

PERKINELMER, INC. BY-LAWS

Amended and Restated as of

December 7, 2018

ARTICLE I.

Stockholders.

1. Place of Meetings. All meetings of stockholders shall be held within Massachusetts unless the Articles of Organization permit the holding of stockholder meetings outside Massachusetts, in which event such meetings may be held either within or without Massachusetts. Meetings of stockholders shall be held at the principal office of the corporation unless a different place is fixed by the Directors or the Chairman of the Board and stated in the notice of the meeting.

2. Annual Meetings. The annual meeting of stockholders shall be held on the fourth Tuesday of April in each year (or if that be a legal holiday in the place where the meeting is to be held, on the next succeeding full business day) at 10:30 o'clock A.M., unless a different hour is fixed by the Directors or the Chairman of the Board and stated in the notice of the meeting. The purposes for which the annual meeting is to be held, in addition to those prescribed by law, by the Articles of Organization or by these By-Laws, may be specified by the Directors or the Chairman of the Board and shall be as specified in the notice of the meeting and only business within such purposes may be conducted at the meeting. If no annual meeting is held in accordance with the foregoing provisions, a special meeting may be held in lieu thereof and any action taken at such meeting shall have the same effect as if taken at the annual meeting.

3. Special Meetings. Special meetings of stockholders may be called by the President or by the Directors. In addition, upon written application of one or more stockholders who are entitled to vote and who hold at least the Required Percentage (as defined below) of the capital stock entitled to vote at the meeting (the "Voting Stock"), special meetings shall be called by the Secretary, or in case of the death, absence, incapacity or refusal of the Secretary, by any other officer. For purposes of this Section 3, the "Required Percentage" shall be 40% or such lesser percentage as shall constitute the maximum percentage permitted by law for this purpose. Any request for a call of special meeting of stockholders (a "Call") by the holders of the Required Percentage of the Voting Stock shall be governed by and subject to the following:

(a) Any stockholder of record seeking to solicit requests for a Call pursuant to this Section 3 shall so notify the corporation in writing to the Secretary of the corporation, and such written notification shall set forth the reason or reasons for the Call and the purpose or purposes of such special meeting and the information required by Section 13(b) and/or Section 14(b), as applicable.

(b) No solicitation of stockholder requests for a Call (a "Call Solicitation") may be commenced (i) before the Call Request Record Date, as defined in paragraph (c) of this Section 3, or (ii) during the period of 90 days following the most recent meeting of the stockholders of the corporation.

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

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

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

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

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

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

(i) If a Call Solicitation does not receive the support of the holders of record of the Required Percentage of the Voting Stock, no subsequent Call may be made or solicited by any stockholder during a period of 90 days after the Delivery Date.

4. Notice of Meetings. A written notice of every meeting of stockholders, stating the place, date and hour thereof, and the purposes for which the meeting is to be held, shall be given by the Secretary or other person calling the meeting at least seven days and no more than 60 days before the meeting to each stockholder entitled to vote thereat and to each stockholder who, by law, by the Articles of Organization or by these By-Laws, is entitled to such notice. A stockholder may waive any notice required by law, the Articles of Organization or these By-Laws before or after the date and time stated in the notice. The waiver shall be in writing, be signed by the stockholder entitled to the notice and be delivered to the corporation for inclusion with the records of the meeting. A stockholder's attendance at a meeting: (a) waives objection to lack of notice or defective notice of the meeting, unless the stockholder at the beginning of the meeting objects to holding the meeting or transacting business at the meeting; and (b) waives objection to consideration of a particular matter at the meeting that is not within the purpose or purposes described in the meeting notice, unless the stockholder objects to considering the matter when it is presented.

5. Quorum. Unless the Articles of Organization otherwise provide, a majority in interest of all stock issued, outstanding and entitled to vote on any matter shall constitute a quorum with respect to that matter, except that if two or more classes of stock are outstanding and entitled to vote as separate classes, then in the case of each such class a quorum shall consist of a majority in interest of the stock of that class issued, outstanding and entitled to vote.

6. Adjournments. Except as provided in Section 3 of this Article I, any meeting of stockholders may be adjourned to any other time and to any other place at which a meeting of stockholders may be held under these By-Laws by the stockholders present or represented at the meeting, although less than a quorum, or by any officer entitled to preside or to act as secretary of such meeting, if no stockholder is present. It shall not be necessary to notify any stockholder of any adjournment. Any business which could have been transacted at any meeting of the stockholders as originally called may be transacted at any adjournment thereof.

7. Voting and Proxies. Each stockholder shall have one vote for each share of stock entitled to vote held by him of record according to the records of the corporation and a proportionate vote for a fractional share so held by him, unless otherwise provided by the Articles of Organization. A stockholder may vote his or her shares in person or may appoint a proxy to vote or otherwise act for him by signing an appointment form, either personally or by his attorney-in-fact. An appointment of a proxy is effective when received by the Secretary or other officer or agent authorized to tabulate votes. Unless otherwise provided in the appointment form, an appointment is valid for a period of 11 months from the date the stockholder signed the form or, if it is undated, from the date of its receipt by the officer or agent. An appointment of a proxy is revocable by the stockholder unless the appointment form conspicuously states that it is irrevocable and the appointment is coupled with an interest, as defined in the Massachusetts Business Corporation Act, as in effect from time to time (the "MBCA"). An appointment made irrevocable is revoked when the interest with which it is coupled is extinguished. The death or incapacity of the stockholder appointing a proxy shall not affect the right of the corporation to accept the proxy's authority unless notice of the death or incapacity is received by the Secretary or other officer or agent authorized to tabulate votes before the proxy exercises his or her authority under the appointment. A transferee for value of shares subject to an irrevocable appointment may revoke the appointment if he or she did not know of its existence when he or she acquired the shares and the existence of the irrevocable appointment was not noted conspicuously on the certificate representing the shares or on the information statement for shares without certificates. Subject to the provisions of Section 7.24 of the MBCA, or any successor Section thereto, and to any express limitation on the proxy's authority appearing on the face of the appointment form, the corporation is entitled to accept the proxy's vote or other action as that of the stockholder making the appointment.

8. Action at Meeting. When a quorum is present, the vote of a majority of the stock present or represented and voting on a matter (or if there are two or more classes of stock entitled to vote as separate classes, then in the case of each such class, the vote of a majority of the stock of that class present or represented and voting on a matter), except where a larger vote is required by law, the Articles of Organization or these By-Laws, shall decide any matter to be voted on by the stockholders other than an election of directors. A nominee for director shall be elected to the Board of Directors if the votes cast for such nominee's election exceed the votes cast against such nominee's election; provided, however, that directors shall be elected by a plurality of the votes cast at any meeting of stockholders that is a Contested Election Meeting (as defined below). A meeting of stockholders shall be a "Contested Election Meeting" if, as of the day immediately preceding the date of the corporation's first notice to stockholders of such meeting sent pursuant to Section 4 of Article I of these By-Laws, as such date is stated in such notice, either (i) there is any person nominated for election as a director at such meeting who was not nominated for election as a director by the Board of Directors, and such nomination other than by the Board of Directors has not been withdrawn, or (ii) there are more persons nominated for election as directors at such meeting than there are directors to be elected at such meeting. No ballot shall be required for such election unless requested by a stockholder present or represented at the meeting and entitled to vote in the election. The corporation shall not directly or indirectly vote any share of its stock. Nothing in this Section shall be construed as limiting the right of this corporation to vote shares of stock held directly or indirectly by it in a fiduciary capacity. In the event that a vote of stockholders of this corporation is required to approve an agreement to consolidate this corporation with another corporation to form a new corporation, or to merge this corporation into another corporation, or to merge or consolidate another corporation into this corporation, the vote of two-thirds of each class of stock of this corporation outstanding and entitled to vote on the question, voting separately, shall be necessary for the approval of such agreement.

9. Action without Meeting. Any action to be taken by stockholders may be taken without a meeting if all stockholders entitled to vote on the matter consent to the action by a writing filed with the records of the meetings of stockholders. Such consent shall be treated for all purposes as a vote at a meeting.

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

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

12. Form of Stockholder Action.

(a) Any vote, consent, waiver, proxy appointment or other action by a stockholder or by the proxy or other agent of any stockholder shall be considered given in writing, dated and signed, if, in lieu of any other means permitted by law, it consists of an electronic transmission that sets forth or is delivered with information from which the corporation can determine (1) that the electronic transmission was transmitted by the stockholder, proxy or agent or by a person authorized to act for the stockholder,

proxy or agent; and (2) the date on which such stockholder, proxy, agent or authorized person transmitted the electronic transmission. The date on which the electronic transmission is transmitted shall be considered to be the date on which it was signed. The electronic transmission shall be considered received by the corporation if it has been sent to any address specified by the corporation for the purpose or, if no address has been specified, to the principal office of the corporation, addressed to the Secretary or other officer or agent having custody of the records of proceedings of stockholders.

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

13. Nomination of Directors.

(a) Except for (i) any Directors entitled to be elected by the holders of any class or series of preferred stock, (ii) any Directors elected by the Board of Directors in accordance with Section 3 of Article II of these By-Laws to fill vacancies in the Board of Directors (however occurring) or (iii) as otherwise required by applicable law or stock market regulation, only persons who are nominated in accordance with the procedures in this Section 13 or in Section 3 of Article I shall be eligible for election as Directors. Nomination for election to the Board of Directors at a meeting of stockholders may be made (x) by or at the direction of the Board of Directors, (y) by any stockholder of the corporation who (1) complies with the notice procedures set forth in Section 13(b) or in Section 3 of Article I and (2) is a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such meeting or (z) by any Eligible Stockholder (as defined in Section 13(c) of Article I) whose Stockholder Nominee (as defined in Section 13(c) of Article I) is included in the corporation's proxy materials for the relevant annual meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal office of the corporation as follows: (i) in the case of an election of Directors at an annual meeting of stockholders, not less than 75 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not later than the close of business on the later of (A) the 75th day prior to such annual meeting and (B) the seventh day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs; or (ii) in the case of an election of Directors at a special meeting of stockholders, provided that the Board of Directors has determined that Directors shall be elected at such meeting, not later than the close of business on the later of (x) the 75th day prior to such special meeting and (y) the seventh day following the day on which notice of the date of such special meeting was mailed or public disclosure of the date of such special meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a stockholders' meeting (or the public announcement thereof) commence a new time period (or extend any time period) for the giving of a stockholder's notice.

The stockholder's notice to the Secretary shall set forth:

(A) as to each proposed nominee

- (1) such person's name, age, business address and, if known, residence address,
- (2) such person's principal occupation or employment,
- (3) the class or series and number of shares of stock of the corporation which are, directly or indirectly, beneficially owned by such person,
- (4) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among (x) the stockholder, the beneficial owner, if any, on whose behalf the nomination is being made and the respective affiliates and associates of, or others acting in concert with, such stockholder and such beneficial owner, on the one hand, and (y) each proposed nominee, and his or her respective affiliates and associates, or others acting in concert with such nominee, on the other hand, including all information that would be required to be disclosed pursuant to Item 404 of Regulation S-K under the Securities Exchange Act of 1934 (the "Exchange Act") (or any successor provision thereto) if the stockholder making the nomination and any beneficial owner on whose behalf the nomination is made or any affiliate or associate thereof or person

acting in concert therewith were the “registrant” for purposes of such Item and the proposed nominee were a director or executive officer of such registrant, and

(5) any other information concerning such person that must be disclosed as to nominees in proxy solicitations pursuant to Regulation 14A under the Exchange Act (or any successor regulation thereto); and

(B) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is being made

(1) such stockholder’s name and address, as they appear on the corporation’s books,

(2) the class or series and number of shares of stock of the corporation which are, directly or indirectly, beneficially and of record, owned by such stockholder and such beneficial owner,

(3) a description of any agreement, arrangement or understandings between such stockholder and/or such beneficial owner and each proposed nominee and any other person or persons (including their names) pursuant to which the nomination(s) are to be made by such stockholder or who may participate in the solicitation of proxies in favor of electing such nominee(s),

(4) a description of any agreement, arrangement or understanding (including any derivative or short positions, profit interests, options, warrants, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or such beneficial owner with respect to shares of stock of the corporation,

(5) any other information relating to such stockholder and such beneficial owner that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the election of such nominee in a Contested Election Meeting (even if an election contest is not involved) pursuant to Section 14 of the Exchange Act (or any successor provision thereto) and the rules and regulations promulgated thereunder,

(6) a representation that such stockholder and/or such beneficial owner intends to appear in person or by proxy at the meeting to nominate the person(s) named in its notice, and

(7) a representation whether such stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the corporation’s outstanding capital stock reasonably believed by such stockholder or such beneficial owner to be sufficient to elect the nominee (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such nomination (and such representation shall be included in any such solicitation materials).

Not later than 10 days after the record date of the meeting, the information required by Items (A)(1)-(5) and (B)(1)-(5) of the prior sentence shall be supplemented by the stockholder providing updated information as of the record date. In addition, to be effective, the stockholder’s notice must be accompanied by the written consent of the proposed nominee to serve as a Director if elected. The corporation may require any proposed nominee to furnish such other information as may reasonably be required to determine the eligibility of such proposed nominee to serve as a Director of the corporation and to assess the independence of such proposed nominee. A stockholder shall not have complied with this Section 13(b) if the stockholder (or beneficial owner, if any, on whose behalf the nomination is made) solicits proxies in support of such stockholder’s nominee in contravention of the representations with respect thereto required by this Section 13(b).

(c) Proxy Access.

(i) Subject to the provisions of this Section 13(c), the corporation shall include in its proxy statement (including its form of proxy) for an annual meeting of stockholders the name of any stockholder nominee for election to the Board of Directors submitted pursuant to this Section 13(c) (each a “Stockholder Nominee”) provided (A) timely written notice of such Stockholder Nominee satisfying this Section 13(c) (“Notice”) is delivered to the corporation by or on behalf of a stockholder or stockholders that, at the time the Notice is delivered, satisfy the ownership and other requirements of this Section 13(c) (such stockholder or stockholders, and any person on whose behalf they are acting, the “Eligible Stockholder”), (B) the Eligible Stockholder expressly elects in writing at the time of providing the Notice to have its nominee included in the corporation’s

proxy statement pursuant to this Section 13(c), and (C) the Eligible Stockholder and the Stockholder Nominee otherwise satisfy the requirements of this Section 13(c) and the director qualification requirements set forth in the corporation's Corporate Governance Guidelines and any other document(s) setting forth qualifications for directors.

(ii) To be timely, an Eligible Stockholder's notice must be received in writing by the Secretary at the principal office of the corporation not less than 120 days nor more than 150 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not later than the close of business on the later of (A) the 120th day prior to such annual meeting and (B) the seventh day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a stockholders' meeting (or the public announcement thereof) commence a new time (or extend any time period) for the giving of a stockholder's notice.

(iii) In addition to including the name of the Stockholder Nominee in the corporation's proxy statement for the annual meeting, the corporation also shall include (A) the information concerning the Stockholder Nominee and the Eligible Stockholder that is required to be disclosed in the corporation's proxy statement pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder and (B) if the Eligible Stockholder so elects, a Statement (defined below) (collectively, the "Required Information"). Nothing in this Section 13(c) shall limit the corporation's ability to solicit against and include in its proxy statement its own statements relating to any Stockholder Nominee.

(iv) The number of Stockholder Nominees (including Stockholder Nominees that were submitted by an Eligible Stockholder for inclusion in the corporation's proxy statement pursuant to this Section 13(c) but either are subsequently withdrawn or that the Board of Directors decides to nominate (a "Board Nominee")) appearing in the corporation's proxy statement with respect to a meeting of stockholders shall not exceed the greater of (A) two or (B) 20% of the number of directors in office as of the last day on which notice of a nomination may be delivered pursuant to this Section 13(c) (the "Final Proxy Access Nomination Date") or, if such amount is not a whole number, the closest whole number below 20% (the "Permitted Number"); provided, however, that (1) any director in office as of the nomination deadline who was included in the corporation's proxy statement as a Stockholder Nominee for any of the two preceding annual meetings and whom the Board of Directors decides to nominate for election to the Board of Directors also will be counted against the Permitted Number and (2) in the event that one or more vacancies for any reason occurs on the Board of Directors at any time after the Final Proxy Access Nomination Date and before the date of the applicable annual meeting of stockholders and the Board of Directors resolves to reduce the size of the Board of Directors in connection therewith, the Permitted Number shall be calculated based on the number of directors in office as so reduced.

(v) In the event that the number of Stockholder Nominees submitted by Eligible Stockholders pursuant to this Section 13(c) exceeds the Permitted Number, each Eligible Stockholder shall select one Stockholder Nominee for inclusion in the corporation's proxy statement until the Permitted Number is reached, going in order of the amount (greatest to least) of voting power of the corporation's capital stock entitled to vote on the election of directors as disclosed in the Notice. If the Permitted Number is not reached after each Eligible Stockholder has selected one Stockholder Nominee, this selection process shall continue as many times as necessary, following the same order each time, until the Permitted Number is reached.

(vi) An Eligible Stockholder must have owned (as defined below) continuously for at least three years a number of shares that represents 3% or more of the total voting power of the corporation's outstanding shares of capital stock entitled to vote in the election of directors (the "Required Shares") as of both the date the Notice is delivered to or received by the corporation in accordance with this Section 13(c) and the record date for determining stockholders entitled to vote at the meeting and must continue to own the Required Shares through the meeting date. For purposes of satisfying the ownership requirement under this Section 13(c), the voting power represented by the shares of the corporation's capital stock owned by one or more stockholders, or by the person or persons who own shares of the corporation's capital stock and on whose behalf any stockholder is acting, may be aggregated, provided that (A) the number of stockholders and other persons whose ownership of shares is aggregated for such purpose shall not exceed 20, (B) each stockholder or other person whose shares are aggregated shall have held such shares continuously for at least three years, and (C) a group of two or more funds that are (1) under common management and investment control, (2) under common management and funded primarily by the same employer (or by a group of related employers that are under common control), or (3) a "group of investment companies," as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940, as amended, shall be treated as one stockholder or person for this purpose. Whenever an Eligible Stockholder consists of a group of stockholders and/or other persons, all requirements and obligations for an Eligible Stockholder set forth in this Section 13(c) must be satisfied by and as to each

such stockholder or other person, except that shares may be aggregated to meet the Required Shares as provided in this Section 13(c). With respect to any one particular annual meeting, no stockholder or other person may be a member of more than one group of persons constituting an Eligible Stockholder under this Section 13(c).

(vii) For purposes of this Section 13(c), an Eligible Stockholder shall be deemed to “own” only those outstanding shares of the corporation’s capital stock as to which the person possesses both (A) the full voting and investment rights pertaining to the shares and (B) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided that the number of shares calculated in accordance with clauses (A) and (B) shall not include any shares (x) sold by such person or any of its affiliates in any transaction that has not been settled or closed, (y) borrowed by such person or any of its affiliates for any purposes or purchased by such person or any of its affiliates pursuant to an agreement to resell, or (z) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such person or any of its affiliates, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the corporation’s capital stock, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of (1) reducing in any manner, to any extent or at any time in the future, such person’s or affiliates’ full right to vote or direct the voting of any such shares, and/or (2) hedging, offsetting or altering to any degree gain or loss arising from the full economic ownership of such shares by such person or affiliate. A person shall “own” shares held in the name of a nominee or other intermediary so long as the person retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. The terms “owned,” “owning” and other variations of the word “own” shall have correlative meanings. For purposes of this Section 13(c), the term “affiliate” shall have the meaning ascribed thereto in the regulations promulgated under the Exchange Act.

(viii) A person’s ownership of shares shall be deemed to continue during any period in which (A) the person has loaned such shares, provided that the person has the power to recall such loaned shares on five business days’ notice and provides a representation that it will promptly recall such loaned shares upon being notified that any of its Stockholder Nominees will be included in the corporation’s proxy statement, or (B) the person has delegated any voting power by means of a proxy, power of attorney or other instrument or arrangement that is revocable at any time by the person.

(ix) An Eligible Stockholder must provide with its Notice the following information in writing to the Secretary: (A) one or more written statements from the record holder of the shares (and from each intermediary through which the shares are or have been held during the requisite three-year holding period) verifying that, as of a date within seven calendar days prior to the date the Notice is delivered to or received by the corporation, the Eligible Stockholder owns, and has owned continuously for the preceding three years, the Required Shares, and the Eligible Stockholder’s agreement to provide (1) within five business days after the record date for the meeting, written statements from the record holder and intermediaries verifying the Eligible Stockholder’s continuous ownership of the Required Shares through the record date and (2) immediate notice if the Eligible Stockholder ceases to own any of the Required Shares prior to the date of the applicable annual meeting of stockholders; (B) documentation satisfactory to the corporation demonstrating that a group of funds qualifies to be treated as one stockholder or person for purposes of this Section 13(c); (C) a representation that the Eligible Stockholder (including each member of any group of stockholders that together is an Eligible Stockholder hereunder): (1) intends to continue to own the Required Shares through the date of the annual meeting, (2) acquired the Required Shares in the ordinary course of business and not with the intent to change or influence control of the corporation, and does not presently have such intent, (3) will not distribute to any stockholder any form of proxy for the meeting other than the form distributed by the corporation, and (4) has provided and will provide facts, statements and other information in all communications with the corporation and its stockholders that are or will be true and correct in all material respects and do not and will not omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading; (D) a statement of the Eligible Stockholder’s intent with regard to continued ownership of the Required Shares for the year following the date of the annual meeting; (E) the written consent of each Stockholder Nominee to be named in the corporation’s proxy statement as a nominee and to serve as a director if elected; (F) a copy of the Schedule 14N that has been filed with the SEC as required by Rule 14a-18 under the Exchange Act; (G) the information required to be provided by Section 13(b) of Article I; (H) in the case of a nomination by a group of stockholders that together is an Eligible Stockholder, the designation by all group members of one group member that is authorized to act on behalf of all members of the nominating stockholder group with respect to the nomination and matters related thereto, including withdrawal of the nomination; and (I) an undertaking that the Eligible Stockholder agrees to (1) assume all liability stemming from any legal or regulatory violation arising out of the Eligible Stockholder’s communications with the corporation’s stockholders or out of the information that the Eligible Stockholder provides to the corporation, (2) indemnify and hold harmless the corporation and each of its directors, officers and employees individually against any liability, loss or damages in connection with any threatened or pending action, suit or proceeding,

whether legal, administrative or investigative, against the corporation or any of its directors, officers or employees arising out of any nomination submitted by the Eligible Stockholder pursuant to this Section 13(c), (3) file with the SEC any solicitation or other communication with the corporation's stockholders relating to the meeting at which the Stockholder Nominee will be nominated, regardless of whether any such filing is required under Section 14 of the Exchange Act and the rules and regulations promulgated thereunder or whether any exemption from filing is available for such solicitation or other communication under Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, and (4) comply with all other applicable laws, rules, regulations and listing standards with respect to any solicitation in connection with the meeting.

(x) The Eligible Stockholder may include with its Notice a written statement for inclusion in the corporation's proxy statement for the meeting, not to exceed 500 words per Stockholder Nominee, in support of each Stockholder Nominee's candidacy (the "Statement"). Notwithstanding anything to the contrary contained in this Article I, the corporation may omit from its proxy statement any information or Statement that it believes would violate any applicable law, rule, regulation or listing standard.

(xi) Each Stockholder Nominee must (A) provide within five business days of the corporation's request an executed agreement, in a form deemed satisfactory to the corporation, that (1) the Stockholder Nominee has read and agrees to adhere to the corporation's Corporate Governance Guidelines and any other corporation policies and guidelines applicable to directors, including with regard to securities trading, (2) the Stockholder Nominee is not and will not become a party to any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a director of the corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the corporation, and (3) the Stockholder Nominee is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the corporation with respect to any direct or indirect compensation, reimbursement or indemnification (a "Compensation Arrangement") in connection with such person's nomination for director and/or service as a director that has not been disclosed to the corporation; (B) complete, sign and submit all questionnaires required of the corporation's Board of Directors within five business days of receipt of each such questionnaire from the corporation; and (C) provide within five business days of the corporation's request such additional information as the corporation determines may be necessary to permit the Board of Directors to determine whether such Stockholder Nominee meets the requirements of this Section 13(c) and/or the corporation's requirements with regard to director qualifications and policies and guidelines applicable to directors, including whether (1) such Stockholder Nominee is independent under the listing standards of any U.S. exchange upon which the capital stock of the corporation is listed, any applicable rules of the Securities and Exchange Commission, and any publicly disclosed standards used by the Board of Directors in determining and disclosing the independence of the directors (the "Independence Standards"), (2) such Stockholder Nominee has any direct or indirect relationship with the corporation, and (3) such Stockholder Nominee is or has been subject to (a) any event specified in Item 401(f) of Regulation S-K under the Securities Act of 1933, as amended (the "Securities Act") or (b) any order of the type specified in Rule 506(d) of Regulation D under the Securities Act.

(xii) In the event that any information or communications provided by the Eligible Stockholder or Stockholder Nominee to the corporation or its stockholders ceases to be true and correct in any respect or omits a fact necessary to make the statements made, in light of the circumstances under which they were made, not misleading, each Eligible Stockholder or Stockholder Nominee, as the case may be, shall promptly notify the Secretary of any such inaccuracy or omission in such previously provided information and of the information that is required to make such information or communication true and correct; it being understood that providing any such notification shall not be deemed to cure any defect or limit the corporation's right to omit a Stockholder Nominee from its proxy materials as provided in this Section 13(c).

(xiii) The corporation shall not be required to include, pursuant to this Section 13(c), a Stockholder Nominee in its proxy statement (or, if the proxy statement has already been filed, to allow the nomination of a Stockholder Nominee, notwithstanding that proxies in respect of such vote may have been received by the corporation) (A) for any meeting for which the Secretary receives a notice that any stockholder has nominated a person for election to the Board of Directors pursuant to Section 13(b) of Article I, (B) who is not independent under the Independence Standards, (C) whose election as a member of the Board of Directors would violate or cause the corporation to be in violation of these By-Laws, the corporation's articles of organization, the corporation's Corporate Governance Guidelines or other document setting forth qualifications for directors, the listing standards of any U.S. exchange upon which the corporation's capital stock is listed, or any applicable state or federal law, rule or regulation, (D) if the Stockholder Nominee is or becomes a party to any undisclosed Voting Commitment, (E) if the Stockholder Nominee is or becomes a party to any undisclosed Compensation Agreement, (F) who is or has been, within the past three years, an officer or director of a competitor, as defined in Section 8 of the Clayton Antitrust Act of 1914, (G) whose then-current or prior business or personal interests place such Stockholder Nominee in a conflict of interest with the

corporation or any of its subsidiaries that would cause such Stockholder Nominee to violate any fiduciary duties of directors established pursuant to Massachusetts law, including but not limited to the duty of loyalty and duty of care, (H) who is a named subject of a pending criminal proceeding (excluding traffic violations and other minor offenses) or has been convicted in such a criminal proceeding within the past ten years, (I) who is subject to any order of the type specified in Rule 506(d) of Regulation D under the Securities Act, or (J) if such Stockholder Nominee or the applicable Eligible Stockholder shall have provided information to the corporation in respect of such nomination that was untrue in any material respect or omitted to state a material fact necessary in order to make the statement made, in light of the circumstances under which they were made, not misleading or shall have breached its or their agreements, representations, undertakings and/or obligations pursuant to this Section 13(c).

(xiv) Notwithstanding anything to the contrary set forth herein, if the Stockholder Nominee and/or the applicable Eligible Stockholder shall have breached its or their agreements, representations, undertakings and/or obligations pursuant to this Section 13(c), as determined by the Board of Directors or the person presiding at the meeting, (A) the Board of Directors or the person presiding at the meeting shall be entitled to declare a nomination by an Eligible Stockholder to be invalid, and such nomination shall be disregarded notwithstanding that proxies in respect of such vote may have been received by the corporation and (B) the corporation shall not be required to include in its proxy statement any successor or replacement nominee proposed by the applicable Eligible Stockholder or any other Eligible Stockholder.

(xv) Any Stockholder Nominee who is included in the corporation's proxy statement for a particular meeting of stockholders but either (A) withdraws from or becomes ineligible or unavailable for election at the meeting or (B) does not receive a number of votes cast in favor of his or her election at least equal to 25% of the shares present in person or represented by proxy at the annual meeting and entitled to vote on the Stockholder Nominee's election, shall be ineligible to be included in the corporation's proxy statement as a Stockholder Nominee pursuant to this Section 13(c) for the next two annual meetings of stockholders following the meeting for which the Stockholder Nominee has been nominated for election.

(xvi) The Board of Directors (and any other person or body authorized by the Board of Directors) shall have the power and authority to interpret this Section 13(c) and to make any and all determinations necessary or advisable to apply this Section 13(c) to any persons, facts or circumstances, including the power to determine (A) whether a person or group of persons qualifies as an Eligible Stockholder, (B) whether outstanding shares of the corporation's capital stock are "owned" for purposes of meeting the ownership requirements of this Section 13(c), (C) whether a notice complies with the requirements of this Section 13(c), (D) whether a person satisfies the qualifications and requirements to be a Stockholder Nominee, (E) whether inclusion of the Required Information in the corporation's proxy statement is consistent with all applicable laws, rules, regulations and listing standards, and (F) whether any and all requirements of this Section 13(c) have been satisfied. Any such interpretation or determination adopted in good faith by the Board of Directors (or any other person or body authorized by the Board of Directors) shall be conclusive and binding on all persons, including the corporation and all record or beneficial owners of stock of the corporation.

(d) The chairman of any meeting of stockholders shall have the power and duty to determine whether a nomination was made in accordance with the provisions of this Section 13, and if the chairman should determine that a nomination was not made in accordance with the provisions of this Section 13, the chairman shall so declare to the meeting and such nomination shall not be brought before the meeting.

(e) Except as otherwise required by law, nothing in this Section 13 shall obligate the corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the corporation or the Board of Directors information with respect to any nominee for Director submitted by a stockholder.

(f) Notwithstanding the foregoing provisions of this Section 13, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the corporation to present a nomination, such nomination shall be disregarded, notwithstanding that proxies in respect of such vote may have been received by the corporation. For purposes of this Section 13, to be considered a qualified representative of the stockholder, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, at the meeting of stockholders.

(g) For purposes of this Section 13, "public disclosure" shall include disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation

with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act (or any successor provisions thereto).

14. Notice of Business at Meetings.

(a) At any meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before a special meeting, business must be brought before the meeting in accordance with Article 1 Section 3 or Article 1 Section 13 of these By-Laws. To be properly brought before an annual meeting, business must be

(1) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors,

(2) otherwise properly brought before the meeting by or at the direction of the Board of Directors, or

(3) properly brought before the meeting by a stockholder.

For business to be properly brought before an annual meeting by a stockholder, (i) if such business relates to the nomination of a person for election as a Director of the corporation, the procedures in Section 13 of Article I of these By-Laws must be complied with and (ii) if such business relates to any other matter, the business must (x) constitute a proper matter under Massachusetts law for stockholder action and (y) be within the purposes specified in the corporation's notice of meeting and the stockholder must (A) have given timely notice thereof and provided all required information in writing to the Secretary in accordance with the procedures in this Section 14, (B) be a stockholder of record on the date of the giving of such notice and on the record date for the determination of stockholders entitled to vote at such annual meeting and (C) be entitled to vote at such annual meeting.

(b) To be timely, a stockholder's notice must be received in writing by the Secretary at the principal office of the corporation not less than 75 days prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received not later than the close of business on the later of (A) the 75th day prior to such annual meeting and (B) the seventh day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. In no event shall the adjournment or postponement of a stockholders' meeting (or the public announcement thereof) commence a new time (or extend any time period) for the giving of a stockholder's notice. The stockholder's notice to the Secretary shall set forth:

(A) as to each matter the stockholder proposes to bring before the annual meeting

(1) a brief description of the business desired to be brought before the annual meeting,

(2) the reasons for conducting such business at the annual meeting, and

(3) the text of the proposal (including the exact text of any resolutions proposed for consideration and, if such business includes a proposal to amend the By-Laws, the exact text of the proposed amendment); and

(B) as to the stockholder giving the notice and the beneficial owner, if any on whose behalf the proposal is being made

(1) the name and address of such stockholder, as they appear on the corporation's books, and of such beneficial owner,

(2) the class or series and number of shares of stock of the corporation that are, directly or indirectly, owned, beneficially and of record, by such stockholder and such beneficial owner,

(3) a description of any material interest of such stockholder and such beneficial owner and the respective affiliates and associates of, or others acting in concert with, such stockholder and such beneficial owner in such business,

(4) a description of any agreement, arrangement or understanding between such stockholder and/or such beneficial owner and any other person or persons (including their names) in connection with the proposal of such business or who may participate in the solicitation of proxies in favor of such proposal,

(5) a description of any agreement, arrangement or understanding (including any derivative or short positions, profit interests, options, warrants, stock appreciation or similar rights, hedging transactions, and borrowed or loaned shares) that has been entered into by, or on behalf of, such stockholder or such beneficial owner, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or beneficial owner with respect to shares of stock of the corporation,

(6) any other information relating to such stockholder and such beneficial owner that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for such business proposed pursuant to Section 14 of the Exchange Act (or any successor provision thereto) and the rules and regulations promulgated thereunder,

(7) a representation that such stockholder intends to appear in person or by proxy at the annual meeting to bring such business before the meeting, and

(8) a representation whether such stockholder and/or such beneficial owner intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the corporation's outstanding capital stock reasonably believed by such stockholder or such beneficial owner to be sufficient to approve or adopt the proposal (and such representation shall be included in any such proxy statement and form of proxy) and/or (y) otherwise to solicit proxies from stockholders in support of such proposal (and such representation shall be included in any such solicitation materials).

Not later than 10 days after the record date of the meeting, the information required by Items (A)(3) and (B)(1)-(6) of the prior sentence shall be supplemented by the stockholder providing updated information as of the record date. Notwithstanding anything in these By-Laws to the contrary, no business shall be conducted at any annual meeting of stockholders except in accordance with the procedures set forth in this Section 14; provided that nothing in this Section 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 or any successor Rule. A stockholder (or beneficial owner on whose behalf the proposal is made) shall not have complied with this Section 14 if the stockholder (or beneficial owner, if any, on whose behalf the proposal is made) solicits proxies in support of such stockholder's proposal in contravention of the representations with respect thereto required by this Section 14.

(c) The chairman of any meeting of stockholders shall have the power and duty to determine whether a nomination was made in accordance with the provisions of this Section 14, and if the chairman should determine that a nomination was not made in accordance with the provisions of this Section 14, the chairman shall so declare to the meeting and such nomination shall not be brought before the meeting.

(d) Except as otherwise required by law, nothing in this Section 14 shall obligate the corporation or the Board of Directors to include in any proxy statement or other stockholder communication distributed on behalf of the corporation or the Board of Directors information with respect to any nominee for Director submitted by a stockholder.

(e) Notwithstanding the foregoing provisions of this Section 14, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the corporation to present a nomination, such nomination shall be disregarded, notwithstanding that proxies in respect of such vote may have been received by the corporation. For purposes of this Section 14, to be considered a qualified representative of the stockholder, a person must be authorized by a written instrument executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such written instrument or electronic transmission, or a reliable reproduction of the written instrument or electronic transmission, at the meeting of stockholders.

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

ARTICLE II.

Directors.

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

2. Number and Election. The number of Directors which shall constitute the whole Board of Directors shall be such number, not less than three nor more than thirteen, as shall be fixed by vote of the stockholders or the Board of Directors. During the time periods specified in this Section 2, the Board of Directors shall be divided into three classes in respect of term of office, each class to contain, as nearly as possible, one-third of the whole number of the Board. Of the Board of Directors elected at the Annual Meeting of Stockholders in 1975, the members of one class shall serve until the Annual Meeting of Stockholders held two years following their election, and the members of the third class shall serve until the Annual Meeting of Stockholders held three years following their election; provided, however, that in each case Directors shall serve until their successors shall be elected and qualified. At each Annual Meeting of Stockholders, commencing with the Annual Meeting in 1976 through and including the Annual Meeting in 1995, the successors of the Directors of the class whose terms expire in that year shall be elected to serve until the Annual Meeting of Stockholders held three years next following (and until their successors shall be duly elected and qualified), so that the term of one class of Directors shall expire in each year. At each Annual Meeting of Stockholders, commencing with the Annual Meeting in 1996, the successors of the Directors whose terms expire in that year shall be elected to serve until the Annual Meeting of Stockholders held in the following year (and until their successors shall be duly elected and qualified), so that, upon the expiration in 1998 of the terms of the Directors elected at the Annual Meeting in 1995, all Directors shall be elected to hold office for a one-year term (and until their successors shall be duly elected and qualified).

3. Vacancies. A vacancy in the Board of Directors, however occurring, unless and until filled by the stockholders, may be filled by the Directors.

4. Change in Number of the Board. The number of the Board of Directors may be increased or decreased and one or more additional Directors elected at any special meeting of the stockholders or by a vote of a majority of the Directors then in office. For so long as the Directors are divided into classes in accordance with the terms of Section 2 of this Article II, Directors who are elected to fill vacancies, whether or not created by an enlargement of the Board, shall be apportioned among the classes so as to make all classes as nearly equal in number as possible. Directors who are elected to fill vacancies, whether or not created by an enlargement of the Board, shall serve until the expiration of the term of his or her predecessor and until his or her successor is duly elected and qualified. No decrease in the number of the Board of Directors shall shorten the term of any incumbent Directors.

5. Resignation and Retirement. Any Director may resign by delivering his written resignation to the corporation at its principal office or to the Chairman of the Board, the President or the Secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some event. Except in special circumstances specifically approved by the Board, a Director shall be deemed to have retired at the Annual Meeting of Stockholders following the date the Director shall have attained the age of seventy-two.

6. Removal. A Director may be removed from office (a) with or without cause by a vote of two-thirds of the stock outstanding and entitled to vote in the election of Directors, provided that the Directors of a class elected by a particular class of stockholders may be removed only by the vote of two-thirds of the shares of such class which are outstanding and entitled to vote or (b) for cause by vote of a majority of the Directors then in office. A Director may be removed for cause only after reasonable notice and opportunity to be heard before the body proposing to remove him.

7. Meetings. Regular meetings of the Directors may be held without call or notice at such places, within or without Massachusetts, and at such times as the Directors may from time to time determine, provided that any Director who is absent when such determination is made shall be given notice of the determination. A regular meeting of the Directors may be held without a call or notice at the same place as the annual meeting of stockholders, or the special meeting held in lieu thereof, following such meeting of stockholders.

Special meetings of the Directors may be held at any time and place, within or without Massachusetts, designated in a call by the Chairman of the Board, the President, Treasurer or two or more Directors.

The Board of Directors may permit any or all Directors to participate in a regular or special meeting by, or conduct the meeting through the use of, any means of communication by which all Directors participating may simultaneously hear

each other during the meeting. A Director participating in a meeting by this means is considered to be present in person at the meeting.

8. Notice of Special Meetings. Notice of a special meeting of the Directors shall be given to each Director at least 24 hours before the meeting by the Secretary or any Assistant Secretary, or in case of the death, absence, incapacity or refusal of such persons, by the officer or one of the Directors calling the meeting. All notices to Directors shall conform to the requirements of Section 12 of Article V of these By-Laws. A Director may waive any notice before or after the date and time of the meeting. The waiver shall be in writing, signed by the Director entitled to the notice, or in the form of an electronic transmission by the Director to the corporation, and filed with the minutes or corporate records. A Director's attendance at or participation in a meeting waives any required notice to him of the meeting unless the Director at the beginning of the meeting, or promptly upon his arrival, objects to holding the meeting or transacting business at the meeting and does not thereafter vote for or assent to action taken at the meeting.

9. Quorum. At any meeting of the Directors, a majority of the Directors then in office shall constitute a quorum. Less than a quorum may adjourn any meeting from time to time without further notice.

10. Action at Meeting. At any meeting of the Directors at which a quorum is present, the vote of a majority of those present, unless a different vote is specified by law, by the Articles of Organization or by these By-Laws, shall be sufficient to take any action.

11. Action by Consent. Any action required or permitted to be taken by the Directors may be taken without a meeting if the action is taken by the unanimous consent of the members of the Board of Directors. The action must be evidenced by one or more consents describing the action taken, in writing, signed by each Director, or delivered to the corporation by electronic transmission, to the address specified by the corporation for the purpose or, if no address has been specified, to the principal office of the corporation, addressed to the Secretary or other officer or agent having custody of the records of proceedings of Directors, and included in the minutes or filed with the corporate records reflecting the action taken. Action taken under this Section 11 is effective when the last Director signs or delivers the consent unless the consent specifies a different effective date. A consent signed or delivered under this Section 11 has the effect of a meeting vote and may be described as such in any document.

12. Committees. The Directors may, by vote of a majority of the Directors then in office, elect from their number an executive committee or other committees and may by like vote delegate thereto some or all of their powers except those which by law, the Articles of Organization or these By-Laws they are prohibited from delegating. Except as the Directors may otherwise determine, any such committee may make rules for the conduct of its business, but unless otherwise provided by the Directors or in such rules, its business shall be conducted as nearly as may be in the same manner as is provided by these By-Laws for the Directors.

ARTICLE III.

Officers.

1. Enumeration. The officers of the corporation shall consist of a Chairman of the Board, President, one or more Vice Presidents, a Treasurer, a Secretary and such other officers as the Directors may determine. Such other officers may include, without limiting the foregoing, a Controller and one or more Assistant Vice Presidents, Assistant Controllers, Assistant Treasurers and Assistant Secretaries.

2. Election. The Chairman of the Board, President, Treasurer and Secretary shall be elected annually by the Directors at their first meeting following the annual meeting of stockholders. Other officers may be appointed by the Directors at such meeting or at any other meeting. The Chief Executive Officer shall also have the power to appoint Assistant Vice Presidents, Assistant Treasurers, Assistant Controllers and Assistant Secretaries.

3. Qualification. The Chairman of the Board and the Chief Executive Officer shall be Directors. No officer need be a stockholder. Any two or more officers may be held by the same person, provided that the Chairman of the Board and Secretary shall not be the same person, nor shall the President and Secretary be the same person. The Secretary shall be a resident of Massachusetts unless the corporation has a resident agent appointed for the purpose of service of process. Any officer may be required by the Directors to give bond for the faithful performance of his duties to the corporation in such amount and with such sureties as the Directors may determine.

4. Tenure. Except as otherwise provided by law, by the Articles of Organization or by these By-Laws, the Chairman of the Board, President, Treasurer and Secretary shall hold office until the first meeting of the Directors following the annual meeting of stockholders and thereafter until his successor is chosen and qualified or until his earlier death, resignation or removal; and all other officers appointed by the Directors or by the Chief Executive Officer shall hold office until the first meeting of the Directors following the annual meeting of stockholders, unless a different term is specified in choosing or appointing them or until his earlier death, resignation or removal. Any officer may resign by delivering his written resignation to the corporation at its principal office or to the Chairman of the Board, President, or Secretary, and such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some other event.

5. Removal. The Directors may remove any officer with or without cause by a vote or a majority of the entire number of Directors then in office.

6. Chairman of the Board. The Directors shall appoint a Chairman of the Board. When present he shall preside at all meetings of the Directors and stockholders and shall have such other powers and duties as are usually vested in the office of Chairman of the Board as well as such other powers and duties as may be vested in him by the Board of Directors.

7. President. The President shall have general supervision and control of all or a substantial portion of the operations of the business, as well as such other power and duties as may be vested in the President by the Board of Directors, or the Chief Executive Officer if other than the President. In the absence or disability of the Chief Executive Officer, if other than the President, the President shall perform the duties and exercise the powers of the Chief Executive Officer.

8. Chief Executive Officer. The Board of Directors shall appoint, as the Chief Executive Officer of the Company, the President, the Chairman of the Board, or any other officer of the corporation as the Board of Directors may deem appropriate. The Chief Executive Officer shall have the ultimate supervision and control of the operations of the business. In the absence of the Chairman of the Board, the Chief Executive Officer shall preside, when present, at all meetings of the Directors and stockholders.

9. Vice President and Assistant Vice President. Unless otherwise specified by the Board of Directors, the Vice President, or if there shall be more than one, the Vice Presidents in the order determined by the Directors, shall, in the absence or disability of the President, perform the duties and exercise the powers of the President and shall perform such other duties and shall have such other powers as the Directors or the Chief Executive Officer may from time to time prescribe.

An Assistant Vice President shall have such duties and powers as the Directors or the Chief Executive Officer may from time to time prescribe.

10. Financial Officers. In addition to the election of a Treasurer, the Directors may appoint one or more additional financial officers. The Directors may designate one of the officers as the Chief Financial Officer who, subject to the direction of the Directors and the Chief Executive Officer, shall have overall supervision and control of the internal and external financial affairs of the corporation including financial reporting, and the management of the assets of the corporation as well as such other powers and duties as may be vested in him by the Directors or the Chief Executive Officer. He shall have responsibility, custody and control of all funds, securities and valuable documents of the corporation except as the Directors may otherwise provide.

The Treasurer shall, subject to the direction of the Directors, the Chief Executive Officer and the Chief Financial Officer, if there be one, have general charge of managing the assets of the corporation. He shall perform such other duties as may be vested in him by the Directors, the Chief Executive Officer, or the Chief Financial Officer. In the event the Directors have not designated a Chief Financial Officer, or, if one is designated, in his absence or disability, the Treasurer shall have custody of all funds, securities and valuable documents of the corporation except as the Directors may otherwise provide.

The Assistant Treasurer, or if there shall be more than one, the Assistant Treasurers in the order determined by the Directors, shall in the absence or disability of the Treasurer, perform the duties and exercise the powers of the Treasurer and shall perform such other duties and shall have such other powers as the Directors may from time to time prescribe.

The Assistant Controller, or if there shall be more than one, the Assistant Controllers in the order determined by the Directors, shall, in the absence or disability of the Controller, perform the duties and exercise the powers of the Controller and shall perform such other duties and shall have such other powers as the Directors may from time to time prescribe.

11. Secretary and Assistant Secretaries. The Secretary shall have the duty and power to give notices of all meetings of stockholders and Directors, to attend all meetings of stockholders and Directors, to prepare minutes of the meetings of

stockholders and Directors, to authenticate the records of the corporation, to maintain a stock ledger and prepare lists of stockholders and their addresses as required, to be custodian of corporate records and the corporate seal and to affix and attest to the same on documents. The Assistant Secretary, or if there shall be more than one, the Assistant Secretaries in the order determined by the Directors, shall in the absence or disability of the Secretary, perform the duties and exercise the powers of the Secretary and shall perform such other duties and shall have such other powers as the Directors may from time to time prescribe.

12. Other Powers and Duties. Each officer shall, subject to these By-Laws, have in addition to the duties and powers specifically set forth in these By-Laws, such duties and powers as are customarily incident to his office, and such duties and powers as the Directors may from time to time designate.

ARTICLE IV.

Capital Stock.

1. Certificates of Stock. If shares are represented by certificates, at a minimum each share certificate shall state on its face: (a) the name of the corporation and that it is organized under the laws of The Commonwealth of Massachusetts; (b) the name of the person to whom issued; and (c) the number and class of shares and the designation of the series, if any, the certificate represents. The certificate shall be signed either manually or in facsimile by the Chairman of the Board of Directors, the President or a Vice President and by the Treasurer or any Assistant Treasurer, and when a certificate is countersigned by a transfer agent or a registrar, other than a Director, officer or employee of the corporation, such signatures may be facsimiles. In case any officer who has signed or whose facsimile signature has been placed on such certificate shall have ceased to be such officer before such certificate is issued, it may be issued by the corporation with the same effect as if he were such officer at the time of its issue.

Every certificate for shares of stock which are subject to any restriction on transfer pursuant to the Articles of Organization, the By-Laws or any agreement to which the corporation is a party, shall have conspicuously noted on the face or back of the certificate either the full text of the restriction or a statement of the existence of such restrictions and a statement that the corporation will furnish a copy thereof to the holder of such certificate upon written request and without charge. Every certificate issued when the corporation is authorized to issue more than one class or series of stock shall set forth on its face or back either the full text of the preferences, voting powers, qualifications and special and relative rights of the shares of each class and series authorized to be issued or a statement of the existence of such preferences, powers, qualifications and rights and a statement that the corporation will furnish a copy thereof to the holder of such certificate upon written request and without charge.

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

2. Transfers. Subject to the restrictions, if any, stated or noted on the stock certificates, shares of stock may be transferred on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate therefor properly endorsed or accompanied by a written assignment and power of attorney properly executed, with necessary transfer stamps affixed, and with such proof of the authenticity of signature as the corporation or its transfer agent may reasonably require. Except as may be otherwise required by law, by the Articles of Organization or by these By-Laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to vote with respect thereto, regardless of any transfer pledge or other disposition of such stock, until the shares have been transferred on the books of the corporation in accordance with the requirements of these By-Laws.

It shall be the duty of each stockholder to notify the corporation of his post office address and of his taxpayer identification number.

3. Record Date. The Directors may fix in advance a time not more than sixty days preceding the date of any meeting of stockholders or the date for the payment of any dividend or the making of any distribution to stockholders or the last day on which the consent or dissent of stockholders may be effectively expressed for any purpose, as the record date for determining the stockholders having the right to notice of and to vote at such meeting, and any adjournment thereof, or the right to receive

such dividend or distribution or the right to give such consent or dissent. In such case only stockholders of record on such record date shall have such right, notwithstanding any transfer of stock on the books of the corporation after the record date. A determination of stockholders entitled to notice of or to vote at a stockholders' meeting is effective for any adjournment of the meeting unless the Board of Directors fixes a new record date, which it shall do if the meeting is adjourned to a date more than 120 days after the date fixed for the original meeting.

4. Replacement of Certificates. In case of the alleged loss or destruction or the mutilation of a certificate of stock, a duplicate certificate may be issued in place thereof, upon such terms as the Directors may prescribe, including the presentation of reasonable evidence of such loss, destruction or mutilation and the giving of such indemnity as the Directors may require for the protection of the corporation or any transfer agent or registrar.

5. Issue of Capital Stock. Unless otherwise voted by the stockholders, the whole or any part of any unissued balance of the authorized capital stock of the corporation or the whole or any part of the capital stock of the corporation held in its treasury may be issued or disposed of by vote of the Directors, in such manner, for such consideration and on such terms as the Directors may determine.

ARTICLE V.

Miscellaneous Provisions.

1. Fiscal Year. The fiscal year of the corporation shall end on the 31st day of December in each year in which such date falls on Sunday, or the Sunday next preceding or following the 31st day of December in each year, which ever Sunday is nearest to such 31st day of December.

2. Seal. The seal of the corporation shall, subject to alteration by the Directors, bear its name, the word "Massachusetts", and the year of its incorporation.

3. Execution of Instruments. All deeds, leases, transfers, contracts, bonds, notes and other obligations authorized to be executed by an officer of the corporation in its behalf shall be signed by the Chairman of the Board and Chief Executive Officer or the Treasurer except as the Directors may generally or in particular cases otherwise determine.

4. Voting of Securities. Except as the Directors may otherwise designate, the Chairman of the Board, the President the chief financial officer, Treasurer or Secretary may waive notice of, and act as, or appoint any person or persons to act as, proxy or attorney-in-fact for, this corporation (with or without power of substitution) at any meeting of stockholders or shareholders of any other corporation or organization, the securities of which may be held by this corporation.

5. Corporate Records. The original, or attested copies, of the Articles of Organization, By-Laws and records of all meetings of the incorporators and stockholders, and the stock and transfer records, which shall contain the names of all stockholders and the record address and the amount of stock held by each, shall be kept in Massachusetts at the principal office of the corporation, or at an office of its transfer agent or of the Secretary. Said copies and records need not all be kept in the same office. They shall be available at all reasonable times to the inspection of any stockholder for any proper purpose, but not to secure a list of stockholders for the purpose of selling said list or copies thereof or of using the same for a purpose other than in the interest of the applicant, as a stockholder, relative to the affairs of the corporation.

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

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

8. Transactions with Interested Parties. In the absence of fraud, no contract or other transaction between this corporation and any other corporation or any firm, association, partnership or person shall be affected or invalidated by the fact that any Director or officer of this corporation is pecuniarily or otherwise interested in or is a director, member or officer of such other corporation or of such firm, association or partnership or is a party to or is pecuniarily or otherwise interested in such contract or other transaction or is in any way connected with any person or persons, firm, association, partnership or corporation pecuniarily or otherwise interested therein; provided that the fact that he individually or as a director, member or officer of

such corporation, firm, association or partnership is such a party or is so interested shall be disclosed to or shall have been known by the Board of Directors or a majority of the Board of Directors at which action upon any such contract or transaction shall be taken; any Director may be counted in determining the existence of a quorum and may vote at any meeting of the Board of Directors of this corporation for the purpose of authorizing any such contract or transaction with like force and effect as if he were not so interested, or were not a director, member or officer of such other corporation, firm, association or partnership, provided that any vote with respect to such contract or transaction must be adopted by a majority of the Directors then in office who have no interest in such contract or transaction.

9. Indemnification.

(a) Actions, Suits and Proceedings. The corporation shall indemnify each person who 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 is or was, or has agreed to become, a director or officer of the corporation, or is or was serving, or has agreed to serve, at the request of the corporation, as a director or officer of, or in a similar capacity with, another organization or in any capacity with respect to any employee benefit plan of the corporation (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments and fines incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom, unless the Indemnitee shall be finally adjudicated in such action, suit or proceeding not to have acted in good faith in the reasonable belief that his action was in the best interests of the corporation or, to the extent such matter relates to service with respect to an employee benefit plan, in the best interests of the participants or beneficiaries of such employee benefit plan. Notwithstanding anything to the contrary in this Article, except as set forth in Section 6 below, the corporation shall not indemnify an Indemnitee seeking indemnification in connection with a proceeding (or part thereof) initiated by the Indemnitee unless the initiation thereof was approved by the Board of Directors of the corporation. Notwithstanding anything to the contrary in this Article, the corporation shall not indemnify an Indemnitee to the extent such Indemnitee is reimbursed from the proceeds of insurance, and in the event the corporation makes any indemnification payments to an Indemnitee and the Indemnitee is subsequently reimbursed from the proceeds of insurance, such Indemnitee shall promptly refund such indemnification payments to the corporation to the extent of such insurance reimbursement.

(b) Settlements. The right to indemnification conferred in this Article shall include the right to be paid by the corporation for amounts paid in settlement of any such action, suit or proceeding and any appeal therefrom, and all expenses (including attorneys' fees) incurred in connection with such settlement, pursuant to a consent decree or otherwise, unless and to the extent it is determined pursuant to Section 5 below that the Indemnitee did not act in good faith in the reasonable belief that his action was in the best interests of the corporation or, to the extent such matter relates to service with respect to an employee benefit plan, in the best interests of the participants or beneficiaries of such employee benefit plan.

(c) Notification and Defense of Claim. As a condition precedent to his right to be indemnified, the Indemnitee must notify the corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving him for which indemnity will or could be sought. With respect to any action, suit, proceeding or investigation of which the corporation is so notified, the corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to the Indemnitee. After notice from the corporation to the Indemnitee of its election so to assume such defense, the corporation shall not be liable to the Indemnitee for any legal or other expenses subsequently incurred by the Indemnitee in connection with such claim, other than as provided below in this Section 3. The Indemnitee shall have the right to employ his own counsel in connection with such claim, but the fees and expenses of such counsel incurred after notice from the corporation of its assumption of the defense thereof shall be at the expense of the Indemnitee unless (i) the employment of counsel by the Indemnitee has been authorized by the corporation, (ii) counsel to the Indemnitee shall have reasonably concluded that there may be a conflict of interest or position on any significant issue between the corporation and the Indemnitee in the conduct of the defense of such action or (iii) the corporation shall not in fact have employed counsel to assume the defense of such action, in each of which cases the fees and expenses of counsel for the Indemnitee shall be at the expense of the corporation, except as otherwise expressly provided by this Article. The corporation shall not be entitled, without the consent of the Indemnitee, to assume the defense of any claim brought by or in the right of the corporation or as to which counsel for the Indemnitee shall have reasonably made the conclusion provided for in clause (ii) above.

(d) Advance of Expenses. Subject to the provisions of Section 5 below, in the event that the corporation does not assume the defense pursuant to Section 3 of this Article of any action, suit, proceeding or investigation of which the corporation receives notice under this Article, any expenses (including attorneys' fees) incurred by an Indemnitee in defending a civil or

criminal action, suit, proceeding or investigation or any appeal therefrom shall be paid by the corporation in advance of the final disposition of such matter; provided, however, that the payment of such expenses incurred by an Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of the Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined that the Indemnitee is not entitled to be indemnified by the corporation as authorized in this Article. Such undertaking shall be accepted without reference to the financial ability of the Indemnitee to make such repayment.

(e) Procedure for Indemnification. In order to obtain indemnification or advancement of expenses pursuant to Section 1, 2 or 4 of this Article, the Indemnitee shall submit to the corporation a written request, including in such request such documentation and information as is reasonably available to the Indemnitee and is reasonably necessary to determine whether and to what extent the Indemnitee is entitled to indemnification or advancement of expenses. Any such indemnification or advancement of expenses shall be made promptly, and in any event within 60 days after receipt by the corporation of the written request of the Indemnitee, unless the corporation determines within such 60-day period that the Indemnitee did not meet the applicable standard of conduct set forth in Section 1 or 2, as the case may be. Such determination shall be made in each instance by (a) a majority vote of a quorum of the directors of the corporation, (b) a majority vote of a quorum of the outstanding shares of stock of all classes entitled to vote for directors, voting as a single class, which quorum shall consist of stockholders who are not at that time parties to the action, suit or proceeding in question, (c) independent legal counsel (who may, to the extent permitted by law, be regular legal counsel to the corporation), or (d) a court of competent jurisdiction.

(f) Remedies. The right to indemnification or advances as granted by this Article shall be enforceable by the Indemnitee in any court of competent jurisdiction if the corporation denies such request, in whole or in part, or if no disposition thereof is made within the 60-day period referred to above in Section 5. Unless otherwise required by law, the burden of proving that the Indemnitee is not entitled to indemnification or advancement of expenses under this Article shall be on the corporation. Neither the failure of the corporation to have made a determination prior to the commencement of such action that indemnification is proper in the circumstances because the Indemnitee has met the applicable standard of conduct, nor an actual determination by the corporation pursuant to Section 5 that the Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that the Indemnitee has not met the applicable standard of conduct. The Indemnitee's expenses (including attorneys' fees) incurred in connection with successfully establishing his right to indemnification, in whole or in part, in any such proceeding shall also be indemnified by the corporation.

(g) Subsequent Amendment. No amendment, termination or repeal of this Article or of the relevant provisions of Chapter 156B of the Massachusetts General Laws or any other applicable laws shall affect or diminish in any way the rights of any Indemnitee to indemnification under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

(h) Other Rights. The indemnification and advancement of expenses provided by this Article shall not be deemed exclusive of any other rights to which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or directors or otherwise, both as to action in his official capacity and as to action in any other capacity while holding office for the corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of the Indemnitee. Nothing contained in this Article shall be deemed to prohibit, and the corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification rights and procedures different from those set forth in this Article. In addition, the corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the corporation or other persons serving the corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article.

(i) Partial Indemnification. If an Indemnitee is entitled under any provision of this Article to indemnification by the corporation for some or a portion of the expenses (including attorneys' fees), judgments, fines or amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with any action, suit, proceeding or investigation and any appeal therefrom but not, however, for the total amount thereof, the corporation shall nevertheless indemnify the Indemnitee for the portion of such expenses (including attorneys' fees), judgments, fines or amounts paid in settlement to which the Indemnitee is entitled.

(j) Insurance. The corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the corporation or another organization or employee benefit plan against any expense, liability or

loss incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such expense, liability or loss under Chapter 156B of the Massachusetts General Laws.

(k) Merger or Consolidation. If the corporation is merged into or consolidated with another corporation and the corporation is not the surviving corporation, the surviving corporation shall assume the obligations of the corporation under this Article with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the date of such merger or consolidation.

(l) Savings Clause. If this Article or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the corporation shall nevertheless indemnify each Indemnitee as to any expenses (including attorneys' fees), judgments, fines and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including an action by or in the right of the corporation, to the fullest extent permitted by any applicable portion of this Article that shall not have been invalidated and to the fullest extent permitted by applicable law.

(m) Subsequent Legislation. If the Massachusetts General Laws are amended after adoption of this Article to expand further the indemnification permitted to Indemnitees, then the corporation shall indemnify such persons to the fullest extent permitted by the Massachusetts General Laws, as so amended.

10. Amendments. The stockholders may by a vote of two-thirds of the stock of the corporation, outstanding and entitled to vote, make, amend or repeal the By-Laws of the corporation in whole or in part at any meeting of the stockholders provided that notice of the substance of the proposed action is stated in the notice of meeting. The Directors may make, amend or repeal the By-Laws of the corporation in whole or in part at any meeting of the Directors by vote of a majority of the Directors then in office, except that the provisions thereof fixing the place of the meetings of stockholders, fixing the date of the annual meeting of stockholders, designating the number necessary to constitute a quorum at meetings of the stockholders, governing procedure with respect to the removal of Directors, affording indemnification to Directors or officers and governing amendment of these By-Laws, may be made, amended, or repealed only by the stockholders. No change in the date of the annual meeting may be made within sixty days before the date fixed in these By-Laws, and in case of any change of such date, notice thereof shall be given to each stockholder in person or by letter mailed to his last known post office address at least twenty days before the new date fixed for such meeting.

11. 1987 Massachusetts Control Share Acquisition Act. The 1987 Massachusetts Control Share Acquisition Act, Chapter 110D of the Massachusetts General Laws, as it may be amended from time to time, shall not apply to the corporation.

12. Manner of Notice. All notices provided for under these By-Laws shall conform to the following requirements:

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

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

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

(d) Written notice by electronic transmission, if in comprehensible form, is effective:

(1) if by facsimile telecommunication, when directed to a number furnished by the addressee for the purpose;

(2) if by electronic mail, when directed to an electronic mail address furnished by the addressee for the purpose;

(3) if by a posting on an electronic network together with separate notice to the addressee of such specific posting, directed to an electronic mail address furnished by the addressee for the purpose, upon the later of (i) such posting and (ii) the giving of such separate notice; and

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

(e) Except as provided in Section 12(c) of this Article V, written notice, other than notice by electronic transmission, if in a comprehensible form, is effective at the earliest of the following:

(1) when received;

(2) five days after its deposit in the United States mail, if mailed postpaid and correctly addressed;

(3) on the date shown on the return receipt, if sent by registered or certified mail, return receipt requested; or if sent by messenger or delivery service, on the date shown on the return receipt signed by or on behalf of the addressee; or

(4) on the date of publication if notice by publication is permitted.

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