

POET TECHNOLOGIES INC.

2021 STOCK OPTION PLAN (the “Plan”)

1. Purchase of the Plan

The purpose of the Plan is to assist the Corporation in attracting, retaining and motivating Directors, Employees and Consultants of the Corporation and which terms are hereinafter collectively referred to as (“Directors, Employees and Consultants”) and any of its subsidiaries and to closely align the personal interests of such Directors, Employees and Consultants with those of the shareholders by providing them with the opportunity, through options, to acquire common shares in the capital of the Corporation. Capitalized terms used in this Plan that are not otherwise defined have the meanings ascribed to them in TSX Venture Exchange Policy 4.4 – Incentive Stock Options (“Policy 4.4”) or TSX Venture Exchange Policy 1.1 - Interpretation.

2. Implementation

The Plan and the grant and exercise of any options under the Plan are subject to compliance with the applicable requirements of each stock exchange (“Exchanges”) on which the shares of the Corporation are listed at the time of the grant of any options under the Plan and of any governmental authority or regulatory body to which the Corporation is subject.

Upon approval by the Shareholders of the Corporation, the Plan will replace and supersede the previous Plan known as the “2021 Stock Option Plan” which was approved by Shareholders on August 26, 2020. Notwithstanding that at some future date, the shares of the Corporation are no longer listed on the TSX Venture Exchange, the Plan will remain in effect until amended or discontinued in accordance with section 7, provided that it is in compliance with all applicable corporate and securities laws, rules and regulations.

3. Administration

The Plan shall be administered by the Board of Directors of the Corporation which shall, without limitation, subject to the approval of the Exchanges, have full and final authority in its discretion, but subject to the express provisions of the Plan, to interpret the Plan, to prescribe, amend and rescind rules and regulations relating to it and to make all other determinations deemed necessary or advisable for the administration of the Plan. The Board of Directors may delegate any or all of its authority with respect to the administration of the Plan and any or all of the rights, powers and discretions with respect to the Plan granted to it hereunder to such committee of directors of the Corporation as the Board of Directors may designate and upon such delegation such committee of directors, as well as the Board of Directors, shall be entitled to exercise any or all of such authority, rights, powers and discretions with respect to the Plan. When used hereafter in the Plan, “Board of Directors” shall be deemed to include a committee of directors acting on behalf of the Board of Directors.

4. Shares Issuable Under the Plan

Subject to the requirements of the TSX Venture Exchange:

- (a) the aggregate number of shares (“Optioned Shares”) that may be issuable pursuant to options granted under the Plan will not exceed 70,905,183 shares (being an increase of 12,366,629 since last shareholders’ approval) hereinafter referred to as the “Fixed Number”;
- (b) this Plan, in order to be implemented, requires the approval of the majority of the shareholders of the Corporation;
- (c) unless this Plan is approved by the majority of the disinterested shareholders of the Corporation (the “Disinterested Approval”),
 - (i) the aggregate number of shares reserved for issuance under stock options granted to Insiders of the Corporation (as a group), at any point in time, under this Plan and all outstanding stock option plans or grants of options may not exceed 10% of the issued shares of the Corporation;
 - (ii) no options exceeding an aggregate of 10% of the issued shares of the Corporation, calculated at the date an option is granted to an Insider, may be granted to Insiders (as a Group) within a 12 month period under this Plan and all outstanding stock option plans or grants of options;

- (iii) no options exceeding an aggregate of 5% of the issued shares of the Corporation, calculated on the date an option is granted to the Person, may be granted to any one Person (and, where permitted under Policy 4.4, any Companies wholly owned by that Person) within a 12 month period under this Plan and all outstanding stock option plans or grants of options;
- (iv) upon the Corporation obtaining the requisite Disinterested Approval, the provisions set out in this subsection 4 (c) shall no longer apply;
- (d) no options exceeding an aggregate of 2% of the issued shares of the Corporation, calculated at the date an option is granted to the Consultant, may be granted to any one Consultant in a 12 month period;
- (e) no options exceeding an aggregate of 2% of the issued shares of the Corporation, calculated at the date an option is granted to any such Person, may be granted to all Persons retained to provide Investor Relations Activities in any 12 month period. Persons retained to provide Investor Relations Activities shall include any Consultant that performs Investor Relations Activities and any Employee or Director whose role and duties primarily consist of Investor Relations Activities.
- (f) Policy 4.4 requires that the Board of Directors, through the establishment of appropriate procedures, monitor the trading in the securities of the Issuer by all Optionees performing Investor Relations Activities. These procedures may include, for example, the establishment of a designated brokerage account through which the Optionee conducts all trades in the securities of the Issuer or a requirement for such Optionees to file insider trade reports with the Board.

5. Eligibility

(a) General

Options may be granted under the Plan to Directors, Employees, Consultants, and Consultant Companies of the Corporation and any of its subsidiaries (collectively the “Optionees” and individually an “Optionee”). Subject to the provisions of the Plan, the total number of Optioned Shares to be made available under the Plan and to each Optionee, the time or times and price or prices at which options shall be granted, the time or times at which such options are exercisable, and any conditions or restrictions on the exercise of options, shall be in the full and final discretion of the Board of Directors.

(b) Consultant Company and other Companies

Provided that a Form 4F (*Certification and Undertaking Required from a Company Granted an Incentive Stock Option*) duly completed and signed by the Optionee in the form attached hereto as Schedule “B” or such other form as may be amended by the TSX Venture Exchange from time to time, options may also be granted under the Plan to:

- (i) Except in relation to a Consultant Company, a company which is providing consulting services to the Corporation and is wholly owned by individuals eligible for an option grant.

(c) Management Company Employees

Options may also be granted to individuals (hereinafter referred to as “Management Company Employees”) employed by a company providing management services to the Corporation, which services are required for the ongoing successful operation of the business enterprise of the Corporation, except for services involving Investor Relations Activities.

(d) Options Granted to Employees, Consultants or Management Company Employees

The Corporation and the Optionee are responsible for ensuring and confirming that, in the event it wishes to grant options under the Plan to Employees, Consultants, Consultant Companies or Management Company Employees, it will only grant such options to Optionees who are bona fide Employees, Consultants, Consultant Companies or Management Company Employees, as the case may be.

6. Terms and Conditions

All options under the Plan shall be granted upon and subject to the terms and conditions hereinafter set forth.

(a) Exercise price

The exercise price to each Optionee for each Optioned Share shall be determined by the Board of Directors, but shall be:

- (i) not less than the last closing price of the Corporation's common shares as traded on the TSX Venture Exchange before the date of the stock option grant, unless the price determined by the Board of Directors is discounted, in which case shall not be less than the Discounted Market Price of the Corporation's common shares as traded on the TSX Venture Exchange, or
- (ii) such other price as may be agreed to by the Corporation and accepted by the TSX Venture Exchange,

provided that the exercise price for each Optioned Share in respect of options granted within 90 days of a Distribution by a Prospectus shall not be less than the greater of the Discounted Market Price and the price per share paid by public investors for listed shares of the Corporation under the Distribution.

(b) Reduction in the Exercise Price of Options Granted to Insiders

In the event the Corporation wishes to reduce the exercise price of any options held by Insiders of the Corporation at the time of the proposed reduction, the approval of the disinterested Shareholders of the Corporation will be required prior to the exercise of any such options at the reduced exercise price.

(c) Option Agreement

All options shall be granted under the Plan by means of an agreement (the "Option Agreement") between the Corporation and each Optionee in the form attached hereto as Schedule "A" or such other form as may be approved by the Board of Directors, such approval to be conclusively evidenced by the execution of the Option Agreement by any one director or officer of the Corporation, or otherwise as determined by the Board of Directors.

(d) Length of Grant

Subject to sections 6 (k), 6 (m), 6 (n), 6 (o), 6 (p) and 6 (s), all options granted under the Plan shall be for a term determined by the Board of Directors, provided that no options shall expire later than that date which is 10 years from the date such options were granted.

(e) Non-Assignability of Options

All options granted under the Plan are non-transferable and non-assignable (whether absolutely or by way of mortgage, pledge or other charge) by an Optionee other than by will or other testamentary instrument or the laws of succession (subject to section 6 (p) hereof) and may be exercisable during the lifetime of the Optionee only by such Optionee.

(f) Vesting Schedules

The following vesting schedules will apply to incentive stock options granted under the Plan. Each Optionee who is granted options under the Plan will become vested with the right to exercise one-quarter (1/4) of the options on the first anniversary of the grant and the remaining options vesting quarterly over the next three years, such that the Optionee will be vested with the right to exercise one hundred percent (100%) of the options granted upon the conclusion of forty-eight (48) months from the date of the grant of the options. The Board of Directors may, at the time of grant, apply a different vesting schedule for any or all options granted, including such schedule whereby the options will vest immediately, provided that options granted to Persons retained to provide "Investor Relations Activities" must vest in stages over a period of not less than 12 months with no more than one-quarter (1/4) of the options vesting in any three month period.

(g) Right to Postpone Exercise

Each Optionee, upon becoming entitled to exercise the option in respect of any Optioned Shares in accordance with the Option Agreement, shall thereafter be entitled to exercise the option to purchase such Optioned Shares at any time prior to the expiration or other termination of the Option Agreement or the option rights granted thereunder in accordance with such agreement.

(h) Exercise and Payment

Any option granted under the Plan may be exercised by an Optionee or, if applicable, the legal

representatives of an Optionee, giving notice to the Corporation specifying the number of shares in respect of which such option is being exercised, accompanied by payment (by bank draft or certified cheque/check payable to the Corporation) of the entire exercise price (determined in accordance with the Option Agreement) for the number of shares specified in the notice. Upon any such exercise of an option by an Optionee the Corporation shall cause the transfer agent and registrar of shares of the Corporation to promptly deliver to such Optionee or the legal representatives of such Optionee, as the case may be, a share certificate in the name of such Optionee or the legal representatives of such Optionee, as the case may be, representing the number of shares specified in the notice. If the Corporation has engaged an administrator to administer the Plan, such as an Internet-based administration platform, which also includes the availability of a broker-assisted exercise process, the Optionee agrees to follow the procedures established by the Corporation or such administrator with respect to the exercise of options.

(i) Rights of Optionees

The Optionees shall have no rights whatsoever as shareholders in respect of any of the Optioned Shares (including, without limitation, voting rights or any right to receive dividends, warrants or rights under any rights offering) other than Optioned Shares in respect of which Optionees have exercised their option to purchase and which have been issued by the Corporation.

(j) Effect of a Take-Over Bid

If a bona fide offer (an "Offer") for Shares is made to the Optionee or to shareholders of the Corporation generally or to a class of shareholders which includes the Optionee, which Offer, if accepted in whole or in part, would result in the offeror becoming a control person of the Corporation, within the meaning of subsection 1(1) of the Securities Act, the Corporation shall, immediately upon receipt of notice of the Offer, notify each Optionee of full particulars of the Offer, whereupon (subject to the approval of the Exchanges) all Option Shares subject to such Option will become fully vested and the Option may be exercised in whole or in part by the Optionee so as to permit the Optionee to tender the Option Shares received upon such exercise, pursuant to the Offer. However, if:

- (i) the Offer is not completed within the time specified therein; or
- (ii) all of the Option Shares tendered by the Optionee pursuant to the Offer are not taken up or paid for by the offeror in respect thereof;

then the Option Shares received upon such exercise, or in the case of clause (b) above, the Option Shares that are not taken up and paid for, may be returned by the Optionee to the Corporation and reinstated as authorized but unissued Shares and with respect to such returned Option Shares, the Option shall be reinstated as if it had not been exercised and the terms upon which such Option Shares were to become vested pursuant to section 6 (f) shall be reinstated. If any Option Shares are returned to the Corporation under this section 6 (g), the Corporation shall immediately refund the exercise price to the Optionee for such Option Shares.

(k) Acceleration of Expiry Date

If at any time when an Option granted under the Plan remains unexercised with respect to any Unissued Option Shares, an Offer is made by an offeror, the Directors may, upon notifying each Optionee of full particulars of the Offer, declare all Option Shares issuable upon the exercise of Options granted under the Plan, fully vested, and declare that the Expiry Date for the exercise of all unexercised Options granted under the Plan is accelerated so that all Options will either be exercised or will expire prior to the date upon which Shares must be tendered pursuant to the Offer. The Directors shall give each Optionee as much notice as possible of the acceleration of the Options under this section, except that not less than 5 business days' and not more than 30 calendar days' notice is required.

(l) Effect of a Change of Control

If a Change of Control occurs, all Option Shares subject to each outstanding Option will become fully vested, whereupon such Option may be exercised in whole or in part by the Optionee, subject to the approval of the Exchanges if necessary.

(m) Alterations in Shares

In the event of a stock dividend, subdivision, redivision, consolidation, share reclassification (other than

pursuant to the Plan), amalgamation, merger, corporate arrangement, reorganization, liquidation or the like, of or by the Corporation, the Board of Directors may make such adjustment, if any, of the number of Optioned Shares, or of the exercise price, or both, as it shall deem appropriate to give proper effect to such event. If because of a proposed merger, amalgamation or other corporate arrangement or reorganization, the exchange or replacement of shares in the Corporation for those in another corporation is imminent, the Board of Directors may, in a fair and equitable manner, determine the manner in which all unexercised option rights granted under the Plan shall be treated including, for example, requiring the acceleration of the time for the exercise of such rights by the Optionees and of the time for the fulfilment of any conditions or restrictions on such exercise. All determinations of the Board of Directors under this section 6 (m) shall be full and final.

(n) Termination for Cause

If an Optionee ceases to be either a Director, Employee, Consultant or Management Company Employee of the Corporation or of any of its subsidiaries as a result of having been dismissed from any such position for cause, all unexercised option rights of that Optionee under the Plan shall immediately become terminated and shall lapse, notwithstanding the original term of the option granted to such Optionee under the Plan.

(o) Termination Other Than For Cause

- (i) If an Optionee ceases to be either an Employee, Consultant or Management Company Employee of the Corporation or any of its subsidiaries for any reason other than as a result of having been dismissed for cause as provided in section 6 (n) or as a result of the Optionee's death, such Optionee shall have the right for a period of 90 days (or until the normal expiry date of the option rights of such Optionee if earlier) from the date of ceasing to be either an Employee, Consultant or Management Company Employee to exercise the option under the Plan with respect to all Optioned Shares of such Optionee to the extent they were exercisable on the date of ceasing to be either an Employee, Consultant or Management Company Employee. Upon the expiration of such 90 day period all unexercised option rights of that Optionee shall immediately become terminated and shall lapse notwithstanding the original term of the option granted to such Optionee under the Plan.
- (ii) If an Optionee ceases to be either a Director or Officer of the Corporation or any of its subsidiaries for any reason other than as a result of having been dismissed for cause as provided in section 6 (n) or as a result of the Optionee's death, such Optionee shall have the right for a period of one year (or until the normal expiry date of the option rights of such Optionee if earlier) from the date of ceasing to be either a Director or Officer to exercise the option under the Plan with respect to all Optioned Shares of such Optionee to the extent they were exercisable on the date of ceasing to be either a Director or Officer. Upon the expiration of such one year period all unexercised option rights of that Optionee shall immediately become terminated and shall lapse notwithstanding the original term of the option granted to such Optionee under the Plan.
- (iii) If an Optionee engaged in providing Investor Relations Activities to the Corporation ceases to be employed in providing such Investor Relations Activities, such Optionee shall have the right for a period of 30 days (or until the normal expiry date of the option rights of such Optionee if earlier) from the date of ceasing to provide such Investor Relations Activities to exercise the option under the Plan with respect to all Optioned Shares of such Optionee to the extent there were exercisable on the date of ceasing to provide such Investor Relations Activities. Upon the expiration of such 30-day period all unexercised option rights of that Optionee shall immediately become terminated and shall lapse notwithstanding the original term of the option granted to such Optionee under the Plan.

(p) Deceased Optionee

In the event of the death of any Optionee, the legal representatives of the deceased Optionee shall have the right for a period of one year (or until the normal expiry date of the option rights of such Optionee if earlier) from the date of death of the deceased Optionee to exercise the deceased Optionee's option with respect to all of the Optioned Shares of the deceased Optionee to the extent they were exercisable on the date of death. Upon the expiration of such period all unexercised option rights of the deceased Optionee shall immediately become terminated and shall lapse notwithstanding the original term of the option granted to the deceased Optionee under the Plan.

(q) Hold Period

In addition to any resale restrictions under securities legislation, securities regulation and securities rules, as amended, and the policies, notices, instruments and blanket orders in force from time to time that are applicable to an Issuer, and any other circumstances for which the Exchange Hold Period may apply, where the exercise price of the stock option is at a discount to the Market Price, all stock options and any Option Shares issued under stock options exercised prior to the expiry of the Exchange Hold Period must be legended with the Exchange Hold Period commencing on the date the stock options were granted.

(r) Cancelled or Expired Options

Options that have been cancelled or that have expired without being exercised continue to be issuable under the plan under which they were approved.

(s) Extension of Options during Blackout Period.

Stock options governed by this plan that have an expiry date which falls within a period (a “blackout period”) during which the Corporation prohibits Optionees from exercising their stock options are automatically extended as set out below. The following requirements are applicable to any such automatic extension provision:

- (i) The blackout period must be formally imposed by the Corporation pursuant to its internal trading policies as a result of the bona fide existence of undisclosed Material Information. For greater certainty, in the absence of the Corporation formally imposing a blackout period, the expiry date of any options will not be automatically extended in any circumstances.
- (ii) The blackout period must expire upon the general disclosure of the undisclosed Material Information. The expiry date of the affected stock options can be extended to no later than ten (10) business days after the expiry of the blackout period.
- (iii) The automatic extension of an Optionee’s options will not be permitted where the Optionee or the Issuer is subject to a cease trade order (or similar order under Securities Laws) in respect of the Issuer’s securities.

7. Amendment and Discontinuance of Plan

Subject to the acceptance of the Exchanges, the Board of Directors may from time to time amend or revise the terms of the Plan or may discontinue the Plan at any time, provided that no such action may in any manner adversely affect the rights under any options earlier granted to an Optionee under the Plan without the consent of that Optionee.

8. No Further Rights

Nothing contained in the Plan nor in any option granted hereunder shall give any Optionee or any other person any interest or title in or to any shares of the Corporation or any rights as a shareholder of the Corporation or any other legal or equitable right against the Corporation whatsoever other than as set forth in the Plan and pursuant to the exercise of any option, nor shall it confer upon the Optionees any right to continue as a Director, Employee or Consultant of the Corporation or of any of its subsidiaries.

9. Compliance with Laws

The obligations of the Corporation to sell shares and deliver share certificates under the Plan are subject to such compliance by the Corporation and the Optionees as the Corporation deems necessary or advisable with all applicable corporate and securities laws, rules and regulations.

Approved by the Shareholders on October 7, 2021.

SCHEDULE "A"

POET TECHNOLOGIES INC.

STOCK OPTION PLAN - OPTION AGREEMENT

This Option Agreement dated ● (the "Grant Date") is entered into between POET TECHNOLOGIES INC. ("the Corporation") and ● (the "Optionee") pursuant to the Corporation's Stock Option Plan (the "Plan"). A copy of the current version of the Plan is available for download from SEDAR (www.sedar.com) or from the Company's website (<http://www.poet-technologies.com/documents/Stock-Option-Plan.pdf>).

The parties agree and confirm that: (i) the Optionee was granted ● options (the "Options"), each option entitling the optionee to purchase one common share (an "Option Share" or collectively the "Optioned Shares") of the Corporation for the price of ● per share (the "Exercise Price"); (ii) the Options will vest according to the vesting schedule set forth below, and only the vested Options are exercisable; (iii) unless exercised or cancelled earlier, the Options expire and this agreement will terminate on ● (the "Expiry Date"); (iv) the Options are subject to the conditions set out in the Plan and subject to there being no objection by the TSX Venture Exchange to the grant of the Option to the Optionee.

[INSERT VEST SCHEDULE TABLE]

For greater certainty, the Options continue to be exercisable until the termination or cancellation thereof as provided in this Option Agreement and the Plan.

By signing this Option Agreement, the Optionee acknowledges that the Optionee (i) is either a bona fide Director, Officer, Employee, Consultant, or Management Company Employee of the Corporation (as defined in Policy 4.4 of the TSX Venture Exchange), (ii) has read and understands the Plan, and (iii) agrees to the terms and conditions of the Plan and this Option Agreement.

The Optionee hereby agrees to comply with all applicable Canadian securities laws, all applicable securities laws of the Subscriber's jurisdiction of residence and all applicable Rules, Regulations and Policies of the TSX Venture Exchange for the exercise of Options and the sale of the Optioned Shares. Any sale of shares issuable under this Option Agreement prior to the effective date of the exercise is considered a short sale under applicable securities laws.

The Corporation has engaged Solium Capital Inc. ("Solium") to administer the Plan using an Internet-based administration platform, which also includes the availability of a broker-assisted exercise process. The Optionee can exercise his Option by executing an "Exercise and Hold" or "Exercise and Sell" transaction by accessing Solium's website or by telephone. For Exercise and Hold transactions, the aggregate Exercise Price along with the applicable withholding income taxes ("Taxes") will need to be sent to the Secretary of the Corporation before the Optioned Shares can be issued and sent to the Optionee. For Exercise and Sell transactions, the aggregate Exercise Price along with the applicable Taxes will be paid to Corporation by Solium from the proceeds of the sale of the Optioned Shares.

Upon any exercise of Options pursuant to an Exercise and Sell transaction, if the Optionee is a person residing in the United States at the time of exercising his Option, the Optionee covenants, agrees and certifies that as at the date of such exercise,

- he is not an affiliate of the Corporation, as that term is defined in the U.S Securities Act of 1933, (or if he is, he is an affiliate of the Corporation only by virtue of being an officer or director of the Corporation),
- he has not offered, and has not instructed any person to offer, the Optioned Shares to a person in the United States;
- the sale of his Optioned Shares should only be executed in, on or through the facilities of The TSX Venture Exchange and neither he nor any person acting on his behalf know that a sale has been prearranged with a buyer in the United States,
- neither he nor any affiliate of his nor any person acting on his behalf has engaged or will engage in any directed selling efforts in the United States in connection with the offer and sale of such Optioned Shares,
- the sale will be bona fide and not for the purpose of "washing off" any resale restrictions imposed,
- he does not intend to replace the shares sold with fungible unrestricted securities; and
- his sale or contemplated sale is not a transaction, or part of a series of transactions which is part of a plan or scheme to evade the registration provisions of the 1933 Act.

Executed by the Corporation as of ●.

POET TECHNOLOGIES INC.

Acceptance

Per: _____

Authorized Signatory

OPTIONEE (Employee Number)

Dated:

SCHEDULE "B"



FORM 4F

**CERTIFICATION AND UNDERTAKING REQUIRED FROM A
COMPANY GRANTED AN INCENTIVE STOCK OPTION**

Re: _____ (the "Issuer")

Trading Symbol: _____

_____ (the "Option Holder") certifies that all securities of the Option Holder are owned by _____, a Person eligible to be granted an incentive stock option, and undertakes, for the duration of the time that the Option Holder is the holder of an incentive stock option in the securities of the Issuer, that it will not:

1. effect or permit any transfer of ownership or option of securities of the Option Holder; or
2. allot and issue further securities of any class of shares of the Option Holder to any other individual or entity.

Acknowledgement - Personal Information

"Personal Information" means any information about an identifiable individual, and includes the information contained in the first paragraph of this Form.

The undersigned hereby acknowledges and agrees that it has obtained the express written consent of each individual to:

- (a) the disclosure of Personal Information by the undersigned to the Exchange (as defined in Appendix 6A) pursuant to this Form; and
- (b) the collection, use and disclosure of Personal Information by the Exchange for the purposes described in Appendix 6A or as otherwise identified by the Exchange, from time to time.

Dated _____

[Name of Option Holder]

Authorized signatory