price lower than 100% of Fair Market Value (as defined below) on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to an Award that counts as 2.4 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 2.4 shares.

(3) **Share Counting.** For purposes of counting the number of shares available for the grant of Awards under the Plan:

(A) all shares of Common Stock covered by SARs shall be counted against the number of shares available for the grant of Awards under the Plan; *provided, however*, that if the Company grants an SAR in tandem with an Option for the same number of shares of Common Stock and provides that only one such Award may be exercised (a “**Tandem SAR**”), only the shares covered by the Option, and not the shares covered by the Tandem SAR, shall be so counted, and the expiration of one in connection with the other’s exercise will not restore shares to the Plan;

(B) if any Award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any Common Stock not being issued (including as a result of an SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; *provided, however*, that (1) in the case of Incentive Stock Options, the foregoing shall be subject to any limitations under the Code, (2) in the case of the exercise of an SAR, the number of shares counted against the shares available under the Plan shall be the full number of shares subject to the SAR multiplied by the percentage of the SAR actually exercised, regardless of the number of shares actually used to settle such SAR upon exercise and (3) the shares covered by a Tandem SAR shall not again become available for grant upon the expiration or termination of such Tandem SAR;

(C) shares of Common Stock delivered (either by actual delivery, attestation or net exercise) to the Company by a Participant to (i) purchase shares of Common Stock upon the exercise of an Award or (ii) satisfy tax withholding obligations on Options or SARs (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and

(D) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) **Section 162(m) Per-Participant Limit.** The maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 500,000 per calendar year. For purposes of the foregoing limit, the combination of an Option in tandem with an SAR shall be treated as a single Award. The per Participant limit described in this Section 4(b) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder (“**Section 162(m)**”).

(c) **Substitute Awards.** In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any

options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1), except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an “**Option**”) and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable.

(b) Incentive Stock Options. An Option that the Board intends to be an “incentive stock option” as defined in Section 422 of the Code (an “**Incentive Stock Option**”) shall only be granted to employees of MKS Instruments, Inc., any of MKS Instruments, Inc.’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. An Option that is not intended to be an Incentive Stock Option shall be designated a “**Nonstatutory Stock Option**.” The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable Option agreement. The exercise price shall be not less than 100% of the fair market value per share of Common Stock as determined by (or in a manner approved by) the Board (“**Fair Market Value**”) on the date the Option is granted; *provided* that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement; *provided, however*, that no Option will be granted with a term in excess of 10 years.

(e) Exercise of Options. Options may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with payment in full (in the manner specified in Section 5(f)) of the exercise price for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash or by check, payable to the order of the Company;

(2) except as may otherwise be provided in the applicable Option agreement or approved by the Board, in its sole discretion, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) to the extent provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the

Participant valued at their Fair Market Value provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent provided for in the applicable Option agreement or approved by the Board in its sole discretion, by delivery of a notice of “net exercise” to the Company, as a result of which the Participant would receive (i) the number of shares underlying the portion of the Option being exercised, less (ii) such number of shares as is equal to (A) the aggregate exercise price for the portion of the Option being exercised divided by (B) the Fair Market Value on the date of exercise.

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by payment of such other lawful consideration as the Board may determine; or

(6) by any combination of the above permitted forms of payment.

(g) Limitation on Repricing. Unless such action is approved by the Company’s stockholders, the Company may not (except as provided for under Section 10): (1) amend any outstanding Option granted under the Plan to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option, (2) cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option, (3) cancel in exchange for a cash payment any outstanding Option with an exercise price per share above the then-current Fair Market Value, other than pursuant to Section 10, or (4) take any other action under the Plan that constitutes a “repricing” within the meaning of the rules of the NASDAQ Stock Market (“NASDAQ”).

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of stock appreciation rights (“SARs”) entitling the holder, upon exercise, to receive an amount of Common Stock determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a share of Common Stock over the measurement price established pursuant to Section 6(b). The date as of which such appreciation is determined shall be the exercise date.

(b) Measurement Price. The Board shall establish the measurement price of each SAR and specify it in the applicable SAR agreement. The measurement price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; *provided* that if the Board approves the grant of an SAR effective as of a future date, the measurement price shall be not less than 100% of the Fair Market Value on such future date.

(c) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; *provided, however*, that no SAR will be granted with a term in excess of 10 years.

(d) Exercise of SARs. SARs may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with any other documents required by the Board.

(e) Limitation on Repricing. Unless such action is approved by the Company’s stockholders, the Company may not (except as provided for under Section 10): (1) amend any outstanding SAR granted under the Plan to provide a measurement price per share that is lower than the then-current measurement price per share of such outstanding SAR, (2) cancel any outstanding SAR (whether or not granted under the Plan) and grant in

substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(c)) covering the same or a different number of shares of Common Stock and having an exercise or measurement price per share lower than the then-current measurement price per share of the cancelled SAR, (3) cancel in exchange for a cash payment any outstanding SAR with a measurement price per share above the then-current Fair Market Value, other than pursuant to Section 10, or (4) take any other action under the Plan that constitutes a “repricing” within the meaning of the rules of the NASDAQ.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock (“**Restricted Stock**”), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. The Board may also grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests (“**Restricted Stock Units**”) (Restricted Stock and Restricted Stock Units are each referred to herein as a “**Restricted Stock Award**”).

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Unless otherwise provided in the applicable Award agreement, any dividends (whether paid in cash, stock or property) declared and paid by the Company with respect to shares of Restricted Stock (“**Accrued Dividends**”) shall be paid to the Participant only if and when such shares become free from the restrictions on transferability and forfeitability that apply to such shares. Each payment of Accrued Dividends will be made no later than the end of the calendar year in which the dividends are paid to stockholders of that class of stock or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the underlying shares of Restricted Stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock, as well as dividends or distributions paid on such Restricted Stock, shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to his or her Designated Beneficiary. “**Designated Beneficiary**” means (i) the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant’s death or (ii) in the absence of an effective designation by a Participant, the Participant’s estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company one share of Common Stock or (if so provided in the applicable Award agreement) an amount of cash equal to the Fair Market Value of one share of Common Stock. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant in a manner that complies with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) **Dividend Equivalents.** The Award agreement for Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("**Dividend Equivalents**"). Dividend Equivalents may be settled in cash and/or shares of Common Stock and shall be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid, in each case to the extent provided in the Award agreement.

8. **Other Stock-Based Awards**

(a) **General.** Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants ("**Other Stock-Based-Awards**"). Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) **Terms and Conditions.** Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto. Dividend equivalents, if any, paid with respect to Other Stock-Based Awards may be settled in cash and/or shares of Common Stock and shall be subject to the same restrictions on transferability and forfeitability as the Other Stock-Based Awards with respect to which paid, in each case to the extent specified in the Award Agreement.

9. **Performance Awards.**

(a) **Grants.** Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 9 ("**Performance Awards**").

(b) **Committee.** Grants of Performance Awards to any Covered Employee (as defined below) intended to qualify as "performance-based compensation" under Section 162(m) ("**Performance-Based Compensation**") shall be made only by a Committee (or a subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as "performance-based compensation" under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be treated as referring to such Committee (or subcommittee). "**Covered Employee**" shall mean any person who is, or whom the Committee, in its discretion, determines may be, a "covered employee" under Section 162(m)(3) of the Code.

(c) **Performance Measures.** For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following, which may be determined pursuant to generally accepted accounting principles ("**GAAP**") or on a non-GAAP basis, as determined by the Committee: net income, earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization, earnings per share, earnings per share before or after discontinued operations, interest, taxes, depreciation and/or amortization, bookings, bookings growth, revenue, revenue growth, operating profit before or after discontinued operations and/or taxes, operating expenses, gross margin, operating margin, profit margin, cost savings, inventory management, working capital, customer satisfaction, product quality, manufacturing objectives, completion of strategic acquisitions/dispositions, receipt of regulatory approvals, cash position, earnings growth, cash flow or cash position, stock price, market share, return on sales, assets, equity or investment, improvement of financial ratings, achievement of balance sheet, income statement or cash flow objectives or total stockholder return. Such goals may reflect absolute entity or business unit performance or a relative comparison to the performance of a peer group of entities or other external measure of the selected performance criteria and may be absolute in their terms or measured against or in relationship to other companies

comparably, similarly or otherwise situated. The Committee may specify that such performance measures shall be adjusted to exclude any one or more of (i) extraordinary, non-recurring charges or other events, (ii) gains or losses on the dispositions of discontinued operations, (iii) other non-standard gains or losses, (iv) the cumulative effects of changes in accounting principles, (v) the writedown of any asset, (vi) fluctuation in foreign currency exchange rates, (vii) amortization of acquired intangible assets, (viii) acquisition and divestiture related charges or credits, (ix) litigation or claim judgments or settlements (x) gain on sale of assets (xi) excess and obsolete inventory adjustments, (xii) tax effects of adjustments, (xiii) the effect of changes in tax laws or other laws affecting reported results and (xiv) charges for restructuring and reorganization programs. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(d) Adjustments. Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of shares payable pursuant to such Award, and the Committee may not waive the achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(e) Other. The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation. Dividend equivalents, if any, paid with respect to Performance Awards may be settled in cash and/or shares of Common Stock and shall be subject to the same restrictions on transferability and forfeitability as the Performance Awards with respect to which paid, in each case to the extent specified in the Award Agreement.

10. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, (ii) the share counting rules and sublimit set forth in 4(a) and 4(b), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share and per-share provisions and the measurement price of each outstanding SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vi) the share and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A “**Reorganization Event**” shall mean: (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 or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock.

(A) In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock on such terms as the Board determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between the Company and the Participant): (i) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that all of the Participant's unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant (to the extent then exercisable) within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the "**Acquisition Price**"), make or provide for a cash payment to Participants with respect to each Award held by a Participant equal to (A) the number of shares of Common Stock subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such Reorganization Event) multiplied by (B) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 10(b)(2), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

(B) Notwithstanding the terms of Section 10(b)(2)(A), in the case of outstanding Restricted Stock Units that are subject to Section 409A of the Code: (i) if the applicable Restricted Stock Unit agreement provides that the Restricted Stock Units shall be settled upon a "change in control event" within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the Reorganization Event constitutes such a "change in control event", then no assumption or substitution shall be permitted pursuant to Section 10(b)(2)(A)(i) and the Restricted Stock Units shall instead be settled in accordance with the terms of the applicable Restricted Stock Unit agreement; and (ii) the Board may only undertake the actions set forth in clauses (iii), (iv) or (v) of Section 10(b)(2)(A) if the Reorganization Event constitutes a "change in control event" as defined under Treasury Regulation Section 1.409A-3(i)(5)(i) and such action is permitted or required by Section 409A of the Code; if the Reorganization Event is not a "change in control event" as so defined or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Stock Units pursuant to clause (i) of Section 10(b)(2)(A), then the unvested Restricted Stock Units shall terminate immediately prior to the consummation of the Reorganization Event without any payment in exchange therefor.

(C) For purposes of Section 10(b)(2)(A)(i), an Award (other than Restricted Stock) shall be considered assumed if, following consummation of the Reorganization Event, such Award confers the right to purchase or receive pursuant to the terms of such Award, for each share of Common Stock subject to the Award immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); *provided, however*, that if the consideration received as a result of the Reorganization

Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determined to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Stock. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company with respect to outstanding Restricted Stock shall inure to the benefit of the Company's successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to such Restricted Stock; *provided, however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

11. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; *provided, however*, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Common Stock subject to such Award to such proposed transferee; *provided further*, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees. For the avoidance of doubt, nothing contained in this Section 11(a) shall be deemed to restrict a transfer to the Company.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise

recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise, vesting or release from forfeiture of an Award or at the same time as payment of the exercise or purchase price, unless the Company determines otherwise. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; *provided, however*, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Sections 5(g) and 6(e) with respect to repricings, Section 9 with respect to Performance Awards or Section 12(d) with respect to actions requiring stockholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, does not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 10.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously issued or delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and regulations and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

12. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award by virtue of the adoption of the Plan, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan shall become effective on the date the Plan is approved by the Company's stockholders (the "**Effective Date**"). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until the Company's stockholders approve such amendment in the manner required by Section 162(m); (ii) no amendment that would require stockholder approval under the rules of NASDAQ may be made effective unless and until the Company's stockholders approve such amendment; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of NASDAQ "material amendments" to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Section 4(c) or 10), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless and until the Company's stockholders approve such amendment. In addition, if at any time the approval of the Company's stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 12(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of Participants under the Plan. No Award shall be made that is conditioned upon stockholder approval of any amendment to the Plan unless the Award provides that (1) it will terminate or be forfeited if stockholder approval of such amendment is not obtained within no more than 12 months from the date of grant and (2) it may not be exercised or settled (or otherwise result in the issuance of Common Stock) prior to such stockholder approval.

(e) Authorization of Sub-Plans (including for Grants to non-U.S. Employees). The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Compliance with Section 409A of the Code. Except as provided in individual Award agreements initially or by amendment, if and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes "nonqualified deferred compensation" within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A of the Code) (the "**New Payment Date**"), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(g) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, employee or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, employee or agent of the Company. The Company will indemnify and hold harmless each director, officer, employee or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys' fees) or liability (including any sum paid in settlement of a claim with the Board's approval) arising out of any act or omission to act concerning the Plan unless arising out of such person's own fraud or bad faith.

(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the Commonwealth of Massachusetts, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than the Commonwealth of Massachusetts.

MKS Instruments, Inc.

2014 EMPLOYEE STOCK PURCHASE PLAN

The purpose of this Plan is to provide eligible employees of MKS Instruments, Inc. (the “Company”) and certain of its subsidiaries with opportunities to purchase shares of the Company’s common stock, no par value (the “Common Stock”), commencing on June 1, 2014. Two million, five hundred thousand (2,500,000) shares of Common Stock in the aggregate have been approved for this purpose, subject to any adjustment pursuant to Section 15 hereof. This Plan is intended to qualify as an “employee stock purchase plan” as defined in Section 423 of the Internal Revenue Code of 1986, as amended (the “Code”), and the regulations issued thereunder, and shall be interpreted consistent therewith.

1. Administration. The Plan will be administered by the Company’s Board of Directors (the “Board”) or by a Committee appointed by the Board (the “Committee”). The Board or the Committee has authority to make rules and regulations for the administration of the Plan and its interpretation and decisions with regard thereto shall be final and conclusive.

2. Eligibility. All employees of the Company and all employees of any subsidiary of the Company (as defined in Section 424(f) of the Code) designated by the Board or the Committee from time to time (a “Designated Subsidiary”), are eligible to participate in any one or more of the offerings of Options (as defined in Section 9) to purchase Common Stock under the Plan provided that:

(a) they are customarily employed by the Company or a Designated Subsidiary for more than twenty (20) hours a week and for more than five (5) months in a calendar year;

(b) they have been employed by the Company or a Designated Subsidiary for at least three (3) months prior to enrolling in the Plan; and

(c) they are employees of the Company or a Designated Subsidiary on the first day of the applicable Plan Period (as defined below).

No employee may be granted an Option hereunder if such employee, immediately after the Option is granted, owns 5% or more of the total combined voting power or value of the stock of the Company or any subsidiary. For purposes of the preceding sentence, the attribution rules of Section 424(d) of the Code shall apply in determining the stock ownership of an employee, and all stock that the employee has a contractual right to purchase shall be treated as stock owned by the employee.

The Company retains the discretion to determine which eligible employees may participate in an offering pursuant to and consistent with Treasury Regulation Sections 1.423-2(e) and (f).

3. Offerings. The Company will make one or more offerings (“Offerings”) to employees to purchase stock under this Plan. Offerings will begin each June 1 and December 1, or the first business day thereafter (the “Offering Commencement Dates”). Each Offering Commencement Date will begin a six (6) month period (a “Plan Period”) during which payroll deductions will be made and held for the purchase of Common Stock at the end of the Plan Period. The Board or the Committee may, at its discretion, choose a different Plan Period of twelve (12) months or less for subsequent Offerings and/or choose a different commencement date for Offerings under the Plan.

4. Participation. An employee eligible on the Offering Commencement Date of any Offering may participate in such Offering by completing and forwarding either a written or electronic payroll deduction authorization form

to the employee's appropriate payroll office at least thirty (30) days prior to the applicable Offering Commencement Date. The form will authorize a regular payroll deduction from the Compensation, as defined below, received by the employee during the Plan Period. Unless an employee files a new form or withdraws from the Plan, his or her deductions and purchases will continue at the same rate for future Offerings under the Plan as long as the Plan remains in effect. The term "Compensation" means the amount of money reportable on the employee's Federal Income Tax Withholding Statement, including overtime, shift premium, incentive or bonus awards and any other variable sales compensation and excluding allowances and reimbursements for expenses such as relocation allowances for travel expenses, income or gains associated with the grant or vesting of restricted stock, income or gains on the exercise of Company stock options or stock appreciation rights, and similar items, whether or not shown or separately identified on the employee's Federal Income Tax Withholding Statement.

5. Deductions. The Company will maintain payroll deduction accounts for all participating employees. With respect to any Offering made under this Plan, an employee may authorize a payroll deduction in any whole percent amount up to a maximum of 10% of the Compensation he or she receives during the Plan Period or such shorter period during which deductions from payroll are made. The Board or the Committee may, at its discretion, designate a lower maximum contribution rate. The minimum payroll deduction is such percentage of Compensation as may be established from time to time by the Board or the Committee.

6. Deduction Changes. An employee may decrease or discontinue his or her payroll deduction once during any Plan Period, by filing either a written or electronic new payroll deduction authorization form. However, an employee may not increase his or her payroll deduction during a Plan Period. If an employee elects to discontinue his or her payroll deductions during a Plan Period, but does not elect to withdraw his or her funds pursuant to Section 8 hereof, funds deducted prior to his or her election to discontinue will be applied to the purchase of Common Stock on the Exercise Date (as defined below).

7. Interest. Interest will not be paid on any employee accounts, except to the extent that the Board or the Committee, in its sole discretion, elects to credit employee accounts with interest at such rate as it may from time to time determine.

8. Withdrawal of Funds. An employee may at any time prior to the close of business on the last business day in a Plan Period and for any reason permanently draw out the balance accumulated in the employee's account and thereby withdraw from participation in an Offering. Partial withdrawals are not permitted. The employee may not begin participation again during the remainder of the Plan Period during which the employee withdrew his or her balance. The employee may participate in any subsequent Offering in accordance with terms and conditions established by the Board or the Committee.

9. Purchase of Shares.

(a) Number of Shares. On the Offering Commencement Date of each Plan Period, the Company will grant to each eligible employee who is then a participant in the Plan an option (an "Option") to purchase on the last business day of such Plan Period (the "Exercise Date") at the applicable purchase price (the "Option Price") up to a whole number of shares of Common Stock determined by multiplying \$2,083 by the number of full months in the Plan Period and dividing the result by the closing price (as determined below) on the Offering Commencement Date; provided, however, that no employee may be granted an Option which permits his or her rights to purchase Common Stock under this Plan and any other employee stock purchase plan (as defined in Section 423(b) of the Code) of the Company and its subsidiaries, to accrue at a rate which exceeds \$25,000 of the fair market value of such Common Stock (determined at the date such Option is granted) for each calendar year in which the Option is outstanding at any time.

(b) Option Price. The Board or the Committee shall determine the Option Price for each Plan Period, including whether such Option Price shall be determined based on the lesser of the closing price of the Common

Stock on (i) the first business day of the Plan Period or (ii) the Exercise Date, or shall be based solely on the closing price of the Common Stock on the Exercise Date; provided, however, that such Option Price shall be at least 85% of the applicable closing price. In the absence of a determination by the Board or the Committee, the Option Price will be 85% of the lesser of the closing price of the Common Stock on (i) the first business day of the Plan Period or (ii) the Exercise Date. The closing price shall be (a) the closing price (for the primary trading session) on any national securities exchange on which the Common Stock is listed or (b) the average of the closing bid and asked prices in the over-the-counter-market, whichever is applicable, as published in The Wall Street Journal or another source selected by the Board or the Committee. If no sales of Common Stock were made on such a day, the price of the Common Stock shall be the reported price for the next preceding day on which sales were made.

(c) Exercise of Option. Each employee who continues to be a participant in the Plan on the Exercise Date shall be deemed to have exercised his or her Option at the Option Price on such date and shall be deemed to have purchased from the Company the number of whole shares of Common Stock reserved for the purpose of the Plan that his or her accumulated payroll deductions on such date will pay for, but not in excess of the maximum numbers determined in the manner set forth above.

(d) Return of Unused Payroll Deductions. Any balance remaining in an employee's payroll deduction account at the end of a Plan Period will be automatically refunded to the employee, except that any balance that is less than the purchase price of one share of Common Stock will be carried forward into the employee's payroll deduction account for the following Offering, unless the employee elects not to participate in the following Offering under the Plan, in which case the balance in the employee's account shall be refunded.

10. Issuance of Certificates. Certificates representing shares of Common Stock purchased under the Plan may be issued only in the name of the employee, in the name of the employee and another person of legal age as joint tenants with rights of survivorship, or (in the Company's sole discretion) in the name of a brokerage firm, bank, or other nominee holder designated by the employee. The Company may, in its sole discretion and in compliance with applicable laws, authorize the use of book entry registration of shares in lieu of issuing stock certificates.

11. Rights on Retirement, Death or Termination of Employment. If a participating employee's employment ends before the last business day of a Plan Period, no payroll deduction shall be taken from any pay then due and owing to the employee and the balance in the employee's account shall be paid to the employee. In the event of the employee's death before the last business day of a Plan Period, the Company shall, upon notification of such death, pay the balance of the employee's account (a) to the executor or administrator of the employee's estate or (b) if no such executor or administrator has been appointed to the knowledge of the Company, to such other person(s) as the Company may, in its discretion, designate. If, before the last business day of the Plan Period, the Designated Subsidiary by which an employee is employed ceases to be a subsidiary of the Company, or if the employee is transferred to a subsidiary of the Company that is not a Designated Subsidiary, the employee shall be deemed to have terminated employment for the purposes of this Plan.

12. Optionees Not Stockholders. Neither the granting of an Option to an employee nor the deductions from his or her pay shall make such employee a stockholder of the shares of Common Stock covered by an Option under this Plan until he or she has purchased and received such shares.

13. Options Not Transferable. Options under this Plan are not transferable by a participating employee other than by will or the laws of descent and distribution, and are exercisable during the employee's lifetime only by the employee.

14. Application of Funds. All funds received or held by the Company under this Plan may be combined with other corporate funds and may be used for any corporate purpose.

15. Adjustment for Changes in Common Stock and Certain Other Events.

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the share limitations set forth in Section 9, and (iii) the Option Price shall be equitably adjusted to the extent determined by the Board or the Committee.

(b) Reorganization Events.

(1) Definition. A “Reorganization Event” shall mean: (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 or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Options. In connection with a Reorganization Event, the Board or the Committee may take any one or more of the following actions as to outstanding Options on such terms as the Board or the Committee determines: (i) provide that Options shall be assumed, or substantially equivalent Options shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to employees, provide that all outstanding Options will be terminated immediately prior to the consummation of such Reorganization Event and that all such outstanding Options will become exercisable to the extent of accumulated payroll deductions as of a date specified by the Board or the Committee in such notice, which date shall not be less than ten (10) days preceding the effective date of the Reorganization Event, (iii) upon written notice to employees, provide that all outstanding Options will be cancelled as of a date prior to the effective date of the Reorganization Event and that all accumulated payroll deductions will be returned to participating employees on such date, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the “Acquisition Price”), change the last day of the Plan Period to be the date of the consummation of the Reorganization Event and make or provide for a cash payment to each employee equal to (A) (i) the Acquisition Price times (ii) the number of shares of Common Stock that the employee’s accumulated payroll deductions as of immediately prior to the Reorganization Event could purchase at the Option Price, where the Acquisition Price is treated as the fair market value of the Common Stock on the last day of the applicable Plan Period for purposes of determining the Option Price under Section 9(b) hereof, and where the number of shares that could be purchased is subject to the limitations set forth in Section 9(a), minus (B) the result of multiplying such number of shares by such Option Price, (v) provide that, in connection with a liquidation or dissolution of the Company, Options shall convert into the right to receive liquidation proceeds (net of the Option Price thereof) and (vi) any combination of the foregoing.

For purposes of clause (i) above, an Option shall be considered assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determines to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

16. Amendment of the Plan. The Board may at any time, and from time to time, amend or suspend this Plan or any portion thereof, except that (a) if the approval of any such amendment by the shareholders of the Company is required by Section 423 of the Code, such amendment shall not be effected without such approval, and (b) in no event may any amendment be made that would cause the Plan to fail to comply with Section 423 of the Code.
17. Insufficient Shares. If the total number of shares of Common Stock specified in elections to be purchased under any Offering plus the number of shares purchased under previous Offerings under this Plan exceeds the maximum number of shares issuable under this Plan, the Board or the Committee will allot the shares then available on a pro-rata basis.
18. Termination of the Plan. This Plan may be terminated at any time by the Board. Upon termination of this Plan all amounts in the accounts of participating employees shall be promptly refunded.
19. Governmental Regulations. The Company's obligation to sell and deliver Common Stock under this Plan is subject to listing on a national stock exchange (to the extent the Common Stock is then so listed or quoted) and the approval of all governmental authorities required in connection with the authorization, issuance or sale of such stock.
20. Governing Law. The Plan shall be governed by Massachusetts law except to the extent that such law is preempted by federal law.
21. Issuance of Shares. Shares may be issued upon exercise of an Option from authorized but unissued Common Stock or from any other proper source.
22. Notification upon Sale of Shares. Each employee agrees, by entering the Plan, to promptly give the Company notice of any disposition of shares purchased under the Plan where such disposition occurs within two years after the date of grant of the Option pursuant to which such shares were purchased.
23. Grants to Employees in Foreign Jurisdictions. The Company may, to comply with the laws of a foreign jurisdiction, grant Options to employees of the Company or a Designated Subsidiary who are citizens or residents of such foreign jurisdiction (without regard to whether they are also citizens of the United States or resident aliens (within the meaning of Section 7701(b)(1)(A) of the Code)) with terms that are less favorable (but not more favorable) than the terms of Options granted under the Plan to employees of the Company or a Designated Subsidiary who are resident in the United States. Notwithstanding the preceding provisions of this Plan, employees of the Company or a Designated Subsidiary who are citizens or residents of a foreign jurisdiction (without regard to whether they are also citizens of the United States or resident aliens (within the meaning of Section 7701(b)(1)(A) of the Code)) may be excluded from eligibility under the Plan if (a) the grant of an Option under the Plan to a citizen or resident of the foreign jurisdiction is prohibited under the laws of such jurisdiction or (b) compliance with the laws of the foreign jurisdiction would cause the Plan to violate the requirements of Section 423 of the Code. The Company may add one or more appendices to this Plan describing the operation of the Plan in those foreign jurisdictions in which employees are excluded from participation or granted less favorable Options.
24. Authorization of Sub-Plans. The Board may from time to time establish one or more sub-plans under the Plan with respect to one or more Designated Subsidiaries, provided that such sub-plan complies with Section 423 of the Code.
25. Withholding. If applicable tax laws impose a tax withholding obligation, each affected employee shall, no later than the date of the event creating the tax liability, make provision satisfactory to the Board for payment of any taxes required by law to be withheld in connection with any transaction related to Options granted to or shares acquired by such employee pursuant to the Plan. The Company may, to the extent permitted by law, deduct any such taxes from any payment of any kind otherwise due to an employee.

26. Effective Date and Approval of Shareholders. The Plan shall take effect on June 1, 2014 subject to approval by the shareholders of the Company as required by Section 423 of the Code, which approval must occur within twelve months of the adoption of the Plan by the Board.

MKS INSTRUMENTS, INC.

Restricted Stock Unit Agreement
[Annual]¹ Grant to Non-Employee Directors Under the 2014 Stock Incentive Plan

AGREEMENT «**Grant Date**» (the “Grant Date”), between MKS Instruments, Inc., a Massachusetts corporation (the “Company”), and «**Participant Name**» (the “Participant”).

For valuable consideration, receipt of which is acknowledged, the parties hereto agree as follows:

1. **General.** The Company has granted to the Participant restricted stock units (“RSUs”) with respect to the number of shares set forth in Exhibit A hereto (the “Shares”) of common stock, no par value, of the Company (“Common Stock”), subject to the terms and conditions set forth in this Agreement and in the Company’s 2014 Stock Incentive Plan (the “Plan”). The RSUs represent a promise by the Company to deliver Shares upon vesting.

(a) Definitions.

(i) “Code” means U.S. Internal Revenue Code of 1986, as amended.

(ii) “Disability” means disability as defined in Section 216(i)(1) of the U.S. Social Security Act.

(iii) “Forfeiture” means any forfeiture of RSUs pursuant to Section 2(a).

(iv) “Service” with the Company includes service as an employee, officer or director of, or consultant or advisor to, the Company or any parent or subsidiary of the Company as defined in Sections 424(e) or (f) of the Code.

(v) “Vesting Date” is defined in Section 1(b).

(b) Vesting Period. Subject to the terms and conditions of this Agreement (including the Forfeiture provisions described in Section 2 below), the RSUs shall vest [on the earlier of (a) the day prior to the first Annual Meeting of the Company’s stockholders which occurs after the date hereof or (b) thirteen months after the Grant Date, at which time they shall become vested in full, the “Vesting Date”.]² As soon as practicable after [the]³ Vesting Date, but no later than 30 days following such Vesting Date, the Company shall instruct its transfer agent to deposit the Shares subject to the RSUs into the Participant’s existing equity account at Fidelity Stock Plan Services, LLC, or such other broker with which the Company has established a relationship (“Broker”), subject to payment in accordance with Section 6 of all applicable taxes. Notwithstanding the above, the Shares may be distributed following the date contemplated in this Section 1(b) solely to the extent permitted or required under Section 409A of the Code (“Section 409A”).

¹ Change “Annual” to “Initial” for initial grant to new member of the Board of Directors.

² For initial grant to new member of the Board of Directors, change vesting terms in brackets to “in twelve (12) equal quarterly installments following the Grant Date. The date upon which each quarterly installment vests shall be considered a “Vesting Date” for the portion of the RSUs vesting on that date.”

³ For initial grant to new member of the Board of Directors, change “the” to “a”.

2. Forfeiture.

(a) Cessation of Service. In the event that the Participant ceases to provide services to the Company for any reason or no reason, with or without cause, prior to [the]³ Vesting Date, all of the Participant's unvested RSUs shall automatically be forfeited as of such cessation. Notwithstanding the foregoing, in the event that the Participant ceases to provide services to the Company by reason of death or disability prior to [the]³ Vesting Date, then all of the Participant's RSUs shall become immediately and fully vested and shall no longer be subject to the Forfeiture provisions under this Agreement and the Shares subject to such RSUs shall be delivered to the Participant as soon as practicable, but no later than thirty (30) days following the Participant's termination date.

(b) Change in Control. Notwithstanding the foregoing, upon the effectiveness of a Change in Control, (as defined below), all of the Participant's RSUs shall become immediately and fully vested and shall no longer be subject to the Forfeiture provisions under this Agreement. For purposes of this section "Change in Control" means the first to occur of any of the following events: (I) any "person" (as that term is used in Section 13 and 14(d)(2) of the Securities Exchange Act of 1934 ("Exchange Act")) becomes the beneficial owner (as that term is used in Section 13(d) of the Exchange Act), directly or indirectly, of fifty percent (50%) or more of the Company's capital stock entitled to vote in the election of directors; (II) the shareholders of the Company approve any consolidation or merger of the Company, other than a consolidation or merger of the Company in which the holders of the common stock of the Company immediately prior to the consolidation or merger hold more than fifty percent (50%) of the common stock of the surviving corporation immediately after the consolidation or merger; or (III) the shareholders of the Company approve the sale or transfer of all or substantially all of the assets of the Company to parties that are not within a "controlled group of corporations" (as defined in Code Section 1563) in which the Company is a member.

3. Restrictions on Transfer. The Participant shall not sell, assign, transfer, pledge, or otherwise encumber, either voluntarily or by operation of law (collectively "transfer") any RSUs, or any interest therein, except that the Participant may transfer such RSUs (i) by will or the laws of descent and distribution, or (ii) pursuant to a qualified domestic relations order or (iii) for the gratuitous transfer to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Common Stock subject to such RSUs to such proposed transferee; provided that such RSUs shall remain subject to this Agreement (including without limitation the terms of Forfeiture and the restrictions on transfer set forth in this Section 3 and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument confirming that such transferee shall be bound by all of the terms and conditions of this Agreement.

4. Provisions of the Plan. This Agreement is subject to the provisions of the Plan, a copy of which is furnished to the Participant with this Agreement.

5. Section 409A. To the extent Participant is or becomes subject to U.S. Federal income taxation, the RSUs and payments made pursuant to this Agreement are intended to comply with or qualify for an exemption from the requirements of Section 409A and this agreement shall be construed consistently therewith. Neither the Company nor the Participant shall have any right to accelerate or defer payment under this Agreement except to the extent specifically permitted or required by Section 409A. Terms defined in the Agreement shall have the meanings given such terms under Section 409A if and to the extent required to comply with Section 409A. Notwithstanding any other provision of this Agreement, the Company reserves the right, to the extent it deems necessary or advisable, in its sole discretion, to unilaterally amend the Plan and/or this Agreement to ensure that all awards hereunder qualify for exemption from or otherwise comply with Section 409A; provided, however, that the Company makes no undertaking to preclude Section 409A from applying to this Award or to guarantee compliance therewith. Any payments described in this Section 5 that are due within the “short term deferral period” as defined in Section 409A shall not be treated as deferred compensation unless applicable law requires otherwise. Notwithstanding the foregoing, the Company, its affiliates, directors, officers and agents shall have no liability to a Participant, or any other party, if the RSU that is intended to be exempt from, or compliant with, Section 409A is not so exempt or compliant, or for any action taken by the Company’s Board of Directors, a committee thereof or its delegates.

6. Taxes.

(a) The Company’s obligation to deliver Shares to the Participant upon the vesting of the RSUs shall be subject to the satisfaction of all income tax (including federal, state and local taxes) and any other tax related requirements (“Taxes”).

(b) The Participant has reviewed with the Participant’s own tax advisors the federal, state, local and foreign tax consequences of this equity award and the transactions contemplated by this Agreement. The Participant is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Participant understands that the Participant (and not the Company) shall be responsible for the Participant’s own tax liability that may arise as a result of this equity award or the transactions contemplated by this Agreement.

7. Nature of the Grant. In signing this Agreement, the Participant acknowledges that:

(a) The Plan is established voluntarily by the Company, it is discretionary in nature and may be modified, amended, suspended or terminated by the Company at any time, except to the extent otherwise provided in the Plan and this Agreement.

(b) The grant of RSUs is voluntary and occasional and does not create any contractual or other right to receive future awards of RSUs, or benefits in lieu of RSUs even if RSUs have been awarded repeatedly in the past;

(c) All decisions with respect to future grants of RSUs, if any, will be at the sole discretion of the Company;

(d) The Participant's participation in the Plan is voluntary.

(e) RSUs are not part of normal or expected compensation or salary for any purpose, including, but not limited to, calculation of any wage payment, severance, redundancy, or other end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments and in no event should be considered as compensation for, or relating in any way to, past services for the Company.

(f) No voting or dividend or distribution rights apply with respect to the RSUs.

(g) The future value of the underlying Shares is unknown and cannot be predicted with certainty.

(h) If the Participant receives Shares upon vesting, the value of such Shares acquired on vesting of RSUs may increase or decrease in value.

(i) In consideration of the grant of RSUs, no claim or entitlement to compensation or damages arises from termination of the RSUs or diminution in value of the RSUs or Shares received upon vesting of RSUs resulting from termination of the Participant's service relationship by the Company (for any reason whatsoever and whether or not in breach of local labor laws) and the Participant irrevocably releases the Company from any such claim that may arise; if, notwithstanding the foregoing, any such claim is found by a court of competent jurisdiction to have arisen, then, by signing this Agreement, the Participant shall be deemed irrevocably to have waived his or her entitlement to pursue such claim.

(j) If the Participant ceases to provide services, the Participant's right to receive RSUs and vest under the Plan, if any, will terminate effective as of the date that the Participant is no longer actively providing services to the Company and will not be extended by any notice period mandated under local law; the Committee shall have the exclusive discretion to determine when the Participant is no longer actively providing services to the company for purposes of the Plan.

8. Data Privacy Notice and Consent. The Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of his or her personal data as described in this paragraph, by and among, as applicable, the Company and its subsidiaries and affiliates for, among other purposes, implementing, administering and managing the Participant's participation in the Plan. The Participant understands that the Company and its subsidiaries hold certain personal information about the Participant, including the Participant's name, home address and telephone number, date of birth, social security number or identification number, job title, any Shares or directorships held in the Company, details of all options or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in the Participant's favor, for the purpose of managing and administering the Plan ("Data"). The Participant further understands that the Company and/or its subsidiaries will transfer Data amongst themselves as necessary for various purposes, including implementation,

administration and management of the Participant's participation in the Plan, and that the Company and/or any of its subsidiaries may each further transfer Data to Broker or such other stock plan service provider or other third parties assisting the Company with processing of Data. The Participant understands that these recipients may be located in the United States, and that the recipient's country may have different data privacy laws and protections than in the Participant's country. The Participant authorizes them to receive, possess, use, retain and transfer the Data, in electronic or other form, for the purposes described in this section, including any requisite transfer to Broker or such other stock plan service provider or other third party as may be required for the administration of the Plan and/or the subsequent holding of Shares of stock on the Participant's behalf. The Participant understands that he or she may, at any time, request access to the Data, request any necessary amendments to it or refuse or withdraw the consents herein, in any case without cost, by contacting the Company's Vice President of Human Resources in writing. The Participant understands, however, that withdrawal of consent may affect the Participant's ability to participate in or realize benefits from the Plan. For more information on the consequences of refusal to consent or withdrawal of consent, the Participant understands that he or she may contact the Company.

9. Miscellaneous.

(a) No Rights to Service Relationship. The Participant acknowledges and agrees that the vesting of the RSUs pursuant to Section 1(b) hereof is earned only in accordance with the terms of such section. The Participant further acknowledges and agrees that the transactions contemplated hereunder and the vesting schedule set forth herein do not constitute an express or implied promise of a continued service relationship as an employee, officer, director, consultant or advisor to the Company or any subsidiary of the Company for the vesting period, for any period, or at all.

(b) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

(c) Waiver. Any provision for the benefit of the Company contained in this Agreement may be waived, either generally or in any particular instance, by the Board of Directors of the Company or its delegate.

(d) Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company and the Participant and their respective heirs, executors, administrators, legal representatives, successors and assigns, subject to the restrictions on transfer set forth in Section 3 of this Agreement.

(e) Notice. All notices required or permitted hereunder shall be in writing and deemed effectively given upon personal delivery or five days after deposit in the United States Post Office, by registered or certified mail, postage prepaid, addressed to the other party hereto at the address shown beneath his or its respective signature to this Agreement, or at such other address or addresses as either party shall designate to the other in accordance with this Section 9(e).

(f) Pronouns. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns and pronouns shall include the plural, and vice versa.

(g) Language. If the Participant has received this Agreement or any other document related to the Plan translated into a language other than English and if the translated version is different than the English version, the English version will control.

(h) Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan, RSUs granted under the Plan or future RSUs that may be granted under the Plan by electronic means or to request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

(i) Entire Agreement. This Agreement and the Plan constitute the entire agreement between the parties, and supersedes all prior agreements and understandings, relating to the subject matter of this Agreement.

(j) Amendment. Except as provided in Section 5, this Agreement may be amended or modified only by a written instrument executed by both the Company and the Participant.

(k) Governing Law. This Agreement shall be construed, interpreted and enforced in accordance with the internal laws of the Commonwealth of Massachusetts without regard to any applicable conflicts of laws.

(l) The Participant's Acknowledgments. The Participant acknowledges that he or she: (i) has read this Agreement; (ii) has been represented in the preparation, negotiation, and execution of this Agreement by legal counsel of the Participant's own choice or has voluntarily declined to seek such counsel; (iii) understands the terms and consequences of this Agreement; and (iv) is fully aware of the legal and binding effect of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

MKS INSTRUMENTS, INC.

By: _____

Name:

Title:

2 Tech Drive

Andover, MA 01810

«**Electronic Signature**»

Participant's Signature

MKS INSTRUMENTS, INC.

Restricted Stock Unit Agreement
Granted Under the 2014 Stock Incentive Plan

AGREEMENT made «Grant Date» (the “Grant Date”), between MKS Instruments, Inc., a Massachusetts corporation (the “Company”), and «Participant Name» (the “Participant”).

For valuable consideration, receipt of which is acknowledged, the parties hereto agree as follows:

1. General. The Company hereby grants to the Participant restricted stock units (“RSUs”) with respect to the number of shares set forth in Exhibit A hereto (the “Shares”) of common stock, no par value, of the Company (“Common Stock”), subject to the terms and conditions set forth in this Agreement and in the Company’s 2014 Stock Incentive Plan (the “Plan”). The RSUs represent a promise by the Company to deliver Shares upon vesting.

(a) Definitions.

(i) “Code” means the U.S. Internal Revenue Code of 1986, as amended.

(ii) “Determination Date” (if applicable) is defined in Exhibit A hereto.

(iii) “Disability” means disability as defined in Section 216(i)(1) of the U.S. Social Security Act.

(iv) “Employ” or “employment” with the Company includes employment with a parent or subsidiary of the Company as defined in Code Section 424(e) or (f), during the time in which such entity is a parent or subsidiary of the Company.

(v) “Forfeiture” means any forfeiture of RSUs pursuant to Section 2.

(vi) “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 the Company equal to seventy (70) or more. A Participant’s termination shall not be deemed to be on account of Retirement unless he or she provides the Company with notice of the Retirement at least sixty (60) days in advance of his or her proposed termination date and assists in the orderly transition of duties as requested by the Company. The Company may waive such advance notice requirement in its sole discretion.

(vii) “Vesting Date” is defined on Exhibit A hereto.

(viii) “Years of Service” means the total number of years of employment since Participant’s original date of employment with the Company; provided, however, that if the Participant left or was terminated from employment with the Company and was then rehired, any previous employment period shall be included in the Years of Service only if (A) the Participant’s absence from employment with the Company did not exceed five (5) years and (B) the total number of days employed by the Company exceeds the total number of days that the Participant was absent from employment.

(b) Vesting Period. Subject to the terms and conditions of this Agreement (including the Forfeiture provisions described in Section 2 below), the RSUs shall vest according to the terms set forth in Exhibit A. As soon as practicable after each applicable Vesting Date, but no later than thirty (30) days following the Vesting Date, the Company shall instruct its transfer agent to deposit the Shares subject to the RSUs into the Participant's existing equity account at Fidelity Stock Plan Services, LLC, or such other broker with which the Company has established a relationship ("Broker"), subject to payment in accordance with Section 6 of all applicable withholding taxes. Notwithstanding the above, the Shares may be distributed following the date contemplated in this Section 1(b) solely to the extent permitted or required under Code Section 409A and regulations thereunder ("Section 409A").

2. Forfeiture.

(a) Cessation of Employment. In the event that the Participant ceases to be employed by the Company for any reason or no reason (except for death, Disability [or Retirement]¹), with or without cause, prior to a Vesting Date, all of the Participant's unvested RSUs shall automatically be forfeited as of such cessation. For purposes hereof, employment shall not be considered as having ceased during any bona fide leave of absence if such leave of absence has been approved in writing by the Company. However, in the event of any leave of absence, the Company may, in its sole discretion, suspend vesting of the RSUs, subject to applicable law and the provisions of Section 409A. The vesting of the RSUs shall not be affected by any change in the type of employment the Participant has with the Company so long as the Participant continuously maintains employment. In the event that the Participant ceases to be employed by the Company by reason of death, Disability [or Retirement]¹ prior to a Vesting Date, then all of the Participant's unforfeited RSUs shall become immediately and fully vested (subject to any performance criteria in Exhibit A) and shall no longer be subject to the Forfeiture provisions under this Agreement and the Shares subject to such RSUs shall be delivered to the Participant as soon as practicable (but no later than thirty (30) days) following the Participant's termination date, provided, however, that, if such death, Disability [or Retirement]¹ occurs prior to the Determination Date, if any, then the number of RSUs to be so vested shall be determined, and become vested, on the Determination Date, and the Shares subject to such vested portion of the RSUs shall be delivered to the Participant as soon as practicable (but no later than thirty (30) days) following such Determination Date.

(b) [Change in Control]². Notwithstanding the foregoing, if, prior to any Vesting Date, and within two years after the effectiveness of a Change in Control (as defined below), the Participant is (i) terminated by the Company without Cause (as defined below) or (ii) terminates his employment for Good Reason (as defined below), then, all (or, in the case of a performance-based RSU that is still subject to performance criteria per Exhibit A, the Target Number of RSUs (as defined on Exhibit A, if applicable) of the Participant's unforfeited RSUs shall become immediately

¹ Only certain of the Company's officers and other employees designated by the Compensation Committee of the Board of Directors will be entitled to acceleration of vesting upon Retirement.

² Only certain of the Company's officers and other employees designated by the Compensation Committee of the Board of Directors will be entitled to acceleration of vesting upon a Change in Control.

and fully vested and shall no longer be subject to the Forfeiture provisions under this Agreement. For purposes of this section “Change in Control” means the first to occur of any of the following events: (I) any “person” (as that term is used in Section 13 and 14(d)(2) of the Securities Exchange Act of 1934 (“Exchange Act”)) becomes the beneficial owner (as that term is used in Section 13(d) of the Exchange Act), directly or indirectly, of fifty percent (50%) or more of the Company’s capital stock entitled to vote in the election of directors; (II) the shareholders of the Company approve any consolidation or merger of the Company, other than a consolidation or merger of the Company in which the holders of the common stock of the Company immediately prior to the consolidation or merger hold more than fifty percent (50%) of the common stock of the surviving corporation immediately after the consolidation or merger; or (III) the shareholders of the Company approve the sale or transfer of all or substantially all of the assets of the Company to parties that are not within a “controlled group of corporations” (as defined in Code Section 1563) in which the Company is a member. For purposes of this Agreement, “Cause” shall mean conviction for the commission of a felony, willful failure by the Participant to perform his responsibilities to the Company, or willful misconduct by the Participant. For purposes of this section, “Good Reason” shall mean termination of the Participant’s employment by the Participant within 90 days following (I) a material diminution in the Participant’s positions, duties and responsibilities from those described in the Participant’s Employment Agreement, (II) a material reduction in the Participant’s base salary (other than a reduction which is part of a general salary reduction program affecting senior executives of the Company), (III) a material reduction in the aggregate value of the pension and welfare benefits provided to the Participant from those in effect prior to the Change in Control (other than a reduction which is proportionate to the reductions applicable to other senior executives pursuant to a cost-saving plan that includes all senior executives), (IV) a material breach of any provision of the Participant’s Employment Agreement by the Company or (V) the Company’s requiring the Participant to be based at a location that creates for the Participant a one way commute in excess of 60 miles from his primary residence, except for required travel on the Company’s business to an extent substantially consistent with the business travel obligations of the Participant under the Participant’s Employment Agreement. Notwithstanding the foregoing, a termination shall not be treated as a termination for Good Reason (I) if the Participant shall have consented in writing to the occurrence of the event giving rise to the claim of termination for Good Reason or (II) unless the Participant shall have delivered a written notice to the Company within thirty (30) days of his having actual knowledge of the occurrence of one of such events stating that he intends to terminate his employment for Good Reason and specifying the factual basis for such termination, and such event, if capable of being cured, shall not have been cured within thirty (30) days of the receipt of such notice.]²

(c) Clawback. In the event that (i) the Participant is, at any time during the period beginning on the Grant Date and ending on the Vesting Date (or, if later, on the Determination Date) an “executive officer” of the Company (as defined in Rule 3b-7 under the Exchange Act) and (ii) the RSUs are (or were at any time) subject to performance criteria per Exhibit A, then the RSUs (and any Shares issued under the RSUs) shall be subject to potential cancellation, recoupment, rescission, payback or other action in accordance with the terms of any applicable Company clawback policy (the “Clawback Policy”) or any applicable law, as may be in effect from time to time. The Participant hereby acknowledges and consents to the Company’s application, implementation and enforcement of (i) any applicable Clawback Policy as may be in effect from time to time and (ii) any provision of applicable law relating to cancellation, recoupment, rescission or payment of compensation, and agrees that the Company may take such actions as may be necessary to effectuate the Clawback Policy without further consideration or action.

3. Restrictions on Transfer. The Participant shall not sell, assign, transfer, pledge, hypothecate or otherwise dispose of, by operation of law or otherwise (collectively “transfer”) any RSUs, or any interest therein; provided that the Participant may transfer the RSUs to the extent necessary to fulfill a domestic relations order (as defined in Section 414(p)(1)(B) of the Code).

4. Provisions of the Plan. This Agreement is subject to the provisions of the Plan, a copy of which is furnished to the Participant with this Agreement.

5. Section 409A. To the extent the Participant is or becomes subject to U.S. Federal income taxation, the RSUs and payments made pursuant to this Agreement are intended to comply with or qualify for an exemption from the requirements of Section 409A and this Agreement shall be construed consistently therewith. Neither the Company nor the Participant shall have any right to accelerate or defer payment under this Agreement except to the extent specifically permitted or required by Section 409A. Terms defined in the Agreement shall have the meanings given such terms under Section 409A if and to the extent required to comply with Section 409A, including that references to “termination of employment” shall be considered to be references to a “separation from service” as defined under Section 409A. Notwithstanding any other provision of this Agreement, the Company reserves the right, to the extent it deems necessary or advisable, in its sole discretion, to unilaterally amend the Plan and/or this Agreement to ensure that all awards hereunder qualify for exemption from or otherwise comply with Section 409A; provided, however, that the Company makes no undertaking to preclude Section 409A from applying to this Award or to guarantee compliance therewith. Any payments described in this Section 5 that are due within the “short term deferral period” as defined in Section 409A shall not be treated as deferred compensation unless applicable law requires otherwise. If and to the extent any portion of any payment, compensation or other benefit provided to the Participant in connection with his or her employment termination is determined to constitute “nonqualified deferred compensation” within the meaning of Section 409A and the Participant is a specified employee as defined in Section 409A(2)(B)(i) of the Code, as determined by the Company in accordance with its procedures, by which determination the Participant hereby agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of separation from service (as determined under Section 409A (the “New Payment Date”)), except as Section 409A may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on the New Payment Date, and any remaining payments will be paid on their original schedule. Notwithstanding the foregoing, the Company, its affiliates, directors, officers and agents shall have no liability to a Participant, or any other party, if the RSU that is intended to be exempt from, or compliant with, Section 409A is not so exempt or compliant, or for any action taken by the Company’s Board of Directors, a committee thereof or its delegates.

6. Withholding Taxes.

(a) The Company's obligation to deliver Shares to the Participant upon the vesting of RSUs shall be subject to the satisfaction of all income tax (including federal, state and local taxes), social insurance, payroll tax, payment on account or other tax related withholding requirements ("Withholding Taxes"). In order to satisfy all Withholding Taxes of the Participant's RSUs, the Participant agrees to the following:

(b) The Participant hereby elects to satisfy all Withholding Taxes obligation that may arise through the retention by the Company of Shares. Accordingly, the Participant hereby instructs the Company, with no further action by the Participant, to deduct and retain from the number of Shares to which the Participant is entitled from the RSUs then vested or scheduled to vest such number of Shares as is equal to the value of the Withholding Taxes. The fair market value of such surrendered Shares will be based on the closing price of the Company's Common Stock on the trading day preceding the date such Withholding Tax obligation is satisfied.

(c) Participant has reviewed with the Participant's own tax advisors the federal, state, local and foreign tax consequences of this equity award and the transactions contemplated by this Agreement. The Participant is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Participant understands that the Participant (and not the Company) shall be responsible for the Participant's own tax liability that may arise as a result of this equity award or the transactions contemplated by this Agreement.

(d) The Participant represents to the Company that, as of the date hereof, he/she is not aware of any material nonpublic information about the Company or the Common Stock. The Participant and the Company have structured this Agreement to constitute a "binding contract" relating to the retention by the Company of Common Stock pursuant to this Section 6, consistent with the affirmative defense to liability under Section 10(b) of the Securities Exchange Act of 1934 under Rule 10b5-1(c) promulgated under such Act.

7. Nature of the Grant. In signing this Agreement, the Participant acknowledges that:

(a) The Plan is established voluntarily by the Company, it is discretionary in nature and may be modified, amended, suspended or terminated by the Company at any time, except to the extent otherwise provided in the Plan and this Agreement.

(b) The grant of RSUs is voluntary and occasional and does not create any contractual or other right to receive future awards of RSUs, or benefits in lieu of RSUs even if RSUs have been awarded repeatedly in the past.

(c) All decisions with respect to future grants of RSUs, if any, will be at the sole discretion of the Company.

(d) The Participant's participation in the Plan is voluntary.

(e) RSUs are not part of normal or expected compensation or salary for any purpose, including, but not limited to, calculation of any wage payment, severance, redundancy, or other end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments and in no event should be considered as compensation for, or relating in any way to, past services for the Company or the Participant's employer or arising under any employment agreement.

(f) No voting or dividend or distribution rights apply with respect to the RSUs.

(g) The future value of the underlying Shares is unknown and cannot be predicted with certainty.

(h) If the Participant receives Shares upon vesting, the value of such Shares acquired on vesting of RSUs may increase or decrease in value.

(i) In consideration of the grant of RSUs, no claim or entitlement to compensation or damages arises from termination of the RSUs or diminution in value of the RSUs or Shares received upon vesting of RSUs resulting from termination of the Participant's employment by the Company or the Participant's employer (for any reason whatsoever and whether or not in breach of local labor laws) and the Participant irrevocably releases the Company and his or her employer from any such claim that may arise; if, notwithstanding the foregoing, any such claim is found by a court of competent jurisdiction to have arisen, then, by signing this Agreement, the Participant shall be deemed irrevocably to have waived his or her entitlement to pursue such claim.

(j) If the Participant ceases to be an employee (whether or not in breach of local labor laws), the Participant's right to receive RSUs and vest under the Plan, if any, will terminate effective as of the date that the Participant is no longer actively employed by the Company and will not be extended by any notice period mandated under local law (*e.g.*, active employment would not include a period of "garden leave" or similar period pursuant to local law); the Committee shall have the exclusive discretion to determine when the Participant is no longer actively employed for purposes of the Plan.

8. Data Privacy Notice and Consent. The Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of his or her personal data as described in this paragraph, by and among, as applicable, the Participant's employer and the Company and its subsidiaries and affiliates for, among other purposes, implementing, administering and managing the Participant's participation in the Plan. The Participant understands that the Company and its subsidiaries hold certain personal information about the Participant, including the Participant's name, home address and telephone number, date of birth, social security number or identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all options or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in the Participant's favor, for the purpose of managing and administering the Plan ("Data"). The Participant further understands that the Company and/or its subsidiaries will transfer Data amongst themselves as necessary for employment purposes, including implementation, administration and management of the Participant's participation in the Plan, and that the Company and/or any of its subsidiaries may each further transfer Data to Broker or such other stock plan service provider or other third parties assisting the Company with processing of Data. The Participant understands that these recipients may be located in the United States, and that the recipient's country may have different data privacy laws and protections than in the Participant's country. The Participant authorizes them to receive, possess, use, retain and transfer the Data, in electronic or other form, for the purposes described in this section, including any requisite transfer to Broker or such other stock plan service provider or

other third party as may be required for the administration of the Plan and/or the subsequent holding of Shares of stock on the Participant's behalf. The Participant understands that he or she may, at any time, request access to the Data, request any necessary amendments to it or refuse or withdraw the consents herein, in any case without cost, by contacting in writing his or her local human resources representative. The Participant understands, however, that withdrawal of consent may affect the Participant's ability to participate in or realize benefits from the Plan. For more information on the consequences of refusal to consent or withdrawal of consent, the Participant understands that he or she may contact his or her local human resources representative.

9. Miscellaneous.

(a) No Rights to Employment. The Participant acknowledges and agrees that the vesting of the RSUs pursuant to Section 1 and Exhibit A hereof is earned only in accordance with the terms of such sections. The Participant further acknowledges and agrees that the transactions contemplated hereunder and the vesting schedule set forth herein do not constitute an express or implied promise of continued engagement as an employee for the vesting period, for any other period, or at all.

(b) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

(c) Waiver. Any provision for the benefit of the Company contained in this Agreement may be waived, either generally or in any particular instance, by the Board of Directors of the Company or its delegate.

(d) Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company and the Participant and their respective heirs, executors, administrators, legal representatives, successors and assigns, subject to the restrictions on transfer set forth in Section 3 of this Agreement.

(e) Notice. All notices required or permitted hereunder shall be in writing and deemed effectively given upon personal delivery or five days after deposit in the United States Post Office, by registered or certified mail, postage prepaid, addressed to the other party hereto at the address shown beneath his or its respective signature to this Agreement, or at such other address or addresses as either party shall designate to the other in accordance with this Section 9(e).

(f) Pronouns. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns and pronouns shall include the plural, and vice versa.

(g) Language. If the Participant has received this Agreement or any other document related to the Plan translated into a language other than English and if the translated version is different than the English version, the English version will control.

(h) Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan, RSUs granted under the Plan or future RSUs that may be granted under the Plan by electronic means or to request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

(i) Entire Agreement. This Agreement and the Plan constitute the entire agreement between the parties, and supersedes all prior agreements and understandings, relating to the subject matter of this Agreement.

(j) Amendment. Except as provided in Section 5, this Agreement may be amended or modified only by a written instrument executed by both the Company and the Participant.

(k) Governing Law. This Agreement shall be construed, interpreted and enforced in accordance with the internal laws of the Commonwealth of Massachusetts without regard to any applicable conflicts of laws.

(l) The Participant's Acknowledgments. The Participant acknowledges that he or she: (i) has read this Agreement; (ii) has been represented in the preparation, negotiation, and execution of this Agreement by legal counsel of the Participant's own choice or has voluntarily declined to seek such counsel; (iii) understands the terms and consequences of this Agreement; and (iv) is fully aware of the legal and binding effect of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

MKS INSTRUMENTS, INC.

By: _____

Name:

Title:

2 Tech Drive

Andover, MA 01810

«**Electronic Signature**»

Participant's Signature