

## BY-LAWS

### TITAN MEDICAL INC. (the "Corporation")

#### AMENDED AND RESTATED BY-LAW NO. 1

A by-law relating generally to the transaction of the business and affairs  
of

### TITAN MEDICAL INC.

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**BE IT ENACTED** as a by-law of the Corporation as follows:

#### 1. INTERPRETATION

1.1 **Definitions** - In the by-laws of the Corporation, unless the context otherwise requires, capitalized terms used but not defined in this By-Law shall have the meanings attributed to them in the Act, except that:

"**Act**" means the *Business Corporations Act* (Ontario), and any statute that may be substituted therefor, as amended, restated or in effect from time to time;

"**appoint**" includes "**elect**" and vice-versa;

"**articles**" means the original or restated articles of incorporation, articles of amendment, articles of amalgamation, articles of continuance, articles of reorganization, articles of arrangement, articles of dissolution or articles of revival and includes any amendments thereto;

"**Board**" means the board of directors of the Corporation;

"**by-laws**" means this by-law and all other by-laws of the Corporation from time to time in force and effect;

"**Corporation**" means Titan Medical Inc.;

"**meeting of shareholders**" includes an annual meeting of shareholders or a special meeting of shareholders; "**special meeting of shareholders**" includes a meeting of any class or classes of shareholders and a special meeting of all shareholders entitled to vote at an annual meeting of shareholders;

"**non-business day**" means Saturday, Sunday and any other day that is a holiday as defined in the *Interpretation Act* (Canada) and any statute that may be substituted therefor, as amended, restated or in effect from time to time;

"**recorded address**" means:

- (i) in the case of a shareholder, that person's address as recorded in the securities register;
- (ii) in the case of joint shareholders, the address appearing in the securities register in respect of such joint holding or the first address so appearing if there are more than one; and
- (iii) in the case of a director, officer, auditor or member of a committee of the Board, that individual's latest address as recorded in the records of the Corporation;

"**Regulations**" means the regulations made under the Act, as amended, restated or in effect from time to time;

"**signing officer**" means, in relation to any instrument, any person authorized to sign the instrument on behalf of the Corporation by Section 2.2 or by a resolution passed pursuant thereto; and

"**unanimous shareholder agreement**" means:

- (a) an otherwise lawful written agreement among all the shareholders of the Corporation, or among all the shareholders and one or more persons who are not shareholders, that restricts, in whole or in part, the powers of the directors to manage, or supervise the management of, the business and affairs of the

Corporation, as amended, supplemented, restated and replaced from time to time in accordance with its provisions; or

- (b) a written declaration made by a person who is the beneficial owner of all of the issued shares of the Corporation that restricts in whole or in part, the powers of the directors to manage, or supervise the management of, the business and affairs of the Corporation, as amended, supplemented, restated and replaced from time to time in accordance with its provisions.

1.2 **Interpretation** – Words in the singular include the plural and vice-versa, words in one gender include all genders, and words importing persons include individuals, bodies corporate, partnerships, trusts and unincorporated organizations.

## **2. BUSINESS OF THE CORPORATION**

2.1 **Corporate Seal** - The Corporation may have one or more different corporate seals which may be adopted or changed from time to time by the Board, on which the name of the Corporation appears in the language or one or more of the languages set out in the articles.

2.2 **Execution of Instruments** - Deeds, transfers, assignments, contracts, obligations, certificates and other instruments may be signed on behalf of the Corporation by any one of the directors or officers. In addition, the Board may from time to time direct the manner in which and the person or persons by whom any particular instrument or class of instruments may or shall be signed. Any signing officer may affix the corporate seal (if any) to any instrument. Any signing officer may certify a copy of any instrument, resolution, by-law or other document of the Corporation to be a true copy thereof.

2.3 **Execution in Counterpart** - Any articles, notice, resolution, requisition, statement or other document required or permitted to be executed in several documents of like form each of which is executed by all persons required or permitted, as the case may be, to do so, shall be deemed to constitute one document and to bear date as of the date of execution thereof by the last person.

2.4 **Banking Arrangements** - The banking business of the Corporation including, without limitation, the borrowing of money and the giving of security therefor, shall be transacted with such banks, trust companies or other bodies corporate or organizations as may from time to time be designated by or under the authority of the Board. Such banking business or any part thereof shall be transacted under such agreements, instructions and delegations of powers as the Board may from time to time prescribe or authorize.

2.5 **Voting Rights in Other Bodies Corporate** - The signing officers of the Corporation may execute and deliver proxies and arrange for the issuance of voting certificates or other evidence of the right to exercise the voting rights attaching to any securities held by the Corporation. Such instruments, certificates or other evidence shall be in favour of such person or persons as may be determined by the officers executing such proxies or arranging for the issuance of voting certificates or such other evidence of the right to exercise such voting rights. In addition, the Board may from time to time direct the manner in which and the person or persons by whom any particular voting rights or class of voting rights may or shall be exercised.

2.6 **Withholding Information from Shareholders** - Subject to the Act, no shareholder shall be entitled to discovery of any information respecting any details or conduct of the Corporation's business which, in the opinion of the Board, it would be inexpedient in the interests of the shareholders or the Corporation to communicate to the public. The Board may from time to time determine whether and to what extent and at what time and place and under what conditions or regulations the accounts, records and documents of the Corporation or any of them shall be open to the inspection of shareholders and no shareholder shall have any right of inspecting any account, record or document of the Corporation except as conferred by the Act or authorized by the Board or by resolution passed at a meeting of shareholders.

### **3. BORROWING AND SECURITIES**

3.1 **Borrowing Power** - Without limiting the borrowing powers of the Corporation as provided by the Act, but subject to the articles and any unanimous shareholder agreement, the Board may from time to time on behalf of the Corporation, without authorization of the shareholders:

3.1.1 borrow money on the credit of the Corporation;

- (a) issue, reissue, sell, pledge or hypothecate bonds, debentures, notes or other evidences of indebtedness of the Corporation, whether secured or unsecured;
- (b) give a guarantee on behalf of the Corporation to secure performance of any present or future indebtedness, liability or obligation of any person; and
- (c) mortgage, hypothecate, pledge or otherwise create a security interest in all or any currently owned or subsequently acquired real or personal, movable or immovable, property of the Corporation including book debts, rights, powers, franchises and undertakings, to secure any such bonds, debentures, notes or other evidences of indebtedness or guarantee or any other present or future indebtedness, liability or obligation of the Corporation.

The Board may from time to time delegate to one or more of the directors and officers of the Corporation as may be designated by the Board all or any of the powers conferred on the Board in this Section 3.1 to the extent and in the manner as the Board shall determine at the time of such delegation.

Nothing in this Section limits or restricts the borrowing of money by the Corporation on bills of exchange or promissory notes made, drawn, accepted or endorsed by or on behalf of the Corporation.

3.2 **Delegation** - Subject to any unanimous shareholder agreement, the Board may from time to time delegate to a committee of the Board, a director or an officer of the Corporation or any other person as may be designated by the Board all or any of the powers conferred on the Board by Section 3.1 or by the Act to such extent and in such manner as the Board shall determine at the time of each such delegation.

## 4. DIRECTORS

4.1 **Number of Directors and Quorum** – Subject to the articles, the Board shall consist of the number of directors specified in the articles, except that if the articles provide for a minimum and maximum number of directors, the board shall consist of the number of directors determined from time to time by a special resolution of the shareholders (or, if the directors are empowered by a special resolution to determine the number, by a resolution of the Board) within such minimum and maximum. Subject to Section 4.18, a majority of the number of directors so specified or determined shall constitute a quorum at any meeting of the Board.

4.2 **Qualification** - No person shall be qualified for election as a director:

4.2.1 if the person is less than 18 years of age;

4.2.2 if the person has been found under the *Substitute Decisions Act*, 1992 (Ontario) or under the *Mental Health Act* (Ontario) to be incapable of managing property or who has been found to be incapable by a court in Canada or elsewhere;

4.2.3 if the person is not an individual; or

4.2.4 if the person has the status of a bankrupt.

Subject to the articles, a director need not be a shareholder. Subject to the Act, at least 25% of the directors must be resident Canadians. If the Corporation has less than four directors, at least one director must be a resident Canadian.

4.3 **Election and Term** - The election of directors shall take place at the first meeting of shareholders and at each annual meeting of shareholders and all the directors then in office shall retire but, if qualified, shall be eligible for re-election. The election shall be by resolution. If an election of directors is not held at the proper time, the incumbent directors shall continue in office until their successors are elected.

4.4 **Removal of Directors** - Subject to the Act, the shareholders may by ordinary resolution passed at an annual or special meeting remove any director from office and the vacancy created by such removal may be filled at the same meeting failing which it may be filled by the Board.

4.5 **Vacation of Office** - A director ceases to hold office when such director: (a) dies or, subject to the Act, resigns; (b) is removed from office by the shareholders in accordance with the Act; or (c) ceases to be qualified for election as a director in accordance with the Act. A resignation of a director becomes effective at the time a written resignation is sent or delivered to the Corporation or the time specified in such resignation, whichever is later.

4.6 **Vacancies** - Subject to the Act and the articles, a quorum of the Board may fill a vacancy in the Board, except a vacancy resulting from:

4.6.1 an increase in the number of directors, unless the directors are authorized to determine the number of directors and the appointment of an additional director would not result in

a total number of directors greater than one and one-third times the number of directors required to have been elected at the last annual meeting of shareholders;

4.6.2 an increase in the maximum number of directors; or

4.6.3 a failure of the shareholders to elect the number of directors required to be elected at any meeting of shareholders.

In the absence of a quorum of the Board, or if the vacancy has arisen from a failure of the shareholders to elect the number of directors required to be elected at any meeting of shareholders, the Board shall forthwith call a special meeting of shareholders to fill the vacancy. If the Board fails to call such meeting or if there are no directors then in office, any shareholder may call the meeting.

4.7 **Action by the Board** - Subject to any unanimous shareholder agreement, the Board shall manage, or supervise the management of, the business and affairs of the Corporation. Subject to Section 4.8, the powers of the Board may be exercised by resolution passed at a meeting at which a quorum is present or by resolution in writing signed by all the directors entitled to vote on that resolution at a meeting of the Board. Where there is a vacancy in the Board, the remaining directors may exercise all the powers of the Board so long as a quorum remains in office. Where the Corporation has only one director, that director may constitute a meeting.

4.8 **Meeting by Communications Facilities** - If all the directors of the Corporation consent, a meeting of the Board or of a committee of the Board may be held by means of such telephone, electronic or other communications facilities as permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously, and a director participating in such a meeting by such means is deemed to be present at the meeting. Any such consent shall be effective whether given before or after the meeting to which it relates and may be given with respect to all meetings of the Board and committees of the Board. If a majority of directors participating in a meeting held under this Section are then in Canada, the meeting shall be deemed to be held in Canada.

4.9 **Place of Meetings** - Meetings of the Board may be held at any place within or outside Ontario. In any financial year of the Corporation, a majority of the meetings of the Board need not be held in Canada.

4.10 **Calling of Meetings** - Meetings of the Board shall be held from time to time at such time and at such place as the Board, the chairman of the Board, the chief executive officer, the president, a vice-president or any two directors may determine.

4.11 **Notice of Meeting** - Notice of the time and place of each meeting of the Board shall be given in the manner provided in Section 11.1 to each director not less than 48 hours before the time when the meeting is to be held. A notice of a meeting of directors need not specify the purpose of or the business to be transacted at the meeting except where the Act requires such purpose or business to be specified. A director may in any manner waive notice of a meeting of the Board, and attendance of a director at a meeting constitutes a waiver of notice, except where the director attends a meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting is not lawfully called.

4.12 **First Meeting of New Board** - Provided a quorum of directors is present, each newly elected Board may without notice hold its first meeting immediately following the meeting of shareholders at which such Board is elected.

4.13 **Adjourned Meeting** - Notice of an adjourned meeting of the Board is not required if the time and place of the adjourned meeting is announced at the original meeting.

4.14 **Regular Meetings** - The Board may appoint a day or days in any month or months for regular meetings of the Board at a place and hour to be named. A copy of any resolution of the Board fixing the place and time of such regular meetings shall be sent to each director forthwith after being passed, but no other notice shall be required for any such regular meeting except where the Act requires the purpose thereof or the business to be transacted thereat to be specified.

4.15 **Meetings Without Notice.** A meeting of the Board may be held at any time and place permitted by the Act or the articles or the by-laws without notice or on shorter notice than that provided for in this by-law, and proceedings at such meeting shall not be invalidated if all or if all the directors are present in person (except where a director attends the meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting is not lawfully called) or if not so present have received notice, or before or after the meeting or the time prescribed for the notice of such meeting, in writing waive notice of or accept short notice of such meeting.

4.16 **Chairman** - The chairman of any meeting of the Board shall be the first mentioned of such of the following officers as have been appointed and who is a director and is present at the meeting: chairman of the Board, chief executive officer, president, or a vice-president. If no such officer is present, the directors present shall choose one of their number to be chairman.

4.17 **Votes to Govern** - At all meetings of the Board every question shall be decided by a majority of the votes cast on the question of those directors entitled to vote. In case of an equality of votes the chairman of the meeting shall not be entitled to a second or casting vote.

4.18 **Conflict of Interest** - A director or officer who:

4.18.1 is a party to; or

4.18.2 is a director or an officer of, or has a material interest in, any person who is a party to;

a material contract or transaction or proposed material contract or transaction with the Corporation shall disclose the nature and extent of such director's or officer's interest at the time and in the manner provided by the Act. Any such contract or transaction or proposed material contract or transaction shall be referred to the Board or shareholders for approval in accordance with the Act even if such contract or proposed material contract or transaction is one that in the ordinary course of the Corporation's business would not require approval by the Board or shareholders, and a director interested in a contract or transaction so referred to the Board shall not attend any part of a meeting of the Board during which the contract or transaction is discussed and shall not vote on any resolution to approve such contract or transaction except as provided by the Act.

4.19 **Remuneration and Expenses** - Subject to the articles and any unanimous shareholder agreement, the directors shall be paid such remuneration for their services as the Board may from time to time determine. The directors shall also be entitled to be reimbursed for travelling and other expenses properly incurred by them in attending meetings of the Board or any committee thereof. Nothing herein contained shall preclude any director from serving the Corporation in any other capacity and receiving remuneration therefor in that capacity.

4.20 **Nomination of Directors** - Subject to the provisions of the Act and the articles of the Corporation, only persons who are nominated in accordance with the following procedures shall be eligible for election as directors of the Corporation. Nominations of an individual for election to the board may be made at any annual general meeting of shareholders, or at any special meeting of shareholders if one of the purposes for which such meeting was called is the election of directors of the Corporation:

- (a) by or at the discretion of the Board or an authorized officer of the Corporation, including pursuant to a notice of meeting;
- (b) by or at the direction or request of one or more shareholders pursuant to a proposal made in accordance with the provisions of the Act or a requisition to call a shareholders meeting made in accordance with the provisions of the Act; or
- (c) by any person (a “**Nominating Shareholder**”) who, (i) at the close of business on the date of the giving of the notice provided for below in this Section 4.20 and on the record date for notice of such meeting, is entered in the securities register as a holder of one or more shares carrying the right to vote at such meeting or who beneficially owns shares that are entitled to be voted at such meeting, and (ii) complies with the notice procedures set forth below in this Section 4.20.

In addition to any other applicable requirements, for a nomination to be made by a Nominating Shareholder, the Nominating Shareholder must have given timely notice thereof in proper written form to the Secretary of the Corporation at the registered office of the Corporation in accordance with this Section 4.20.

To be timely, a Nominating Shareholder’s notice to the Secretary of the Corporation must be made:

- (a) in the case of an annual general meeting of shareholders, not less than 30 nor more than 65 days prior to the date of the annual general meeting of shareholders; provided, however, that in the event that the annual general meeting of shareholders is to be held on a date that is less than 40 days after the date on which the initial Public Announcement (as defined below) of the date of the annual general meeting of shareholders was made, notice by the Nominating Shareholder may be made not later than the close of business on the 10th day following such Public Announcement; and
- (b) in the case of a special meeting of shareholders that is not also an annual general meeting but is called for the purpose of electing directors of the Corporation (whether or not called for other purposes), not later than the close of business on the 15th day following

the day on which the initial Public Announcement of the special meeting of shareholders was made.

Notwithstanding the foregoing, the Board may, in its sole discretion, waive any requirement in this Section 4.20. In no event shall any adjournment or postponement of a meeting of shareholders of the Corporation or the announcement thereof commence a new time period for the giving of a Nominating Shareholder's notice.

To be in proper written form, a Nominating Shareholder's notice to the Secretary of the Corporation must set forth:

- (a) as to each individual whom the Nominating Shareholder proposes to nominate for election as a director:
  - (i) his or her name, age, business address and residence address;
  - (ii) his or her principal occupation or employment;
  - (iii) the class or series and number of shares in the capital of the Corporation which are controlled or over which direction is exercised, directly or indirectly, or which are owned beneficially or of record by him or her as of the record date for the meeting of shareholders (if such date shall then have been made publicly available by the Corporation and shall have occurred) and as of the date of such notice;
  - (iv) a statement as to whether he or she would be "independent" of the Corporation (within the meaning of Sections 1.4 and 1.5 of National Instrument 52-110 – Audit Committees of the Canadian Securities Administrators, as such provisions may amended from time to time) if elected as a director of the Corporation at such meeting and the reasons and basis for such determination; and
  - (v) any other information relating to him or her that would be required to be disclosed in a dissident's proxy circular in connection with solicitations of proxies for election of directors pursuant to the Act and Applicable Securities Laws (as defined below); and
- (b) as to the Nominating Shareholder giving the notice:
  - (i) any proxy, contract, arrangement, understanding or relationship pursuant to which such Nominating Shareholder has the right to vote any shares in the capital of the Corporation;
  - (ii) any other information relating to such Nominating Shareholder that would be required to be made in a dissident's proxy circular in connection with solicitations of proxies for election of directors pursuant to the Act and Applicable Securities Laws; and
  - (iii) the class or series and number of shares in the capital of the Corporation which are controlled or over which direction is exercised, directly or indirectly, or which

are owned beneficially or of record by the Nominating Shareholder as of the record date for the meeting of shareholders (if such date shall then have been made publicly available by the Corporation and shall have occurred) and as of the date of such notice.

The Corporation may require any proposed nominee to furnish such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation or that could be material to a reasonable shareholder's understanding of the independence, or lack thereof, of such proposed nominee.

No individual shall be eligible for election as a director of the Corporation unless nominated in accordance with the provisions of this Section 4.20; provided, however, that nothing in this Section 4.20 shall be deemed to preclude discussions by a shareholder of the Corporation (as distinct from the nomination of directors) at a meeting of shareholders of any matter in respect of which it would have been entitled to submit a proposal pursuant to the provisions of the Act. The chairman of the meeting shall have the power and duty to determine whether a nomination was made in accordance with the procedures set forth in the foregoing provisions and, if any proposed nomination is not determined to be in compliance with such foregoing provisions, to declare that such defective nomination shall be disregarded.

For purposes of this Section 4.20:

- (a) "Applicable Securities Laws" means the applicable securities legislation of each relevant province and territory of Canada, as amended from time to time, the rules, regulations and forms made or promulgated under any such statute and the published national instruments, multilateral instruments, policies, statements, bulletins and notices of the securities commission and similar regulatory authority of each province and territory of Canada; and
- (b) "Public Announcement" shall mean disclosure in a press release reported by a national news service in Canada, or in a document publicly filed by the Corporation under its profile on the System of Electronic Document Analysis and Retrieval at [www.sedar.com](http://www.sedar.com).

Notwithstanding any other provision of the by-laws, notice given to the Secretary of the Corporation pursuant to this Section 4.20 may only be given by personal delivery or by facsimile transmission, and shall be deemed to have been given and made only at the time it is served by personal delivery or sent by facsimile transmission (provided that receipt of confirmation of such transmission has been received) to the Secretary of the Corporation at the address of the registered office of the Corporation; provided, that if such delivery or transmission is made on a day which is not a business day or later than 5:00 p.m. (Toronto time) on a day which is a business day, then such delivery or transmission shall be deemed to have been made on the subsequent day that is a business day.

## **5. DELEGATION**

5.1 **Committee of Directors** - The Board may appoint a committee of directors and delegate to such committee any of the powers of the Board except those which, under the Act, a committee of directors has no authority to exercise.

5.2 **Transaction of Business** - The powers of a committee of directors may be exercised by a meeting at which a quorum is present or by resolution in writing signed by all the members of such committee who would have been entitled to vote on that resolution at a meeting of the committee. Meetings of such committee may be held at any place within or outside Ontario.

5.3 **Procedure** - Unless otherwise determined by the Board, each committee shall have the power to fix its quorum at not less than a majority of its members, to elect its chairman and to regulate its procedure.

## 6. OFFICERS

6.1 **Appointment** - Subject to the articles and any unanimous shareholder agreement, the Board may from time to time appoint a chairman of the Board, chief executive officer, president, chief financial officer, one or more vice-presidents (to which title may be added words indicating seniority or function), a secretary, a treasurer and such other officers as the Board may determine, including one or more assistants to any of the officers so appointed. The Board may specify the duties of and, in accordance with this by-law and subject to the Act, the articles and any unanimous shareholder agreement, delegate to such officers powers to manage the business and affairs of the Corporation. Subject to Section 6.2, an officer may but need not be a director and one person may hold more than one office.

6.2 **Chairman of the Board** - The Board may from time to time also appoint a chairman of the Board who shall be a director. If appointed, the Board may assign to the chairman any of the powers and duties that are by any provision of this by-law assigned to the chief executive officer; and the chairman shall, subject to the Act, have such other powers and duties as the Board may specify. During the absence or disability of the chairman of the Board, the chairman's duties shall be performed and the chairman's powers exercised by the president.

6.3 **Chief Executive Officer** - If appointed, the chief executive officer may, but need not be, the president and, subject to the authority of the Board, shall have general supervision of the business of the Corporation; and the chief executive officer shall have such other powers and duties as the Board may specify. During the absence or disability of the chairman, or if no chairman has been appointed, the chief executive officer shall also have the powers and duties of that office.

6.4 **Chief Financial Officer** - If appointed, the chief financial officer shall keep proper accounting records in compliance with the Act and shall be responsible for the deposit of money, the safekeeping of securities and the disbursement of the funds of the Corporation; the chief financial officer shall render to the Board whenever required an account of all transactions as chief financial officer and of the financial position of the Corporation; and shall have such other powers and duties as the Board or the chief executive officer may specify.

6.5 **President and Vice-President** - If appointed, the president and a vice-president shall have such powers and duties as the Board or the chief executive officer may specify.

6.6 **Secretary** - If appointed, the secretary shall attend and be the secretary of all meetings of the Board, shareholders and committees of the Board and shall enter or cause to be entered in records kept for that purpose minutes of all proceedings thereat; the secretary shall give or cause

to be given, as and when instructed, all notices to shareholders, directors, officers, auditors and members of committees of the Board; the secretary shall be the custodian of the stamp or mechanical device generally used for affixing the corporate seal of the Corporation and of all books, papers, records, documents and instruments belonging to the Corporation, except when some other officer or agent has been appointed for that purpose; and the secretary shall have such other powers and duties as the Board or the chief executive officer may specify.

6.7 **Treasurer** - If appointed, the treasurer shall have such powers and duties as the Board or the chief financial officer may specify. During the absence or disability of the chief financial officer, or if no chief financial officer has been appointed, the treasurer shall have the powers and duties of that office.

6.8 **Powers and Duties of Other Officers** - The powers and duties of all other officers shall be such as the terms of their engagement call for or as the Board or the chief executive officer may specify. Any of the powers and duties of an officer to whom an assistant has been appointed may be exercised and performed by such assistant, unless the Board or the chief executive officer otherwise directs.

6.9 **Variation of Powers and Duties** - The Board may from time to time and subject to the Act, vary, add to or limit the powers and duties of any officer.

6.10 **Term of Office** - The Board, in its discretion, may remove any officer of the Corporation, without prejudice to such officer's rights under any employment contract. Otherwise each officer appointed by the Board shall hold office until such officer's successor is appointed, or until such officer's earlier resignation.

6.11 **Terms of Employment and Remuneration** - The terms of employment and the remuneration of officers appointed by the Board shall be settled by it from time to time.

6.12 **Conflict of Interest** - An officer who:

6.12.1 is a party to; or

6.12.2 is an officer of, or has a material interest in, any person who is a party to;

a material contract or transaction or proposed material contract or transaction with the Corporation shall disclose the nature and extent of such officer's interest at the time and in the manner provided by the Act.

6.13 **Agents and Attorneys** - The Board shall have power from time to time to appoint agents or attorneys for the Corporation in or outside Canada with such powers of management or otherwise (including the power to sub-delegate) as may be thought fit.

6.14 **Fidelity Bonds** - The Board may require such officers, employees and agents of the Corporation as the Board deems advisable to furnish bonds for the faithful discharge of their powers and duties, in such form and with such surety as the Board may from time to time determine.

## **7. PROTECTION OF DIRECTORS, OFFICERS AND OTHERS**

7.1 **Limitation of Liability** - No director or officer shall be liable for the acts, receipts, neglects or defaults of any other director or officer or employee, or for joining in any receipt or other act for conformity, or for any loss, damage or expense happening to the Corporation through the insufficiency or deficiency of title to any property acquired for or on behalf of the Corporation, or for the insufficiency or deficiency of any security in or on which any of the moneys of the Corporation shall be invested, or for any loss or damage arising from the bankruptcy, insolvency or tortious acts of any person with whom any of the moneys, securities or effects of the Corporation shall be deposited, or for any loss occasioned by any error of judgment or oversight on such individual's part, or for any other loss, damage or misfortune whatever which shall happen in the execution of the duties of such individual's office or in relation thereto; provided that nothing herein shall relieve any director or officer from the duty to act in accordance with the Act and the Regulations or from liability for any breach thereof.

7.2 **Indemnity** - Subject to the Act, the Corporation shall indemnify a director or officer of the Corporation, a former director or officer of the Corporation or another individual who acts or acted at the Corporation's request as a director or officer, or an individual acting in a similar capacity, of another entity, and such person's heirs and legal representatives, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of that association with the Corporation or other entity, if:

7.2.1 the individual acted honestly and in good faith with a view to the best interests of the Corporation or, as the case may be, to the best interest of the other entity for which the individual acted as a director or officer or in a similar capacity at the Corporation's request; and

7.2.2 in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the person had reasonable grounds for believing that the individual's conduct was lawful.

7.3 **Insurance** - Subject to the Act, the Corporation may purchase and maintain such insurance for the benefit of its directors and officers as such, as the Board may from time to time determine.

## **8. SHARES**

8.1 **Allotment** - Subject to the Act, the articles and any unanimous shareholder agreement, the Board may from time to time allot or grant options to purchase the whole or any part of the authorized and unissued shares of the Corporation at such times and to such persons and for such consideration as the Board shall determine, provided that no share shall be issued until it is fully paid as provided by the Act.

8.2 **Commissions** - The Board may from time to time authorize the Corporation to pay a reasonable commission to any person in consideration of such person purchasing or agreeing to

purchase shares of the Corporation, whether from the Corporation or from any other person, or procuring or agreeing to procure purchasers for any such shares.

8.3 **Registration of Transfer** - Subject to the Act, no transfer of shares shall be registered in a securities register except on presentation of the certificate representing such shares with an endorsement which complies with the Act, together with such reasonable assurance or evidence of signature, identification and authority to transfer as the Board may from time to time prescribe, on payment of all applicable taxes and any fees prescribed by the Board, on compliance with such restrictions on transfer as are authorized by the articles and on satisfaction of any lien referred to in Section 8.5.

8.4 **Transfer Agents and Registrars** - The Board may from time to time appoint a registrar to maintain the securities register and a transfer agent to maintain the register of transfers and may also appoint one or more branch registrars to maintain branch securities registers and one or more branch transfer agents to maintain branch registers of transfers, but one person may be appointed both registrar and transfer agent. The Board may at any time terminate any such appointment.

8.5 **Lien for Indebtedness** - If the articles provide that the Corporation shall have a lien on shares registered in the name of a shareholder indebted to the Corporation, such lien may be enforced, subject to any other provision of the articles and to any unanimous shareholder agreement, by the sale of the shares thereby affected or by any other action, suit, remedy or proceeding authorized or permitted by law or by equity and, pending such enforcement, the Corporation may refuse to register a transfer of the whole or any part of such shares.

8.6 **Non-recognition of Trusts** - Subject to the Act, the Corporation may treat the person in whose name a share is registered in the securities register as the person exclusively entitled to vote, to receive notices, to receive any dividend or other payments in respect of the share and otherwise to exercise all the rights and powers of an owner.

8.7 **Security Certificates** - Every holder of one or more securities of the Corporation shall be entitled, at the security holder's option, to a security certificate, or to a non-transferable written acknowledgement of such security holder's right to obtain a security certificate, stating the number and class or series of securities held by such security holder as shown on the securities register. Security certificates and acknowledgements of a security holder's right to a security certificate, respectively, shall be in such form as the Board shall from time to time approve. Any security certificate shall be signed in accordance with Section 2.2 and need not be under the corporate seal; provided that, unless the Board otherwise determines, certificates representing securities in respect of which a transfer agent and/or registrar has been appointed shall not be valid unless countersigned by or on behalf of such transfer agent and/or registrar. The signature of one of the signing officers or, in the case of security certificates which are not valid unless countersigned by or on behalf of a transfer agent and/or registrar, the signatures of both signing officers, may be printed or mechanically reproduced in facsimile on security certificates and every such facsimile signature shall for all purposes be deemed to be the signature of the officer whose signature it reproduces and shall be binding on the Corporation. A security certificate executed as aforesaid shall be valid notwithstanding that one or both of the officers whose facsimile signature appears thereon no longer holds office at the date of issue of the certificate.

8.8 **Replacement of Security Certificates** - The Board or any officer or agent designated by the Board may in its or such person's discretion direct the issue of a new security certificate in lieu of and on cancellation of a security certificate that has been mutilated or in substitution for a security certificate claimed to have been lost, destroyed or wrongfully taken on payment of such fee, not exceeding the amount prescribed by the Regulations, and on such terms as to indemnity, reimbursement of expenses and evidence of loss and of title as the Board may from time to time prescribe, whether generally or in any particular case.

8.9 **Joint Security Holders** - If two or more persons are registered as joint holders of any security, the Corporation shall not be bound to issue more than one certificate in respect thereof, and delivery of such certificate to one of such persons shall be sufficient delivery to all of them. Any one of such persons may give effectual receipts for the certificate issued in respect thereof or for any dividend, bonus, return of capital or other money payable or warrant issuable in respect of such security.

8.10 **Deceased Security Holders** - In the event of the death of a holder, or of one of the joint holders, of any security, the Corporation shall not be required to make any entry in the securities register in respect thereof or to make payment of any dividends thereon except on production of all such documents as may be required by law and on compliance with the reasonable requirements of the Corporation and its transfer agents.

## **9. DIVIDENDS AND RIGHTS**

9.1 **Dividends** - Subject to the Act, the Board may from time to time declare dividends payable to the shareholders according to their respective rights and interests in the Corporation. Dividends may be paid in money or property or by issuing fully paid shares of the Corporation.

9.2 **Dividend Cheques** - A dividend payable in money shall be paid by cheque drawn on the Corporation's bankers or one of them to the order of each registered holder of shares of the class or series in respect of which it has been declared and mailed by prepaid ordinary mail to such registered holder at such registered holder's recorded address, unless such holder otherwise directs. In the case of joint holders the cheque shall, unless such joint holders otherwise direct, be made payable to the order of all of such joint holders and mailed to them at their recorded address. The mailing of such cheque as aforesaid, unless the same is not paid on due presentation, shall satisfy and discharge the liability for the dividend to the extent of the sum represented thereby plus the amount of any tax which the Corporation is required to and does withhold.

9.3 **Non-receipt of Cheques** - In the event of non-receipt of any dividend cheque by the person to whom it is sent as aforesaid, the Corporation shall issue to such person a replacement cheque for a like amount on such terms as to indemnity, reimbursement of expenses and evidence of non-receipt and of title as the Board may from time to time prescribe, whether generally or in any particular case.

9.4 **Record Date for Dividends and Rights** - The Board may fix in advance a date, preceding by not more than 50 days, the date for the payment of any dividend or the date for the issue of any warrant or other evidence of the right to subscribe for securities of the Corporation,

as a record date for the determination of the persons entitled to receive payment of such dividend or to exercise the right to subscribe for such securities, provided that notice of any such record date shall be given, not less than 7 days before such record date. Where no record date is fixed so, the record date for the determination of the persons entitled to receive payment of any dividend or to exercise the right to subscribe for securities of the Corporation shall be at the close of business on the day on which the resolution relating to such dividend or right to subscribe is passed by the Board.

9.5 **Unclaimed Dividends** - Any dividend unclaimed after the expiry of the applicable limitation period shall be forfeited and shall revert to the Corporation.

## **10. MEETINGS OF SHAREHOLDERS**

10.1 **Annual Meetings** - The annual meeting of shareholders shall be held at such time in each year and, subject to Section 10.3, at such place as the Board, may from time to time determine, for the purpose of considering the financial statements and reports required by the Act to be placed before the annual meeting, electing directors, appointing auditors and for the transaction of such other business as may properly be brought before the meeting.

10.2 **Special Meetings** - The Board, the chairman of the Board or the chief executive officer shall have power to call a special meeting of shareholders at any time.

10.3 **Place of Meetings** – Subject to the articles and any unanimous shareholder agreement, meetings of shareholders shall be held at the registered office of the Corporation or, if the Board shall so determine, at some other place in Ontario or, at some place outside Ontario if all the shareholders entitled to vote at the meeting so agree. A meeting of shareholders held under Section 10.4 is deemed to be held at the place where the registered office is located.

10.4 **Participation by Electronic Means** - If the Corporation chooses to make available a telephonic or electronic facility that permits all participants to communicate adequately with each other during a meeting of shareholders, any shareholder entitled to attend such meeting may participate in the meeting by means of such telephonic or electronic communication facility. A shareholder, who through such means votes at the meeting or establishes a communications link to the meeting is deemed to be present at the meeting. Notwithstanding any other provision of this by-law, any person participating in a meeting of shareholders pursuant to this Section who is entitled to vote at that meeting may vote, in accordance with the Act and the Regulations, by means of any telephonic, electronic or other communication facility that the Corporation has made available for that purpose.

10.5 **Notice of Meetings** - Notice of the time and place of each meeting of shareholders shall be given in the manner provided in Section 11.1 not less than 10 nor more than 50 days before the date of the meeting, or within such other period as may be provided by the Act or prescribed by the Regulations to each director, to the auditor and to each shareholder who at the close of business on the record date for notice, is entered in the securities register as the holder of one or more shares carrying the right to vote at the meeting. Notice of a meeting of shareholders called for any purpose other than consideration of the financial statements and auditors report, election of directors and reappointment of the incumbent auditors shall state the nature of such business

in sufficient detail to permit the shareholder to form a reasoned judgment thereon and shall state the text of any special resolution to be submitted to the meeting.

10.6 **List of Shareholders Entitled to Notice** - For every meeting of shareholders, the Corporation shall prepare within the time specified by the Act a list of shareholders entitled to receive notice of the meeting, arranged in alphabetical order and showing the number of shares held by each shareholder. If a record date for notice is fixed pursuant to Section 10.7, the shareholders listed shall be those registered at the close of business on such record date. If no record date for notice is so fixed, the shareholders listed shall be those registered (a) at the close of business on the day immediately preceding the day on which notice of the meeting is given, or (b) on the day on which the meeting is held where no such notice is given. The list shall be available for examination by any shareholder during usual business hours at the registered office of the Corporation or at the place where the central securities register is maintained and at the meeting for which the list was prepared.

10.7 **Record Date for Notice** The Board may fix in advance a date, preceding the date of any meeting of shareholders by not less than 21 days and not more than 50 days, as a record date for the determination of the shareholders entitled to notice of the meeting, and notice of any such record date shall be given not less than 7 days before such record date by newspaper advertisement and written notice in the manner provided by the Act. If no record date for notice is so fixed, the record date for the determination of the shareholders entitled to notice of the meeting shall be (a) at the close of business on the day immediately preceding the day on which notice of the meeting is given, or (b) on the day on which the meeting is held where no such notice is given.

10.8 **Meetings without Notice** - A meeting of shareholders may be held at any time and place permitted by the Act without notice or on shorter notice than that provided for herein, and proceedings thereat shall not be invalidated (a) if all the shareholders entitled to vote thereat are present in person or represented by proxy (other than as expressly to object that the meeting is not lawfully called) or if those not present in person or represented by proxy waive notice before or after the meeting or the time prescribed for the notice thereof, in writing of such meeting being held, and (b) if the auditors and the directors are present or if those not present, waive notice of or otherwise consent to such meeting being held. At such a meeting any business may be transacted which the Corporation at a meeting of shareholders may transact. If the meeting is held at a place outside Ontario, shareholders not present in person or represented by proxy, but who have waived notice of such meeting, shall also be deemed to have consented to the meeting being held at such place.

10.9 **Chairman, Secretary and Scrutineers** - The chairman of any meeting of shareholders shall be the first mentioned of such of the following officers as have been appointed and who is present at the meeting: chief executive officer, president, chairman of the Board, or a vice-president who is a director. If no such officer is present within 15 minutes from the time fixed for holding the meeting, the persons present and entitled to vote shall choose one of their number to be chairman. If the secretary of the Corporation is absent, the chairman shall appoint some person, who need not be a shareholder, to act as secretary of the meeting. If desired, one or more scrutineers, who need not be shareholders, may be appointed by a resolution or by the chairman with the consent of the meeting.

10.10 **Persons Entitled to be Present** - The only persons entitled to attend a meeting of shareholders shall be those entitled to vote thereat, the directors and auditor of the Corporation and others who, although not entitled to vote, are entitled or required under the Act or the articles or by-laws to be present at the meeting. Any other person may be admitted only on the invitation of the chairman of the meeting or with the consent of the meeting.

10.11 **Quorum** - Subject to the Act, a quorum for the transaction of business at any meeting of shareholders shall be one person present in person, being a shareholder entitled to vote thereat or a duly appointed representative or proxyholder for an absent shareholder so entitled, and holding or representing in the aggregate not less than twenty percent (20%) of the outstanding shares of the Corporation entitled to vote at the meeting. If a quorum is present at the opening of any meeting of shareholders, the shareholders present in person or represented by proxy may proceed with the business of the meeting notwithstanding that a quorum is not present throughout the meeting. If a quorum is not present at the opening of any meeting of shareholders, the shareholders present in person or represented by proxy may adjourn the meeting to a fixed time and place, but may not transact any other business.

10.12 **Right to Vote** - Subject to the Act as to authorized representatives of any other body corporate or association, at any meeting of shareholders for which the Corporation must prepare a list referred to in Section 10.6, every person who is named in such list shall be entitled to vote the shares shown opposite such person's name.

10.13 **Proxies** - Every shareholder entitled to vote at a meeting of shareholders may appoint a proxyholder, or one or more alternate proxyholders, who need not be shareholders, to attend and act at the meeting in the manner and to the extent authorized and with the authority conferred by the proxy. A proxy shall be in writing executed by the shareholder or such shareholder's attorney and shall conform with the Act. Every such shareholder which is a body corporate or association may by resolution of its directors or governing body authorize an individual who need not be a shareholder to represent it at a meeting of shareholders and such individual may exercise on the shareholder's behalf all the powers it could exercise if it were an individual shareholder. The authority of such an individual shall be established by depositing with the Corporation a certified copy of such resolution, or in such other manner as may be satisfactory to the secretary of the Corporation or the chairman of the meeting.

10.14 **Time for Deposit of Proxies** - The Board may specify in a notice calling a meeting of shareholders a time, preceding the time of such meeting by not more than 48 hours exclusive of non-business days, before which time proxies to be used at such meeting must be deposited. A proxy shall be acted on only if, prior to the time so specified, it shall have been deposited with the Corporation or an agent thereof specified in such notice or, if no such time is specified in such notice, unless it has been received by the secretary of the Corporation or by the chairman of the meeting or any adjournment thereof prior to the time of voting.

10.15 **Joint Shareholders** - If two or more persons hold shares jointly, one of them present in person or represented by proxy at a meeting of shareholders may, in the absence of the other or others, vote the shares; but if two or more of those persons are present in person or represented by proxy and vote, they shall vote as one on the shares jointly held by them.

10.16 **Votes to Govern** - At any meeting of shareholders every question shall, unless otherwise required by the articles or by-laws or by law, be determined by a majority of the votes cast on the question. In case of an equality of votes either on a show of hands or on a ballot or on results of electronic voting, the chairman of the meeting shall not be entitled to a second or casting vote.

10.17 **Show of Hands** - Subject to the Act, any question at a meeting of shareholders shall be decided by a show of hands unless a ballot thereon is required or demanded as hereinafter provided. On a show of hands every person who is present and entitled to vote shall have one vote. Whenever a vote by show of hands shall have been taken on a question, unless a ballot thereon is so required or demanded, a declaration by the chairman of the meeting that the vote on the question has been carried or carried by a particular majority or not carried and an entry to that effect in the minutes of the meeting shall be *prima facie* evidence of the fact without proof of the number or proportion of the votes recorded in favour of or against any resolution or other proceeding in respect of the question, and the result of the vote so taken shall be the decision of the shareholders on the question.

10.18 **Ballots** - On any question proposed for consideration at a meeting of shareholders, and whether or not a show of hands has been taken thereon, the chairman may require a ballot of any person present or any shareholder or proxyholder entitled to vote on such question at the meeting may demand a ballot. A ballot so demanded shall be taken in such manner as the chairman shall direct. A demand for a ballot may be withdrawn at any time prior to the taking of the ballot. If a ballot is taken each person present shall be entitled, in respect of the shares which such person is entitled to vote at the meeting on the question, to that number of votes provided by the Act or the articles, and the result of the ballot so taken shall be the decision of the shareholders on the question.

10.19 **Adjournment** - If a meeting of shareholders is adjourned by one or more adjournments for an aggregate of less than 30 days it is not necessary to give notice of the adjourned meeting other than by announcement at the time of an adjournment. If a meeting of shareholders is adjourned by one or more adjournments for an aggregate of 30 days or more but not more than 90 days, notice of the adjourned meeting shall be given as for an original meeting but the management of the Corporation shall not be required to send a form of proxy in the form provided by the Act to each shareholder who is entitled to receive notice of the meeting.

10.20 **Resolution in Writing** - A resolution in writing signed by all the shareholders entitled to vote on that resolution at a meeting of shareholders is as valid as if it had been passed at a meeting of the shareholders unless a written statement with respect to the subject matter of the resolution is submitted by a director or the auditors in accordance with the Act.

10.21 **Only One Shareholder** - Where the Corporation has only one shareholder or only one holder of any class or series of shares, the shareholder present in person or by proxy constitutes a meeting.

## 11. NOTICES

11.1 **Method of Giving Notices** - Any notice (which term includes any communication or document) to be given (which term includes sent, delivered or served) pursuant to the Act, the

Regulations, the articles, the by-laws or otherwise to a shareholder, director, officer or member of a committee of the Board or to the auditors shall be sufficiently given if delivered personally to the person to whom it is to be given or if delivered to such person's recorded address or if mailed to such person at such person's recorded address by prepaid ordinary or air mail or if sent to such person at such person's recorded address by facsimile or if provided to such person by electronic means in accordance with the *Electronic Commerce Act, 2002* (Ontario). A notice so delivered shall be deemed to have been given when it is delivered personally or to the recorded address as aforesaid; a notice so mailed shall be deemed to have been received by the addressee on the fifth day after mailing; and a notice so provided by electronic means (including by facsimile) shall be deemed to have been sent and received in the manner and at the time specified in the *Electronic Commerce Act, 2002* (Ontario). The secretary may change or cause to be changed the recorded address of any shareholder, director, officer, auditor or member of a committee of the Board in accordance with any information believed by the secretary to be reliable.

11.2 **Notice to Joint Shareholders** - If two or more persons are registered as joint holders of any share, any notice shall be addressed to all of such joint holders but notice to one of such persons shall be sufficient notice to all of them.

11.3 **Computation of Time** - In computing the date when notice must be given under any provision requiring a specified number of days notice of any meeting or other event, the date of giving the notice shall be excluded and the date of the meeting or other event shall be included.

11.4 **Undelivered Notices** - If any notice given to a shareholder pursuant to Section 11.1 is returned on two consecutive occasions because such shareholder cannot be found, the Corporation shall not be required to give any further notices to such shareholder until such shareholder informs the Corporation in writing of such shareholder's new address.

11.5 **Omissions and Errors** - The accidental omission to give any notice to any shareholder, director, officer, auditor or member of a committee of the Board or the non-receipt of any notice by any such person or any error in any notice not affecting the substance thereof shall not invalidate any action taken at any meeting held pursuant to such notice or otherwise founded thereon.

11.6 **Persons Entitled by Death or Operation of Law** - Every person who, by operation of law, transfer, death of a shareholder or any other means whatsoever, shall become entitled to any share, shall be bound by every notice in respect of such share which shall have been duly given to the shareholder from whom such person derives title to such share prior to such person's name and address being entered on the securities register (whether such notice was given before or after the happening of the event on which such person became so entitled) and prior to such person furnishing to the Corporation the proof of authority or evidence of entitlement provided by the Act.

11.7 **Waiver of Notice** - Any shareholder, (or such shareholder's duly appointed proxyholder), director, officer, auditors or member of a committee of the Board may at any time waive any notice, or waive or abridge the time for any notice, required to be given to such person under the Act, the Regulations, the articles, the by-laws or otherwise and such waiver or abridgement,

whether given before or after the meeting or other event of which notice is required to be given, shall cure any default in the giving or in the time of such notice, as the case may be. Any such waiver or abridgement shall be in writing or by electronic means in accordance with the *Electronic Commerce Act, 2002* (Ontario) except a waiver of notice of a meeting of shareholders or of the Board or of a committee of the Board which may be given in any manner.

## **12. EFFECTIVE DATE**

12.1 **Effective Date** - This amended and restated by-law shall be effective on and from June 9, 2015 when it was made by the Board.

12.2 **Confirmation of Shareholders** – This amended and restated by-law was confirmed at a special meeting of shareholders of the Corporation held on June 9, 2015.

(Signed) “John Hargrove”

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**John Hargrove**  
**Chairman**

(Signed) “Stephen Randall”

\_\_\_\_\_  
**Stephen Randall**  
**Secretary**