

EXHIBIT A

FORM OF AMENDMENT TO AMENDED AND  
RESTATED BYLAWS

The following Amendment is hereby made to the Amended and Restated Bylaws (the “*Bylaws*”) of Luna Innovations Incorporated, a Delaware corporation (the “*Company*”):

1. Article II, Section 2.3 of the Bylaws is hereby deleted in its entirety and replaced with the following:

“Section 2.3. Special Meeting.

Special meetings of the stockholders may be called at any time only by (i) the Board acting pursuant to a resolution duly adopted by a majority of the Board, or (ii) the mutual agreement of the Chief Executive Officer and the President. Such special meetings may not be called by any other person or persons.

Only such business shall be considered at a special meeting of stockholders as shall have been stated in the notice for such meeting. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.”

2. Article V, Section 5.1 of the Bylaws is hereby deleted in its entirety and replaced with the following:

“Section 5.1. Officers

The officers of the corporation shall be a President and a Secretary. The corporation may also have, at the discretion of the Board, a Chairman of the Board, a Vice Chairman of the Board, a Chief Executive Officer, a Chief Operating Officer, a Chief Commercialization Officer, a Chief Financial Officer, a Treasurer, one or more Vice Presidents, Assistant Vice Presidents, Assistant Secretaries, and Assistant Treasurers, and any such other officers as may be appointed by the Board or in accordance with the provisions of Section 5.3 of these Bylaws. Any number of offices may be held by the same person.”

3. Article V, Section 5.7 of the Bylaws is hereby deleted in its entirety and replaced with the following:

“Section 5.7. Chief Executive Officer.

The duties of the Chief Executive Officer shall be as determined from time to time by the Board.”

4. Article V, Section 5.8 of the Bylaws is hereby deleted in its entirety and replaced with the following:

“Section 5.8. President; Other Officers.

The duties of the President and such other officers shall each be as determined from time to time by the Board.”

**AMENDED AND RESTATED BYLAWS  
OF  
LUNA INNOVATIONS INCORPORATED**

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**AMENDED AND RESTATED BYLAWS  
OF  
LUNA INNOVATIONS INCORPORATED**

**ARTICLE I  
CORPORATE OFFICES**

**1.1 REGISTERED OFFICE**

The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle County, Delaware 19801. The name of the registered agent at such address is The Corporation Trust Company.

**1.2 OTHER OFFICES**

The Board of Directors of the corporation (the "Board") may at any time establish other offices at any place or places where the corporation is qualified to do business.

**ARTICLE II  
MEETINGS OF STOCKHOLDERS**

**2.1 PLACE OF MEETINGS**

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board. In the absence of any such designation, stockholders' meetings shall be held at the corporation's principal executive office.

**2.2 ANNUAL MEETING**

The annual meeting of stockholders shall be held each year on a date and at a time designated by the Board. At the annual meeting, directors shall be elected and any other proper business may be transacted.

### **2.3 SPECIAL MEETING**

A special meeting of the stockholders may be called at any time by the Board, or by the Chairman of the Board, the Chief Executive Officer or the President, or by one or more stockholders holding shares in the aggregate entitled to cast votes not less than 10% of the votes at that meeting.

Effective upon the closing of a firm commitment underwritten public offering of Common Stock of the Corporation and subject to the rights of the holders of any series of Preferred Stock then outstanding, special meetings of the stockholders may be called at any time only by the Board acting pursuant to a resolution duly adopted by a majority of the Board, the Chairman of the Board, the Chief Executive Officer or the President, but such special meetings may not be called by any other person or persons.

Only such business shall be considered at a special meeting of stockholders as shall have been stated in the notice for such meeting. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.

### **2.4 NOTICE OF STOCKHOLDERS' MEETINGS; EXCEPTION TO REQUIREMENTS OF NOTICE**

All notices of meetings with stockholders shall be in writing and shall be sent or otherwise given in accordance with Section 2.5 of these Bylaws not less than ten (10) nor more than sixty (60) calendar days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting (as authorized by the Board in its sole discretion pursuant to Section 211(a)(2) of the General Corporation Law of Delaware), and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Any previously scheduled meeting of stockholders may be postponed, and, unless the Certificate of Incorporation of the corporation, as the same may be amended and/or restated from time to time (as so amended and restated, the "Certificate") provides otherwise, any special meeting of the stockholders may be cancelled by resolution duly adopted by a majority of the Board members then in office upon public notice given prior to the date previously scheduled for such meeting of stockholders.

Whenever notice is required to be given, under the General Corporation Law of Delaware, the Certificate or these Bylaws, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given. In the event that the action taken by the corporation is such as to require the filing of a certificate with the Secretary of State of Delaware, the certificate shall state, if such is the fact and if

notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

Whenever notice is required to be given, under any provision of the General Corporation Law of Delaware, the Certificate or these Bylaws, to any stockholder, and such stockholder has received (a) notice of two (2) consecutive annual meetings, or (b) at least two (2) payments (if sent by first-class mail) of dividends or interest on securities during a twelve (12) month period, having been mailed such notice addressed to such person at such person's address as shown on the records of the corporation and have been returned undeliverable, the giving of such notice to such person shall not be required. Any actions or meeting which shall be taken or held without notice to such person shall have the same force and effect as if such notice had been duly given. If any such person shall deliver to the corporation a written notice setting forth such person's then current address, the requirement that notice be given to such person shall be reinstated. In the event that the action taken by the corporation is such as to require the filing of a certificate with the Secretary of State of Delaware, the certificate need not state that notice was not given to persons to whom notice was not required to be given pursuant to Section 230(b) of the General Corporation Law of Delaware.

The exception in subsection (a) of the above paragraph to the requirement that notice be given shall not be applicable to any notice returned as undeliverable if the notice was given by electronic transmission.

#### 2.5 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE

Written notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his, her or its address as it appears on the records of the corporation and otherwise is given when delivered. An affidavit of the Secretary or an Assistant Secretary, the transfer agent or other agent of the corporation that the notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

#### 2.6 QUORUM

The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business, except as otherwise provided by statute or the Certificate. If, however, such quorum is not present or represented at any meeting of the stockholders, then a majority of the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed. The stockholders present at a duly called meeting at which quorum is present may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

## 2.7 ADJOURNED MEETING; NOTICE

When a meeting is adjourned to another time or place, unless these Bylaws otherwise require, notice need not be given of the adjourned meeting if the time and place thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting (as authorized by the Board in its sole discretion pursuant to Section 211(a)(2) of the General Corporation Law of Delaware), are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. The Chairman of the meeting shall have the power to adjourn any meeting of stockholders for any reason, and the stockholders shall have the power to adjourn any meeting of stockholders in accordance with Section 2.6 of these Bylaws.

## 2.8 VOTING

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.11 of these Bylaws, subject to the provisions of Sections 217 and 218 of the General Corporation Law of Delaware (relating to voting rights of fiduciaries, pledgors and joint owners of stock and to voting trusts and other voting agreements).

Except as otherwise provided in the provisions of Section 213 of the General Corporation Law of Delaware (relating to the fixing of a date for determination of stockholders of record), or as may be otherwise provided in the Certificate, each stockholder shall be entitled to one (1) vote for each share of capital stock held by such stockholder.

In all matters, other than the election of directors and except as otherwise required by law, the affirmative vote of the majority of shares present or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders. Directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

## 2.9 WAIVER OF NOTICE

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware, the Certificate or these Bylaws, a written waiver thereof, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified



in any written waiver of notice, or any waiver by electronic transmission, unless so required by the Certificate or these Bylaws.

#### 2.10 STOCKHOLDER ACTION BY WRITTEN CONSENT

Unless otherwise provided in the Certificate, any action required by the DGCL to be taken at any annual or special meeting of stockholders of a corporation, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice, and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of holders to take the action were delivered to the Company as provided in Section 228 of the DGCL. In the event that the action which is consented to is such as would have required the filing of a certificate under any provision of the DGCL, if such action had been voted on by stockholders at a meeting thereof, the certificate filed under such provision shall state, in lieu of any statement required by such provision concerning any vote of stockholders, that written consent has been given in accordance with Section 228 of the DGCL.

#### 2.11 RECORD DATE FOR STOCKHOLDER NOTICE

In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix, in advance, a record date, which such date shall not precede the date upon which the resolution fixing the record date is adopted by the Board and which such date shall not be more than sixty (60) nor less than ten (10) calendar days before the date of such meeting, nor more than sixty (60) days prior to any other action.

If the Board does not so fix a record date:

(a) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(b) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however*, that the Board may fix a new record date for the adjourned meeting.

#### 2.12 PROXIES

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for him, her or it by a written proxy, signed by the stockholder and filed with the Secretary of the corporation, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. A stockholder may authorize another person or persons to act for him, her or it as proxy in the manner(s) provided under Section 212(c) of the General Corporate Law of Delaware or as otherwise provided under Delaware law. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212(e) of the General Corporation Law of Delaware.

#### 2.13 LIST OF STOCKHOLDERS ENTITLED TO VOTE; STOCK LEDGER

The officer who has charge of the stock ledger of a corporation shall prepare and make, at least ten (10) calendar days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Nothing contained in this Section 2.13 shall require the corporation to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting: (a) 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, or (b) for a period of at least ten (10) calendar days prior to the meeting during ordinary business hours at the principal place of business of the corporation.

In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to the stockholders of the corporation. The list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

#### 2.14 NOMINATIONS AND PROPOSALS BY STOCKHOLDERS AT ANNUAL MEETING

(a) 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: (A) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board, (B) otherwise properly brought before the meeting by or at the direction of the Board, or (C) otherwise properly brought before the meeting by a stockholder (i) who is a stockholder of record on the date of the giving of notice provided for in this Section 2.14(a) and on the record date for the determination of stockholders entitled to vote at such annual meeting and (ii) who complies with the notice procedures set forth in this Section 2.14(a). For business to be properly brought before an

annual meeting by a stockholder, the stockholder must have given timely notice thereof in writing to the Secretary of the corporation. To be timely, a stockholder's notice must be delivered to or mailed and received at the principal executive offices of the corporation not less than ninety (90) calendar days in advance of the date that is the one year anniversary of the date on which the corporation first mailed its proxy statement to stockholders in connection with the previous year's annual meeting of stockholders; *provided, however*, that in the event that no annual meeting was held in the previous year or the date of the annual meeting has been changed by more than thirty (30) days from the date of the prior year's meeting, notice by the stockholder to be timely must be so received not later than the close of business on the tenth (10<sup>th</sup>) day following the day notice of the date of the meeting was mailed or such public disclosure was made, whichever occurs first. A stockholder's notice to the Secretary shall set forth as to each matter the stockholder proposes to bring before the annual meeting: (i) a brief description of the business desired to be brought before the annual meeting and the reasons for conducting such business at the annual meeting, (ii) the name and address, as they appear on the corporation's books, of the stockholder proposing such business, (iii) the class and number of shares of the corporation which are beneficially owned by the stockholder, (iv) any material interest of the stockholder in such business and (v) any other information that is required to be provided by the stockholder pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in such stockholder's capacity as a proponent to a stockholder proposal. Notwithstanding the foregoing, in order to include information with respect to a stockholder proposal in the proxy statement and form of proxy for a stockholder's meeting, stockholders must provide notice as required by the regulations promulgated under the Exchange Act. Notwithstanding anything in these Bylaws to the contrary, no business shall be conducted at any annual meeting except in accordance with the procedures set forth in this paragraph (a). The chairman of the annual meeting shall, if the facts warrant, determine and declare at the meeting that business was not properly brought before the meeting and in accordance with the provisions of this paragraph (a), and, if he should so determine, he shall so declare at the meeting that any such business not properly brought before the meeting shall not be transacted.

(b) Only persons who are nominated in accordance with the procedures set forth in this paragraph (b) shall be eligible for election as directors, except as otherwise provided in the Certificate of Incorporation with respect to the right of holders of preferred stock of the corporation. Nominations of persons for election to the Board of the corporation may be made at a meeting of stockholders by or at the direction of the Board or by any stockholder of the corporation entitled to vote in the election of directors at the meeting who complies with the notice procedures set forth in this paragraph (b). Such nominations, other than those made by or at the direction of the Board, shall be made pursuant to timely notice in writing to the Secretary of the corporation in accordance with the provisions of paragraph (a) of this Section 2.14. Such stockholder's notice shall set forth (i) as to each person, if any, whom the stockholder proposes to nominate for election or re-election as a director: (A) the name, age, business address and residence address of such person, (B) the principal occupation or employment of such person, (C) the class and number of shares of the corporation which are beneficially owned by such person, (D) a description of all arrangements or understandings between the stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nominations are to be made by the stockholder, and

(E) any other information relating to such person that is required to be disclosed in solicitations of proxies for elections of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act (including without limitation such person's written consent to being named in the proxy statement, if any, as a nominee and to serving as a director if elected); and (ii) as to such stockholder giving notice, the information required to be provided pursuant to paragraph (a) of this Section 2.14. At the request of the Board, any person nominated by a stockholder for election as a director shall furnish to the Secretary of the corporation that information required to be set forth in the stockholder's notice of nomination, which pertains to the nominee. No person shall be eligible for election as a director of the corporation unless nominated in accordance with the procedures set forth in this paragraph (b). The chairman of the meeting shall, if the facts warrant, determine and declare at the meeting that a nomination was not made in accordance with the procedures prescribed by these Bylaws, and if he should so determine, he shall so declare at the meeting, and the defective nomination shall be disregarded.

(c) Notwithstanding the foregoing provisions of this Section 2.14, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to matters set forth in this Section 2.14. Nothing in this Section 2.14 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

## 2.15 ORGANIZATION

Meetings of stockholders shall be presided over by (a) the Chairman of the Board or, in the absence thereof, (b) such person as the Chairman of the Board shall appoint or, in the absence thereof or in the event that the Chairman of the Board shall fail to make such appointment, (c) such person as the Chairman of the executive committee of the corporation shall appoint or, in the absence thereof or in the event that the Chairman of the executive committee of the corporation shall fail to make such appointment, any officer of the corporation elected by the Board. In the absence of the Secretary of the corporation, the secretary of the meeting shall be such person as the Chairman of the meeting appoints.

The Board shall, in advance of any meeting of stockholders, appoint one (1) or more inspector(s), who may include individual(s) who serve the corporation in other capacities, including without limitation as officers, employees or agents, to act at the meeting of stockholders and make a written report thereof. The Board may designate one (1) or more persons as alternate inspector(s) to replace any inspector, who fails to act. If no inspector or alternate has been appointed or is able to act at a meeting of stockholders, the Chairman of the meeting shall appoint one (1) or more inspector(s) to act at the meeting. Each inspector, before discharging his or her duties, shall take and sign an oath to faithfully execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspector(s) or alternate(s) shall have the duties prescribed pursuant to Section 231 of the General Corporate Laws of Delaware or other applicable law.

The Board shall be entitled to make such rules or regulations for the conduct of meetings of stockholders as it shall deem necessary, appropriate or convenient. Subject to such rules and

regulations, if any, the Chairman of the meeting shall have the right and authority to prescribe such rules, regulations and procedures and to do all acts as, in the judgment of such Chairman, are necessary, appropriate or convenient for the proper conduct of the meeting, including without limitation establishing an agenda of business of the meeting, rules or regulations to maintain order, restrictions on entry to the meeting after the time fixed for commencement thereof and the fixing of the date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at a meeting (and shall announce such at the meeting).

## 2.16 NOTICE BY ELECTRONIC TRANSMISSION

Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders given by the corporation under any provision of the General Corporation Law of Delaware, the Certificate or these Bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the corporation. Any such consent shall be deemed revoked if (a) the corporation is unable to deliver by electronic transmission two (2) consecutive notices given by the corporation in accordance with such consent, and (b) such inability becomes known to the Secretary or an Assistant Secretary of the corporation, the transfer agent or other person responsible for the giving of notice; *provided, however*, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

Notice given pursuant to the above paragraph shall be deemed given (a) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice, (b) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice, (c) if by a posting on an electronic network together with a separate notice to the stockholder of such specific posting, upon the later of (i) such posting, and (ii) the giving of such separate notice, and (d) if by any other form of electronic transmission, when directed to the stockholder. An affidavit of the Secretary or Assistant Secretary, 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.

For purposes of these Bylaws, “**electronic transmission**” means any form of communication, not directly involving the physical transmission of paper, which creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process. This Section 2.16 shall not apply to Section 164 (failure to pay for stock; remedies), Section 296 (adjudication of claims; appeal), Section 311 (revocation of voluntary dissolution), Section 312 (renewal, revival, extension and restoration of certificate of incorporation) or Section 324 (attachment of shares of stock) of the General Corporation Law of Delaware.

## ARTICLE III

### DIRECTORS

### 3.1 POWERS

The business and affairs of the corporation shall be managed by or under the direction of the Board. In addition to the power and authorities these Bylaws expressly confer upon them, the Board may exercise all such powers of the corporation and do all such lawful acts and things as are not required by statute, the Certificate or these Bylaws to be exercised or done by the stockholders.

### 3.2 NUMBER OF DIRECTORS

Subject to the rights of the holders of any Preferred Stock of the corporation to elect additional directors under specified circumstances, the authorized number of directors of the corporation shall be fixed from time to time exclusively by the Board pursuant to a resolution duly adopted by a majority of the Board members then in office.

No reduction of the authorized number of directors shall have the effect of removing any director before such director's term of office expires.

### 3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS

Except as provided in the Certificate or Section 3.4 of these Bylaws, directors shall be classified, with respect to the time for which they severally hold office, into three (3) classes, as nearly equal in number as possible, one (1) class to be originally elected for a term expiring at the annual meeting of stockholders to be held in 2006, another class to be originally elected for a term expiring at the annual meeting of stockholders to be held in 2007, and another class to be originally elected for a term expiring at the annual meeting of stockholders to be held in 2008, with each class to hold office until its successor is duly elected and qualified. At each succeeding annual meeting of stockholders, commencing with the first annual meeting (a) directors elected to succeed those directors whose terms then expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election, with each director to hold office until his or her successor shall have been duly elected and qualified, and (b) if authorized by a resolution of the Board, directors may be elected to fill any vacancy on the Board, regardless of how such vacancy shall have been created (as set forth in Section 3.4 below).

Directors need not be stockholders unless so required by the Certificate or these Bylaws, wherein other qualifications for directors may be prescribed.

Elections of directors at all meetings of the stockholders at which directors are to be elected shall be by ballot and, subject to the rights of the holders of any Preferred Stock of the corporation to elect additional directors under specified circumstances, a plurality of the votes cast thereat shall elect directors. The ballot shall state the name of the stockholder or proxy voting or such other information as may be required under the procedure established by the Chairman of the meeting. If authorized by the Board, such requirement of a ballot shall be satisfied by a ballot submitted by electronic transmission provided that any such electronic transmission must either set forth or be

submitted with information from which it can be determined that the electronic submission was authorized.

#### 3.4 RESIGNATION AND VACANCIES

Any director may resign at any time upon written notice or by electronic transmission to the corporation.

Subject to the rights of the holders of any series of Preferred Stock of the corporation then outstanding and unless the Board otherwise determines, newly created directorships resulting from any increase in the authorized number of directors, or any vacancies on the Board resulting from the death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise provided by law or resolution of the Board, be filled only by a majority vote of the directors then in office, whether or not less than a quorum, and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires.

#### 3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE

The Board may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the Certificate or these Bylaws, members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

#### 3.6 FIRST MEETINGS

The first meeting of each newly elected Board shall be held immediately after, and at the same location as, the annual meeting of stockholders, unless the Board shall fix another time and place and give notice thereof (or obtain waivers of notice thereof) in the manner required herein for special meetings of directors, and no notice of such meeting shall be necessary to the newly elected directors in order legally to constitute the meeting, except as provided in this Section 3.6 and provided that a quorum shall be present.

#### 3.7 REGULAR MEETINGS

Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board.

