

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

**ADVANCED ELECTRON BEAMS, INC.**

(Pursuant to Sections 242 and 245 of the  
General Corporation Law of the State of Delaware)

Advanced Electron Beams, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware, does hereby certify as follows:

1. That the name of this corporation is Advanced Electron Beams, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on September 1, 2005.

2. That the Board of Directors of this corporation duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, as heretofore amended, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

**RESOLVED**, that the Certificate of Incorporation of this corporation, as heretofore amended, be amended and restated in its entirety to read as follows:

**FIRST**: The name of this corporation is Advanced Electron Beams, Inc. (the "**Corporation**").

**SECOND**: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, Wilmington, Delaware 19801, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

**THIRD**: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "**General Corporation Law**").

**FOURTH**:

Effective immediately upon effectiveness of this Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the "Effective Time"), automatically and without any action by the holders thereof, each 340 shares of the Corporation's Common Stock, par value \$.001 per share, outstanding immediately prior to the Effective Time (the "Original Common Stock") shall be reclassified and combined into one fully

paid and nonassessable share of Common Stock (as defined below) (the “Reverse Split”). All shares of Original Common Stock held by any holder immediately prior to the Effective Time shall be aggregated for the purpose of determining the number of shares of Common Stock to which such holder shall be entitled as a result of the Reverse Split. No fractional shares shall be issued as a result of the Reverse Split. In lieu of any fractional shares of Common Stock to which any holder would otherwise be entitled pursuant hereto (but for the preceding sentence), such holder shall be entitled to receive a cash payment equal to the product of (A) the fair market value of one share of Common Stock as determined by the Board of Directors of the Corporation (the “**Board of Directors**”), and (B) such fractional shares of Common Stock to which such holder would so otherwise be entitled pursuant hereto.

Regardless of when a holder delivers his, her or its certificates representing Original Common Stock to the Corporation, such holder shall be deemed to have ceased to be a stockholder of record of the shares of Original Common Stock previously held by him, her or it that are so reclassified and combined hereunder as of the Effective Time, and such certificates shall thereafter represent only the shares of Common Stock into which the Original Common Stock theretofore represented by such certificates shall have been reclassified and combined hereunder. The Corporation shall not be obligated to issue any certificate evidencing shares of Common Stock or provide payment of cash in lieu of fractional shares resulting from the Reverse Split unless the certificate that had previously evidenced the shares of Original Common Stock in respect of which such shares of Common Stock were issued is either delivered to the Corporation or its transfer agent, or the holder notifies the Corporation or its transfer agent that such certificate has been lost, stolen, or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection with such certificate. The Corporation shall, as soon as practicable after delivery of any such certificate, or such agreement and indemnification in the case of a lost, stolen or destroyed certificate, issue and deliver to such holder (A) a certificate or certificates representing the number of shares of Common Stock to which such holder is entitled, if any, after giving effect to the Reverse Split and (B) a check payable to such holder for any fractional shares to which such holder is entitled resulting from the Reverse Split. Every share number, dollar amount, conversion rate and other provision contained in this Amended and Restated Certificate of Incorporation has been adjusted for the Reverse Split.

The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 25,000,000 shares of Common Stock, \$.00025 par value per share (“**Common Stock**”), and (ii) 21,000,000 shares of Preferred Stock, \$.001 par value per share (“**Preferred Stock**”), 11,000,000 of which shall be designated as Series A Preferred Stock (the “**Series A Preferred**”) and 10,000,000 of which shall be designated as Series B Preferred Stock (the “**Series B Preferred**”). The term “Preferred Stock” as used herein without reference to the Series A Preferred or the Series B Preferred shall mean the Series A Preferred and the Series B Preferred share for share alike and without distinction as to series, except as otherwise expressly provided.

The preferences, voting powers, qualifications and special or relative rights or privileges of the Common Stock and the Preferred Stock are as follows:

## A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein and as may be designated by resolution of the Board of Directors with respect to any series of Preferred Stock as authorized herein.

2. Voting. Except as otherwise required by law or this Certificate of Incorporation, the holders of Common Stock will be entitled to one vote per share on all matters to be voted by the stockholders of the Corporation. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

## B. PREFERRED STOCK

1. Dividends. The Corporation shall not declare, pay or set aside any dividends on any other shares of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in this Certificate of Incorporation) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of each series of Preferred Stock in an amount at least equal to that dividend per share of Preferred Stock as would equal the product of (A) the dividend payable on each share of such Common Stock or such class or series of capital stock convertible into Common Stock determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of the applicable series of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend.

2. Liquidation, Dissolution or Winding-Up; Certain Mergers, Consolidations and Asset Sales.

(a) Preferential Payments to Holders of Series B Preferred. In the event of any voluntary or involuntary liquidation, dissolution or winding-up of the Corporation, including a Deemed Liquidation Event as defined below (a “**Liquidation Event**”), the holders of shares of Series B Preferred then outstanding shall be entitled to be paid out of the assets available for distribution to its stockholders, and before any payment shall be made to the holders of Common Stock or Series A Preferred by reason of their ownership thereof, an amount per share equal to the Original Issue Price of the Series B Preferred, together with any dividends declared but unpaid thereon. If upon any such Liquidation Event, the assets or surplus funds available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B

Preferred their full preferential amount under this Subsection 2(a), the holders of shares of Series B Preferred shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The “**Original Issue Price**” of each of the Series B Preferred and the Series A Preferred shall be \$1.00, subject in each case to appropriate adjustment in the event of any stock dividend, stock split, combination or similar recapitalization with respect to such series of Series B Preferred.

(b) Preferential Payments to Holders of Series A Preferred. In the event of any Liquidation Event, after the holders of Series B Preferred have been paid their full preferential amount pursuant to Subsection 2(a), the holders of shares of Series A Preferred then outstanding shall be entitled to be paid out of the assets available for distribution to its stockholders, and before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to (i) two times the Original Issue Price of the Series A Preferred, plus (ii) any dividends declared but unpaid thereon. If upon any such Liquidation Event, the assets or surplus funds available for distribution to its stockholders, after the holders of Series B Preferred have been paid their full preferential amount pursuant to Subsection 2(a), shall be insufficient to pay the holders of shares of Series A Preferred their full preferential amount under this Subsection 2(b), the holders of shares of Series A Preferred shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

(c) Distribution of Remaining Assets. In the event of a Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock under Subsection 2(a) and Subsection 2(b) the remaining assets available for distribution to the Corporation’s stockholders shall be distributed among the holders of the shares of Common Stock pro rata based on the number of shares of Common Stock held by each such holder; provided, however, that in the event the holders of shares of a series of Preferred Stock would, if such shares were converted into Common Stock immediately prior to such Liquidation Event, be entitled to receive under this Subsection 2(c) in respect of such shares of Common Stock an amount greater than the amount such holders would receive in respect of such shares of Preferred Stock pursuant to Subsection 2(a) or Subsection 2(b), as applicable, then, in lieu of the amount that would otherwise be payable in respect of such shares of such series of Preferred Stock pursuant to Subsection 2(a) or Subsection 2(b), as applicable, the holders of such shares of Preferred Stock shall be entitled to receive an amount equal to that which would have been distributable to them under this Subsection 2(c) in respect of the shares of Common Stock issuable upon conversion of such shares of Preferred Stock had such shares been so converted into Common Stock immediately prior to such Liquidation Event. The aggregate amount that a holder of a share of a series of Preferred Stock is entitled to receive under Subsections 2(a), 2(b) or 2(c) hereof, as applicable, is referred to herein as the “**Liquidation Amount**” of such share.

(d) Deemed Liquidation Events.

(i) The following events shall be deemed to be a liquidation of the Corporation for purposes of this Section 2, unless holders of at least two-thirds of the issued and

outstanding shares of Preferred Stock, voting together as a separate class on an as-converted basis (the “**Required Holders**”), elect otherwise by written notice given to the Corporation at least 10 business days prior to the effective date of any such event (any such event, unless such an election is made, is referred to herein as a “**Deemed Liquidation Event**”):

(A) a merger or consolidation in which

(I) the Corporation is a constituent party or

(II) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted or exchanged for shares of capital stock which represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation (provided that, for the purpose of this Subsection 2(d)(i), all shares of Common Stock issuable upon exercise of Options (as defined below) outstanding immediately prior to such merger or consolidation or upon conversion of Convertible Securities (as defined below) outstanding immediately prior to such merger or consolidation shall be deemed to be outstanding immediately prior to such merger or consolidation and, if applicable, converted or exchanged in such merger or consolidation on the same terms as the actual outstanding shares of Common Stock are converted or exchanged);

(B) the sale, lease, license, transfer or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, except where such sale, lease, license, transfer or other disposition is to a wholly owned subsidiary of the Corporation; or

(C) the closing of the transfer (whether by merger, consolidation or otherwise), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an underwriter of the Corporation’s securities), of the Corporation’s securities if, after such closing, such person or group of affiliated persons would hold 50% or more of the outstanding voting stock of the Corporation (or the surviving or acquiring entity).

(ii) The Corporation shall not have the power to effect any transaction constituting a Deemed Liquidation Event pursuant to Subsection 2(d)(i)(A)(I) above unless the agreement or plan of merger or consolidation provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Section 2 above.

(iii) In the event of a Deemed Liquidation Event pursuant to Subsection 2(d)(i)(A)(II), 2(d)(i)(B) or 2(d)(i)(C) above, if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within 90 days after such Deemed Liquidation Event, then (A) the Corporation shall deliver a written notice to each holder of Preferred Stock no later than the 90<sup>th</sup> day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (B) to require the redemption of such shares of Preferred Stock, and (B) the Corporation shall, unless otherwise requested in writing by the Required Holders, use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation) (the “**Net Proceeds**”), to the extent legally available therefor, to redeem, on the 120<sup>th</sup> day after such Deemed Liquidation Event, all outstanding shares of Preferred Stock at a price per share equal to the Liquidation Amount of such share. In the event of a redemption pursuant to the preceding sentence, if the Net Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem first all outstanding shares of Series B Preferred, or if the Net Proceeds shall be insufficient to pay the holders of Series B Preferred their full redemption amount hereunder, a pro rata portion of each holder’s shares of Series B Preferred, to the fullest extent of such Net Proceeds or such legally available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of such shares if the Net Proceeds and legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares of Series B Preferred as soon as practicable after the Corporation has funds legally available therefor; and second, after all shares of Series B Preferred have been redeemed in full, all outstanding shares of Series A Preferred, or if the Net Proceeds shall be insufficient to pay the holders of Series A Preferred their full redemption amount hereunder, a pro rata portion of each holder’s shares of Series A Preferred, to the fullest extent of such Net Proceeds or such legally available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of such shares if the Net Proceeds and legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares of Series A Preferred as soon as practicable after the Corporation has funds legally available therefor. The provisions of Subsections 6(b) through 6(e) below shall apply, with such necessary changes in the details thereof as are necessitated by the context, to the redemption of Preferred Stock pursuant to this Subsection 2(d)(iii). Prior to the distribution or redemption provided for in this Subsection 2(d)(iii), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

(iv) The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such Deemed Liquidation Event shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. Any securities shall be valued as follows:

(A) Securities not subject to investment letter or other similar restrictions on free marketability:

- (I) If traded on a securities exchange, the value shall be the average closing price of the securities on such exchange over the prior 30 days;
- (II) If actively traded over-the-counter, the value shall be the average closing bid or sales price (whichever is applicable) of such securities over the prior 30 days; and
- (III) If there is no active public market, the value shall be the fair market value thereof, as determined in good faith by a Preferred Director Vote (as defined below).

(B) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as specified above in Subsection 2(d)(iv)(A) to reflect the approximate fair market value thereof, as determined in good faith by the Board of Directors.

(e) Allocation of Escrow. In connection with any Deemed Liquidation Event, if any portion of the consideration payable to the stockholders of the Corporation is placed into escrow and/or is payable to the stockholders of the Corporation subject to contingencies (including, without limitation, as part of an earn-out, upon the satisfaction of future milestones, any deferred purchase price payments, installment payments, payments made in respect of any promissory note issued in such transaction, purchase price adjustment payments or payments in respect of holdbacks), the acquisition or merger agreement shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the “**Initial Consideration**”) shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2(a), 2(b) and 2(c) above as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2(a), 2(b) and 2(c) above after taking into account the previous payment of the Initial Consideration as part of the same transaction. The result of this approach is that, for certain transactions, the portion of the transaction consideration that is subject to an escrow or other contingencies may be allocated disproportionately (or even exclusively) to the holders of Common Stock.

### 3. Voting.

(a) On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or in this

Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class.

(b) The holders of record of the shares of Preferred Stock, exclusively and voting together as a separate class on an as-converted basis, shall be entitled to elect two director of the Corporation (the “**Preferred Directors**”) and the holders of record of the shares of Common Stock and Preferred Stock, voting together as a single class on an as-converted basis, shall be entitled to elect the balance of the total number of directors of the Corporation. Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the classes or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. A vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3(b).

(c) At any time when shares of Preferred Stock are outstanding, except where the vote or written consent of the holders of a greater number of shares of the Corporation is required by law or by the Certificate of Incorporation, and in addition to any other vote required by law or the Certificate of Incorporation, without the written consent or affirmative vote of the Required Holders, given in writing or by vote at a meeting, consenting or voting (as the case may be), the Corporation shall not, either directly or by amendment, merger, consolidation or otherwise:

(i) effect any Liquidation Event or any other merger, consolidation, recapitalization or reorganization, or consent to any of the foregoing;

(ii) amend, alter, repeal or waive any provision of the Certificate of Incorporation or Bylaws of the Corporation;

(iii) purchase or redeem or pay or declare any dividend or make any distribution on, any shares of stock other than Preferred Stock as expressly authorized herein, or permit any subsidiary of the Corporation to take any such action, except for dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock and other than securities repurchased from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof or other than as approved by a majority vote of the Board of Directors, which majority includes the affirmative vote of each Preferred Director then serving (a “**Preferred Director Vote**”);

(iv) increase or decrease the authorized number of directors constituting the Board of Directors;



- (v) grant any exclusive license;
- (vi) make any significant change in the nature of the Corporation's principal business or the proposed nature of the Corporation's business or enter into new lines of business or exit the current line of business;
- (vii) acquire, directly or indirectly (including through a subsidiary), all or substantially all of the properties, assets or stock of any other company or entity;
- (viii) authorize, designate or issue any new class or series of stock, or create or authorize any obligation or security convertible into shares of any class or series of stock;
- (ix) assume, guarantee, endorse or otherwise become directly or contingently liable on, or permit any subsidiary of the Corporation to assume, guarantee, endorse or otherwise become directly or contingently liable on (including, without limitation, liability by way of agreement, contingent or otherwise, to purchase, to provide funds for payment, to supply funds to or otherwise invest in the debtor or otherwise to assure the creditor against loss) any indebtedness of any other person, firm or other entity, except for guaranties by endorsement of negotiable instruments for deposit or collection in the ordinary course of business;
- (x) make any loan or advance to any officer, director, employee, consultant or any other person, or any subsidiary or other corporation, partnership, or other entity;
- (xi) grant any security interest in the assets of the Corporation or any subsidiary of the Corporation other than in the ordinary course of business or in connection with equipment lease financing approved by a Preferred Director Vote;
- (xii) consummate any transaction with any director, officer or employee of the Corporation or any "associate" (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such person except transactions made in the ordinary course of business and pursuant to reasonable requirements of the Corporation's business and upon fair and reasonable terms that are approved by a Preferred Director Vote;
- (xiii) create any subsidiary;
- (xiv) hire, fire or change the compensation of the Corporation's Chief Executive Officer;
- (xv) incur any new indebtedness in excess of \$250,000 in the aggregate other than equipment leases entered into by the Corporation in the ordinary course of business; or
- (xvi) create any additional class or series of shares of capital stock unless the same ranks junior to the Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation and with respect to the payment of dividends and redemption rights, or increase or decrease the authorized number of shares of any

class or series of shares of capital stock, or create or authorize any obligation or security convertible into shares of any class or series of capital stock unless the same ranks junior to the Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation and with respect to the payment of dividends and redemption rights.

4. Optional Conversion.

The holders of Preferred Stock shall have conversion rights as follows (the “**Conversion Rights**”):

(a) Right to Convert. Each share of each series of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Original Issue Price of such series of Preferred Stock by the Conversion Price (as defined below) of such series in effect at the time of conversion. The “**Conversion Price**” of each of the Series B Preferred and the Series A Preferred shall initially be equal to \$1.00 and shall in each case be subject to adjustment pursuant to Subsection 4(d)(iv). In the event of a notice of redemption of any shares of Preferred Stock pursuant to Section 6 hereof, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable in such event to the holders of Preferred Stock.

(b) Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

(c) Mechanics of Conversion.

(i) In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice

that such holder elects to convert all or any number of the shares of Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, issue and deliver at such office to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled, together with cash in lieu of any fraction of a share and payment of any dividends declared but unpaid on the shares of Preferred Stock converted.

(ii) The Corporation shall at all times when Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued stock, for the purpose of effecting the conversion of Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price of any series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

(iii) All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights as a holder of Preferred Stock, if any, to receive notices and to vote with respect to the shares of Preferred Stock being converted, shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and shall not be reissued as shares of such series, and the Corporation (without the need for stockholder action) may from time to time take such appropriate action as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

(iv) Upon any such conversion, no adjustment to the Conversion Price shall be made for any declared but unpaid dividends on any series of Preferred Stock surrendered

for conversion or on the Common Stock delivered upon conversion, provided that such declared but unpaid dividends are paid in cash.

(v) The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(A) “**Option**” shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(B) “**Series B Original Issue Date**” shall mean the date on which the first share of Series B Preferred was issued.

(C) “**Convertible Securities**” shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, including the Preferred Stock, but excluding Options.

(D) “**Additional Shares of Common Stock**” shall mean all shares of Common Stock issued (or, pursuant to Subsection 4(d)(iii) below, deemed to be issued) by the Corporation after the Series B Original Issue Date, other than the following (“**Exempted Securities**”):

- (I) Shares of Series B Preferred and shares of Series A Preferred issued pursuant to the Series B Preferred Stock Purchase Agreement by and among the Corporation and the Purchasers (as defined therein) dated on or about the date of filing of this Amended and Restated Certificate of Incorporation (the “**Purchase Agreement**”);
- (II) shares of Common Stock or Convertible Securities actually issued upon exercise or exchange of Options and shares of Common Stock actually issued upon conversion of Convertible Securities, including without limitation shares of Common Stock issued or issuable pursuant to an adjusted Conversion Price in accordance with the provisions

of this Subsection 4(d), provided that (i) such issuance is pursuant to the terms of such Option or Convertible Security and (ii) and all adjustments to the applicable Conversion Price resulting from the issuance of such Options or Convertible Securities have been made in accordance with Subsection 4(d);

- (III) shares of Common Stock issued or deemed issued as a dividend or distribution on Preferred Stock;
- (IV) shares of Common Stock issued or issuable by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4(e) or 4(f) below; or
- (V) up to 3,692,678 shares of Common Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or similar recapitalization with respect to the Common Stock) issued or deemed issued to employees or directors of, or consultants to, the Corporation or any of its subsidiaries pursuant to the Corporation's 2005 Stock Incentive Plan, as amended, or any other plan, agreement or arrangement (or amendment thereto) approved by a Preferred Director Vote, whether issued before or after the Series B Original Issue Date.

(ii) No Adjustment of Conversion Price. No adjustment in the Conversion Price of a series of Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if prior to such issuance or deemed issuance, the Corporation receives written notice from the Required Holders agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

(iii) Deemed Issue of Additional Shares of Common Stock.

(A) If the Corporation at any time or from time to time after the Series B Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which, upon exercise, conversion or exchange thereof, would entitle the holder thereof to receive Exempted Securities pursuant to Subsection 4(d)(i)(D)(I), (II), (III) or (V)) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable

upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(B) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price of any series of Preferred Stock pursuant to the terms of Subsection 4(d)(iv) below, are revised (either automatically pursuant to the provisions contained therein or as a result of an amendment to such terms) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then, effective upon such increase or decrease becoming effective, the Conversion Price or Conversion Prices computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price or Conversion Prices as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (B) shall have the effect of increasing the Conversion Price with respect to any series of Preferred Stock to an amount which exceeds the lower of (i) the applicable Conversion Price on the original adjustment date, or (ii) the applicable Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock between the original adjustment date and such readjustment date.

(C) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which, upon exercise, conversion or exchange thereof, would entitle the holder thereof to receive Exempted Securities pursuant to Subsection 4(d)(i)(D)(I), (II), (III) or (V)), the issuance of which did not result in an adjustment to the Conversion Price pursuant to the terms of Subsection 4(d)(iv) below (either because the consideration per share (determined pursuant to Subsection 4(d)(v) hereof) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Conversion Price then in effect with respect to any series of Preferred Stock, or because such Option or Convertible Security was issued before the Series B Original Issue Date), are revised after the Series B Original Issue Date (either automatically pursuant to the provisions contained therein or as a result of an amendment to such terms) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4(d)(iii)(A) above) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(D) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price of any series of Preferred Stock pursuant to the terms of Subsection 4(d)(iv) below, the Conversion

Price of such series shall be readjusted to such Conversion Price as would have obtained had such Option or Convertible Security never been issued.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series B Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4(d)(iii)), without consideration or for a consideration per share less than the Conversion Price of the Series B Preferred Stock, then the Conversion Price of each series of Preferred stock with a Conversion Price greater than such consideration per share shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(A) “CP<sub>2</sub>” shall mean the Conversion Price applicable to such series in effect immediately after such issue of Additional Shares of Common Stock;

(B) “CP<sub>1</sub>” shall mean the Conversion Price applicable to such series in effect immediately prior to such issue of Additional Shares of Common Stock;

(C) “A” shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(D) “B” shall mean the number of shares of Common Stock that would have been issuable if such Additional Shares of Common Stock had been issued at a price per share equal to the Conversion Price of such series in effect immediately prior to such issue of Additional Shares of Common Stock (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by the such Conversion Price); and

(E) “C” shall mean the number of such Additional Shares of Common Stock issued in such transaction.

(v) Determination of Consideration. For purposes of this Subsection 4(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the

Corporation, excluding amounts paid or payable for accrued interest;

- (II) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and
- (III) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors of the Corporation.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4(d)(iii), relating to Options and Convertible Securities, shall be determined by dividing

- (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by
- (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price of



any series of Preferred Stock pursuant to the terms of Subsection 4(d)(iv) above, and such issuances occur within a period of no more than 30 days from the first such issuance to the final such issuance, then, upon the final such issuance, the applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

(e) Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series B Original Issue Date effect a subdivision of the outstanding Common Stock without a comparable subdivision of Preferred Stock or combine the outstanding shares of Preferred Stock without a comparable combination of the Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before that subdivision or combination shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series B Original Issue Date combine the outstanding shares of Common Stock without a comparable combination of the Preferred Stock or effect a subdivision of the outstanding shares of Preferred Stock without a comparable subdivision of the Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before the combination or subdivision shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

(f) Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price of each series of Preferred Stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price of each series of Preferred Stock then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, that if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of each series of Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of each series of Preferred Stock shall be

adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and provided further, however, that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

(g) Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not otherwise preclude such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

(h) Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2(d), if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsection (e), (f) or (g) of this Section 4), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price of each series of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

(i) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price of any series of Preferred Stock pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than 10 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any

event not later than 10 days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price of each series of Preferred Stock then in effect and held by such holder, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Preferred Stock.

(j) Notice of Record Date. In the event:

(i) the Corporation shall take a record of the holders of its Common Stock (or other stock or securities at the time issuable upon conversion of Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right; or

(ii) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Liquidation Event,

then, and in each such case, the Corporation will give or cause to be given to the holders of Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other stock or securities at the time issuable upon the conversion of Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to Preferred Stock and the Common Stock. Such notice shall be given at least 15 business days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

(a) Upon the earlier of (A) the closing of the sale of shares of Common Stock to the public at a price of at least \$10.00 per share (subject to appropriate adjustment for stock splits, stock dividends, combinations and other similar recapitalizations affecting such shares), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$30,000,000 of gross proceeds to the Corporation (a “**Qualified IPO**”) or (B) a date specified by vote or written consent of the Required Holders (the date of such closing or such vote or written consent is referred to herein as the “**Mandatory Conversion Date**”), (y) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock at the then effective applicable Conversion Prices and (z) such shares may not be reissued by the Corporation as shares of such series.

(b) All holders of record of shares of Preferred Stock shall be given written notice of the Mandatory Conversion Date and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be given in advance of

the occurrence of the Mandatory Conversion Date. Upon receipt of such notice, each holder of shares of Preferred Stock shall surrender his, her or its certificate or certificates for all such shares to the Corporation at the place designated in such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 5. On the Mandatory Conversion Date, all outstanding shares of Preferred Stock shall be deemed to have been converted into shares of Common Stock, which shall be deemed to be outstanding of record, and all rights with respect to Preferred Stock so converted, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates therefor, to receive certificates for the number of shares of Common Stock into which such Preferred Stock has been converted, and payment of any declared but unpaid dividends thereon. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. As soon as practicable after the Mandatory Conversion Date and the surrender of the certificate or certificates for Preferred Stock, the Corporation shall cause to be issued and delivered to such holder, or on his, her or its written order, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and cash as provided in Subsection 4(b) in respect of any fraction of a share of Common Stock otherwise issuable upon such conversion.

(c) Subject to Subsection 5(b) above, all certificates evidencing shares of Preferred Stock which are required to be surrendered for conversion in accordance with the provisions hereof shall, from and after the Mandatory Conversion Date, be deemed to have been retired and cancelled and the shares of Preferred Stock represented thereby converted into Common Stock for all purposes, notwithstanding the failure of the holder or holders thereof to surrender such certificates on or prior to such date. Such converted Preferred Stock may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

## 6. Redemption.

(a) Redemption. All of the Shares of Preferred Stock shall be redeemed by the Corporation out of funds lawfully available therefor at a price per share equal to the Liquidation Amount of such share (assuming for such purpose such amount to be payable pursuant to Subsection 2(a) and Subsection 2(b) rather than the proviso in Subsection 2(c)) (the “**Redemption Price**” of such share), in three annual installments commencing 60 days after receipt by the Corporation at any time on or after the fifth anniversary of the Series B Original Issue Date from the Required Holders of written notice requesting redemption of all shares of Preferred Stock (the date of each such installment being referred to as a “**Redemption Date**”). On each Redemption Date, the Corporation shall redeem, on a pro rata basis in accordance with the number of shares of Preferred Stock owned by each holder, that number of outstanding shares of Preferred Stock determined by dividing (i) the total number of shares of Preferred Stock outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies); provided, however, that Excluded Shares (as such term is defined in Subsection 6.2) shall not be redeemed

and shall be excluded from the calculations set forth in this sentence. If the Corporation does not have sufficient funds legally available to redeem on any Redemption Date all shares of Preferred Stock to be redeemed on such Redemption Date, then the Corporation shall redeem a pro rata portion of each holder's redeemable shares of Preferred Stock out of funds legally available therefor, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the legally available funds were sufficient to redeem all such shares, and shall redeem the remaining shares of Preferred Stock to have been redeemed as soon as practicable after the Corporation has funds legally available therefor, until all shares of Preferred Stock to have been redeemed as of such Redemption Date shall have been redeemed in full.

(b) Redemption Notice. Written notice of the mandatory redemption (the "**Redemption Notice**") shall be given to each holder of record of Preferred Stock not less than 40 days prior to each Redemption Date. Each Redemption Notice shall state:

- (I) the number of shares of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice;
- (II) the Redemption Date and each applicable Redemption Price;
- (III) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4(a)); and
- (IV) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

If the Corporation receives, on or prior to the 20th day after the date of delivery of the Redemption Notice to a holder of Preferred Stock, written notice from such holder that such holder elects to be excluded from the redemption provided in Section 6 then the shares of Preferred Stock registered on the books of the Corporation in the name of such holder at the time of the Corporation's receipt of such notice shall thereafter be "Excluded Shares." Excluded Shares shall not be redeemed or redeemable pursuant to this Section 6, whether on such Redemption Date or thereafter.

(c) Surrender of Certificates; Payment. On or before the applicable Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4 hereof, shall surrender the certificate or certificates representing such shares to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event fewer than all of the shares

of Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder.

(d) Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor, then notwithstanding that the certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of their certificates therefor.

(e) Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock which are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately canceled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

7. Waiver. Any of the rights, preferences and other terms of Preferred Stock set forth herein may be waived by the affirmative consent or vote of the Required Holders.

8. Notices. Any notice to be given to the Corporation or a holder of its capital stock hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic communication in compliance with the provisions of the General Corporation Law or (c) when mailed, postage prepaid. All communications to the Corporation shall be sent to the Corporation's principal place of business, and all communications to any holder of the Corporation's capital stock shall be sent to such holder's most recent address as appears in the Corporation's records.

**FIFTH:** In furtherance of and not in limitation of powers conferred by statute, it is further provided that:

(a) Subject to the limitations and exceptions, if any, contained in the by-laws of the Corporation, such by-laws may be adopted, amended or repealed by the board of directors of the Corporation;

(b) Elections of directors need not be by written ballot unless, and only to the extent, otherwise provided in the by-laws of the Corporation; and

(c) Subject to any applicable requirements of law, the books of the Corporation may be kept outside the State of Delaware at such location or locations as may be designated by the board of directors of the Corporation or in the by-laws of the Corporation.

**SIXTH:** The Corporation shall indemnify each person who at any time is, or shall

have been, a director or officer of the Corporation and was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director or officer of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement incurred in connection with any such action, suit or proceeding, to the maximum extent permitted by the General Corporation Law, as the same exists or may hereafter be amended. The foregoing right of indemnification shall in no way be exclusive of any other rights of indemnification to which any such director or officer may be entitled, under any by-law, agreement, vote of directors or stockholders or otherwise. No amendment to or repeal of the provisions of this Article SIXTH shall deprive a director or officer of the benefit hereof with respect to any act or failure to act occurring prior to such amendment or repeal. In furtherance of and not in limitation of the foregoing, the Corporation shall advance expenses, including attorneys' fees, incurred by an officer or director of the Corporation in defending any civil, criminal, administrative or investigative action, suit or proceeding in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such advances if it shall be ultimately determined that he is not entitled to be indemnified by the Corporation. Notwithstanding the foregoing, the Corporation shall not be required to indemnify or advance expenses to any person in connection with any action, suit, proceeding, claim or counterclaim initiated by or on behalf of such person.

**SEVENTH:** No director of the Corporation shall be personally liable to the Corporation or to any of its stockholders for monetary damages arising out of such director's breach of fiduciary duty as a director of the Corporation, except to the extent that the elimination or limitation of such liability is not permitted by the General Corporation Law, as the same exists or may hereafter be amended. No amendment to or repeal of the provisions of this Article SEVENTH shall deprive any director of the Corporation of the benefit hereof with respect to any act or failure to act of such director occurring prior to such amendment or repeal.

**EIGHTH:** Subject to the voting rights of stockholders set forth herein, the Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation in the manner now or hereafter prescribed by the General Corporation Law and this Certificate of Incorporation, and all rights conferred upon stockholders herein are granted subject to this reservation.

**NINTH:** The Corporation renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

\* \* \* \* \*



IN WITNESS WHEREOF, the Corporation has caused this Amended and Restated Certificate of Incorporation to be signed by its Chief Financial Officer this 1st day of November, 2011.

Advanced Electron Beams, Inc.

By: /s/ Larry Mihalchik  
Larry Mihalchik, Chief Financial Officer