

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

Date of report (Date of earliest event reported) February 3, 2004

SENESCO TECHNOLOGIES, INC.

(Exact Name of Registrant as Specified in Charter)

Delaware	001-31326	84-1368850
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

303 George Street, Suite 420, New Brunswick, New Jersey	08901
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code (732) 296-8400

(Former Name or Former Address, if Changed Since Last Report)

ITEM 5. OTHER EVENTS.

Senesco Technologies, Inc., a Delaware corporation (the "Company"), entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with institutional and other accredited investors, pursuant to which the Company issued and sold an aggregate of approximately one million units at \$2.37 per unit, comprised of one share of newly issued common stock, \$0.01 par value per share (the "Common Stock"), and a five-year warrant to purchase 0.35 of a share of Common Stock at an exercise price of \$3.79 per share (the "Warrant").

The securities sold in this private placement have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), and may not be offered or sold in the United States in the absence of an effective registration statement or exemption from the registration requirements under the Securities Act. In accordance with the terms of the Registration Rights Agreement entered into by the Company and the investors in connection with this financing (the "Registration Rights Agreement"), the Company has agreed to file a resale registration statement on Form S-3 by March 18, 2004 to register, pursuant to the Securities Act, the shares of Common Stock and shares of Common Stock underlying the Warrants, acquired by the investors.

A complete copy of each of the form of Securities Purchase Agreement, Warrant and Registration Rights Agreement, and the related press release of the Company, are filed herewith as Exhibits 4.1, 10.1, 10.2 and 99.1, respectively, and are incorporated herein by reference. The foregoing descriptions of: (i) the Securities Purchase Agreement; (ii) the Warrants; (iii) the Registration Rights Agreement; and (iv) the press release and any other documents or filings referenced herein are qualified in their entirety by reference to such exhibits, documents or filings.

ITEM 7. FINANCIAL STATEMENTS, PRO FORMA FINANCIAL INFORMATION AND EXHIBITS.

(c) Exhibits.

Exhibit No. -----	Description of Exhibits -----
4.1	Form of Warrant issued to certain accredited investors (with attached schedule of parties and terms thereto).
10.1	Form of Securities Purchase Agreement by and between the Company and certain accredited investors (with attached schedule of parties and terms thereto).
10.2	Form of Registration Rights Agreement by and between the Company and certain accredited investors (with attached schedule of parties and terms thereto).
99.1	Press Release dated February 3, 2004, announcing the completion of the private placement.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SENESCO TECHNOLOGIES, INC.

By: /s/ Joel Brooks

Joel Brooks

Chief Financial Officer

February 3, 2004

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS
EXERCISE ARE SUBJECT TO THE RESTRICTIONS ON
TRANSFER SET FORTH IN SECTION 5 OF THIS WARRANT

Warrant No. _____ Number of Shares: _____
(subject to adjustment)

Date of Issuance: _____, 2004

Original Issue Date (as defined in subsection
2(a)): _____, 2004

SENESCO TECHNOLOGIES, INC.

Common Stock Purchase Warrant

(Void after _____, 2009)

SENESCO TECHNOLOGIES, INC., a Delaware corporation (the "Company"), pursuant to that certain Securities Purchase Agreement (the "Purchase Agreement"), dated as of the date hereof, by and among the Company and the Purchasers (as defined in the Purchase Agreement), for value received, hereby certifies that (the "Registered Holder"), is entitled,

subject to the terms and conditions set forth below, to purchase from the Company, at any time or from time to time on or after the date of issuance and on or before 5:00 p.m. (Eastern time) on _____, 2009, _____ shares of

Common Stock, \$0.01 par value per share, of the Company ("Common Stock"), at an exercise price of \$3.79 per share. The shares purchasable upon exercise of this Warrant, and the exercise price per share, each as adjusted from time to time pursuant to the provisions of this Warrant, are hereinafter referred to as the "Warrant Shares" and the "Exercise Price," respectively.

1. Exercise.

(a) Vesting. The Warrant Shares shall be immediately exercisable.

(b) Method of Exercise. The Registered Holder may, at its option,

elect to exercise this Warrant, in whole or in part and at any time or from time to time, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full, in lawful money of the United States, of the Exercise Price payable in respect of the number of Warrant Shares purchased upon such exercise.

(c) Exercise Date. Each exercise of this Warrant shall be deemed to

have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in subsection 1(b) above (the "Exercise Date"). At such time, the person or persons in whose name or names any certificates for Warrant Shares shall be issuable upon such exercise as provided in subsection 1(d) below shall be deemed to have become the holder or holders of record of the Warrant Shares represented by such certificates.

(d) Issuance of Certificates. As soon as practicable after the

exercise of this Warrant in whole or in part, and in any event within 10 days thereafter, the Company, at its expense, will cause to be issued in the name of, and delivered to, the Registered Holder, or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer taxes) may direct:

(i) a certificate or certificates for the number of full Warrant Shares to which the Registered Holder shall be entitled upon such exercise, which shall include, if applicable, the rounding of any fraction up to the nearest whole number of shares of Common Stock pursuant to Section 3 hereof; and

(ii) in case such exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the

face or faces thereof for the number of Warrant Shares equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of Warrant Shares for which this Warrant was so exercised.

2. Adjustments.

(a) Adjustment for Stock Splits and Combinations. If the Company

shall at any time or from time to time after the date on which this Warrant was first issued (or, if this Warrant was issued upon partial exercise of, or in replacement of, another warrant of like tenor, then the date on which such original warrant was first issued) (either such date being referred to as the "Original Issue Date") effect a subdivision of the outstanding Common Stock, the Exercise Price then in effect immediately before that subdivision shall be proportionately decreased. If the Company shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Exercise Price then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(b) Adjustment for Certain Dividends and Distributions. In the

event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Exercise Price then in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Exercise Price then in effect by a fraction:

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

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

provided, however, that if such record date shall have been fixed and such

dividend is not fully paid or if such distribution is not fully made on the date
fixed therefor, the Exercise Price shall be recomputed accordingly as of the
close of business on such record date and thereafter the Exercise Price shall be
adjusted pursuant to this paragraph as of the time of actual payment of such
dividends or distributions.

(c) Adjustment in Number of Warrant Shares. When any adjustment is

required to be made in the Exercise Price pursuant to subsections 2(a) or 2(b),
the number of Warrant Shares purchasable upon the exercise of this Warrant shall
be changed to the number determined by dividing (i) an amount equal to the
number of shares issuable upon the exercise of this Warrant immediately prior to
such adjustment, multiplied by the Exercise Price in effect immediately prior to
such adjustment, by (ii) the Exercise Price in effect immediately after such
adjustment.

(d) Adjustments for Other Dividends and Distributions. In the event

the Company at any time or from time to time after the Original Issue Date shall
make or issue, or fix a record date for the determination of holders of Common
Stock entitled to receive, a dividend or other distribution payable in
securities of the Company (other than shares of Common Stock) or in cash or
other property (other than regular cash dividends paid out of earnings or earned
surplus, determined in accordance with generally accepted accounting
principles), then and in each such event provision shall be made so that the
Registered Holder shall receive upon exercise hereof, in addition to the number
of shares of Common Stock issuable hereunder, the kind and amount of securities
of the Company, cash or other property which the Registered Holder would have
been entitled to receive had this Warrant been exercised on the date of such
event and had the Registered Holder thereafter, during the period from the date
of such event to and including the Exercise Date, retained any such securities
receivable during such period, giving application to all adjustments called for
during such period under this Section 2 with respect to the rights of the
Registered Holder.

(e) Adjustment for Reorganization. If there shall occur any

reorganization, recapitalization, reclassification, consolidation or merger
involving the Company in which the Common Stock is converted into or exchanged
for securities, cash or other property (other than a transaction covered by
subsections 2(a), 2(b) or 2(d)) (collectively, a "Reorganization"), then,
following such Reorganization, the Registered Holder shall receive upon exercise
hereof the kind and amount of securities, cash or other property which the
Registered Holder would have been entitled to receive pursuant to such
Reorganization if such exercise had taken place immediately prior to such
Reorganization. In any such case, appropriate adjustment (as determined in good
faith by the Board) shall be made in the application of the provisions set forth
herein with respect to the rights and interests thereafter of the Registered
Holder, to the end that the provisions set forth in this Section 2 (including
provisions with respect to changes in and other adjustments of the Exercise
Price) shall thereafter be applicable, as nearly as reasonably may be, in
relation to any securities, cash or other property thereafter deliverable upon
the exercise of this Warrant.

(f) Certificate as to Adjustments. Upon the occurrence of each

adjustment or readjustment of the Exercise Price pursuant to this Section 2, the
Company at its expense shall, as promptly as reasonably practicable but in any
event not later than 10 days thereafter, compute such adjustment or readjustment
in accordance with the terms hereof and furnish to the Registered Holder a
certificate setting forth such adjustment or readjustment (including the kind
and amount of securities, cash or other property for which this Warrant shall be
exercisable and

the Exercise Price) and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall, as promptly as reasonably practicable after the written request at any time of the Registered Holder (but in any event not later than 10 days thereafter), furnish or cause to be furnished to the Registered Holder a certificate setting forth (i) the Exercise Price then in effect and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the exercise of this Warrant.

3. Fractional Shares. The Company shall not be required upon the exercise of this Warrant to issue any fractions of shares of Common Stock or fractional Warrants; provided, however, that if the Registered Holder exercises this Warrant, any fractional shares of Common Stock shall be eliminated by rounding any fraction up to the nearest whole number of shares of Common Stock. The Registered Holder of this Warrant, by acceptance hereof, expressly waives his right to receive any fractional share of Common Stock or fractional Warrant upon exercise of this Warrant.

4. Investment Representations. The initial Registered Holder represents and warrants to the Company as follows:

(a) Investment. It is acquiring the Warrant, and (if and when it exercises this Warrant) it will acquire the Warrant Shares, for its own account for investment and not with a view to, or for sale in connection with, any distribution thereof, nor with any present intention of distributing or selling the same; and the Registered Holder has no present or contemplated agreement, undertaking, arrangement, obligation, indebtedness or commitment providing for the disposition thereof;

(b) Federal and State Compliance. The Registered Holder understands that this Warrant and any Warrant Shares purchased upon its exercise are securities, the issuance of which requires compliance with federal and state securities law, including the Securities Act of 1933, as amended (the "Act");

(c) Accredited Investor. The Registered Holder is an "accredited investor" as defined in Rule 501(a) under the Act;

(d) Experience. The Registered Holder has made such inquiry concerning the Company and its business and personnel as it has deemed appropriate; and the Registered Holder has sufficient knowledge and experience in finance and business that it is capable of evaluating the risks and merits of its investment in the Company; and

(e) Restricted Securities. The Registered Holder acknowledges and understands that the Warrant and Warrant Shares constitute restricted securities under the Act and must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available.

5. Transfers, etc.

(a) This Warrant may not be transferred in any manner other than by will or by the laws of descent or distribution and may be exercised during the lifetime of the Registered Holder only by the Registered Holder. The terms of this Warrant shall be binding upon the executors, administrators, heirs, successor and assigns of the Registered Holder.

(b) The Warrant Shares shall not be sold or transferred unless either (i) they first shall have been registered under the Act, or (ii) the Company first shall have been furnished with an opinion of legal counsel, reasonably satisfactory to the Company, to the effect that such sale or transfer is exempt from the registration requirements of the Act. Notwithstanding the foregoing, no registration or opinion of counsel shall be required for (i) a transfer by a Registered Holder which is an entity to a wholly owned subsidiary of such entity, a transfer by a Registered Holder which is a partnership to a partner of such partnership or a retired partner of such partnership or to the estate of any such partner or retired partner, or a transfer by a Registered Holder which is a limited liability company to a member of such limited liability company or a retired member or to the estate of any such member or retired member, provided that the transferee in each case agrees in writing to be subject to the terms of this Section 5, or (ii) a transfer made in accordance with Rule 144 under the Act.

(c) Each certificate representing Warrant Shares shall bear a legend substantially in the following form:

"The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended (the "Act"), and may not be offered, sold or otherwise transferred, pledged or hypothecated unless and until such securities are registered under such Act or an opinion of counsel satisfactory to the Company is obtained to the effect that such registration is not required."

The foregoing legend shall be removed from the certificates representing any Warrant Shares, at the request of the holder thereof, at such time as they become eligible for resale pursuant to Rule 144(k) under the Act.

(d) The Company will maintain a register containing the name and address of the Registered Holder of this Warrant. The Registered Holder may change its address as shown on the warrant register by written notice to the Company requesting such change.

6. Notices of Record Date, etc. In the event:

(a) the Company shall take a record of the holders of its Common Stock (or other stock or securities at the time deliverable upon the exercise of this Warrant) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right; or

(b) of any capital reorganization of the Company, any reclassification of the Common Stock of the Company, any consolidation or merger of the Company with or into another corporation (other than a consolidation or merger in which the Company is the surviving entity and its Common Stock is not converted into or exchanged for any other securities or property), or any transfer of all or substantially all of the assets of the Company; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company, then, and in each such case, the Company will send or cause to be sent to the

Registered Holder a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other stock or securities at the time deliverable upon the exercise of this Warrant) shall be entitled to exchange their shares of Common Stock (or such other stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up. Such notice shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

7. Reservation of Stock. The Company will at all times reserve and keep

available, solely for issuance and delivery upon the exercise of this Warrant, such number of Warrant Shares and other securities, cash and/or property, as from time to time shall be issuable upon the exercise of this Warrant.

8. Replacement Warrant. Upon receipt of evidence reasonably satisfactory

to the Company of the loss, theft, destruction or mutilation of this Warrant and (in the case of loss, theft or destruction) upon delivery of an indemnity agreement (with surety if reasonably required) in an amount reasonably satisfactory to the Company, or (in the case of mutilation) upon surrender and cancellation of this Warrant, the Company will issue, in lieu thereof, a new Warrant of like tenor.

9. Agreement in Connection with Public Offering. The Registered Holder

agrees, in connection with an underwritten public offering of the Company's securities pursuant to a registration statement under the Act, (i) not to sell, make short sale of, loan, grant any options for the purchase of, or otherwise dispose of any shares of Common Stock held by the Registered Holder (other than any shares included in the offering) without the prior written consent of the Company or the underwriters managing such underwritten public offering of the Company's securities for a period of 180 days from the effective date of such registration statement, and (ii) to execute any agreement reflecting clause (i) above as may be requested by the Company or the managing underwriters at the time of such offering.

10. Notices. All notices and other communications from the Company to the

Registered Holder in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable nationwide overnight courier service guaranteeing next business day delivery, to the address last furnished to the Company in writing by the Registered Holder. All notices and other communications from the Registered Holder to the Company in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable nationwide overnight courier service guaranteeing next business day delivery, to the Company at its principal office set forth below. If the Company should at any time change the location of its principal office to a place other than as set forth below, it shall give prompt written notice to the Registered Holder and thereafter all references in this Warrant to the location of its principal office at the particular time shall be as so specified in such notice. All such notices and communications shall be deemed delivered (i) two business days after being sent by certified or registered mail, return receipt requested, postage prepaid, or (ii) one business day after being sent via a reputable nationwide overnight courier service guaranteeing next business day delivery.

11. No Rights as Stockholder. Until the exercise of this Warrant, the

Registered Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Company.

12. Amendment or Waiver. This Warrant is one of a series of Warrants

issued by the Company, of like tenor, except as to the number of shares of Common Stock subject thereto (collectively, the "Company Warrants"). Any term of this Warrant may be amended or waived (either generally or in a particular instance and either retroactively or prospectively) with the written consent of the Company and the holders of Company Warrants representing at least 50% of the number of shares of Common Stock then subject to outstanding Company Warrants, and any such amendment or waiver shall apply to any and all Company Warrants, even though a particular Registered Holder did not consent. Notwithstanding the foregoing, (a) this Warrant may be amended and the observance of any term hereunder may be waived without the written consent of the Registered Holder only in a manner which applies to all Company Warrants in the same fashion and (b) the number of Warrant Shares subject to this Warrant and the Exercise Price of this Warrant may not be amended, and the right to exercise this Warrant may not be waived, without the written consent of the Registered Holder (it being agreed that an amendment to or waiver under any of the provisions of Section 2 of this Warrant shall not be considered an amendment of the number of Warrant Shares or the Exercise Price). The Company shall give prompt written notice to the Registered Holder of any amendment hereof or waiver hereunder that was effected without the Registered Holder's written consent. No waivers of any term, condition or provision of this Warrant, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

13. Section Headings. The section headings in this Warrant are for the

convenience of the parties and in no way alter, modify, amend, limit or restrict the contractual obligations of the parties.

14. Governing Law. This Warrant shall be governed by and construed in

accordance with the laws of the State of Delaware applicable in the case of agreements made and to be performed entirely within such State, without regard to principles of conflicts of law, and the parties hereto hereby submit to the exclusive jurisdiction of the state and federal courts located in the State of New Jersey.

15. Facsimile Signatures. This Warrant may be executed by facsimile

signature.

EXECUTED as of the Date of Issuance indicated above.

SENESCO TECHNOLOGIES, INC.

By:

Name: Bruce C. Galton
Title: President and Chief Executive Officer

EXHIBIT I

PURCHASE FORM

To: -----

Dated: -----

The undersigned, pursuant to the provisions set forth in the attached Warrant (No. _____), hereby elects to purchase _____ shares of the Common Stock of SENESCO TECHNOLOGIES, INC. covered by such Warrant.

The undersigned herewith makes payment of the full exercise price for such shares at the price per share provided for in such Warrant in lawful money of the United States in the amount of \$ _____.

[If an entity]

Entity Name: -----

By: -----

Name: -----

Title: -----

Address: -----

Telecopy: -----

[If an individual]

Name: -----

Address: -----

Telecopy: -----

SCHEDULE OF WARRANT HOLDERS

Name of Warrant Holder	Number of Shares of Common ----- Stock Underlying Warrant -----
Seneca Capital International Ltd.	98,945
Bost & Co FBO Raytheon Master Pension	52,500
Seneca Capital L.P.	48,734
Brown Brothers Harriman & Co. - New York Vault FBO Heartland Value Fund	35,000
Wm. Michael Phippen	22,152
St. Alban's Global Management	18,460
McLennan Holdco Inc.	18,460
Jack May	18,460
Spectra Capital Management, LLC	18,460
Richard Plue	14,768
Ruedi Stalder	11,076
Christopher Forbes	11,076

SECURITIES PURCHASE AGREEMENT (this "Agreement"), dated as of _____, 2004, by and among Senesco Technologies, Inc., a Delaware corporation (the "Company"), and those accredited investors listed on the signature pages attached hereto (individually, a "Purchaser" and, collectively, the "Purchasers").

W I T N E S S E T H :
- - - - -

WHEREAS, the Company desires to sell, transfer and assign to the Purchasers, and the Purchasers, severally and not jointly, desire to purchase from the Company: (i) shares (the "Shares") of the Company's authorized but unissued common stock, \$0.01 par value per share (the "Common Stock"); and (ii) warrants to purchase shares of Common Stock (the "Warrants", and, together with the Shares, the "Securities"), having an aggregate purchase price of up to \$4,500,000 (assuming full exercise of the Company's over-allotment option).

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein, the parties hereto, intending to be legally bound, hereby agree as follows:

SECTION I

PURCHASE AND SALE OF THE SECURITIES -----

A. Purchase and Sale. Subject to the terms and conditions of this Agreement and on the basis of the representations, warranties, covenants and agreements herein contained, the Company hereby agrees to sell, transfer, assign and convey the respective number of Securities to each Purchaser as set forth on the signature pages attached hereto, and each Purchaser, severally and not jointly, agrees to purchase, acquire and accept their respective number of Securities from the Company as set forth on the signature pages attached hereto.

B. Purchase Price. The Securities shall be sold hereunder as units consisting of one share of Common Stock and one Warrant to purchase 35% of the Shares sold to each Purchaser hereunder. The purchase price for each unit sold hereunder shall be \$2.37. The purchase price for the Securities shall be deposited by the Purchasers into an escrow account (the "Escrow Account") at J.P. Morgan Trust Company, N.A., pursuant to the terms of an escrow agreement, substantially in the form attached hereto as Exhibit A, in the amounts set forth on the signature pages attached hereto. The parties to this Agreement agree that, as soon as reasonably practicable after the date hereof, they shall allocate, in good faith, the purchase price between the Shares and Warrants so purchased.

C. Warrants. The Warrants shall have an exercise price equal to \$3.79 per share, shall be exercisable immediately and shall have a term of five years from the Closing Date.

D. Minimum/Maximum Investment Amount. In no event shall the funds deposited in the Escrow Account be released to the Company until such time as the aggregate funds deposited therein is at least equal to \$1,000,000 (the "Minimum Investment Amount"). In the event the Minimum Investment Amount is not deposited in the Escrow Account by January 15, 2004, the

escrow agent shall return the deposited funds to the Purchasers as soon as reasonably practicable. The maximum aggregate purchase price for the Securities sold hereunder shall be \$3,500,000; provided, however, that, the Company, in its sole discretion, may allow for an over-allotment option of up to \$1,000,000.

SECTION II

REPRESENTATIONS, WARRANTIES, COVENANTS AND AGREEMENTS OF THE COMPANY -----

The Company represents and warrants to, and covenants and agrees with, the Purchasers, as of the date hereof, that:

A. Organization; Good Standing. The Company is a corporation duly

organized, validly existing and in good standing under the laws of the State of Delaware and has full corporate power and authority to own its properties and to conduct the business in which it is now engaged.

B. Authority. The Company has the full corporate power, authority and

legal right to execute and deliver this Agreement and to perform all of its obligations and covenants hereunder, and no consent or approval of any other person or governmental authority is required therefor. The execution and delivery of this Agreement by the Company, the performance by the Company of its obligations and covenants hereunder and the consummation by the Company of the transactions contemplated hereby have been duly authorized by all necessary corporate action. This Agreement constitutes a valid and legally binding obligation of the Company, enforceable against the Company in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws affecting the enforceability of creditors' rights in general or by general principles of equity.

C. No Legal Bar; Conflicts. Neither the execution and delivery of this

Agreement, nor the consummation of the transactions contemplated hereby, violates any provision of the Certificate of Incorporation, as amended, or By-Laws of the Company or any law, statute, ordinance, regulation, order, judgment or decree of any court or governmental agency, or conflicts with or results in any breach of any of the terms of or constitutes a default under or results in the termination of or the creation of any lien pursuant to the terms of any contract or agreement to which the Company is a party or by which the Company or any of its assets is bound.

D. Non-Assessable Shares. The Securities being issued hereunder have been

duly authorized and, the Shares, when issued to the Purchasers for the consideration herein provided, and the shares of Common Stock issued upon the proper exercise of the Warrants, will be validly issued, fully paid and non-assessable.

SECTION III

REPRESENTATIONS, WARRANTIES, COVENANTS AND AGREEMENTS OF THE PURCHASERS -----

Each Purchaser, severally, and not jointly, represents and warrants to, and covenants and agrees with, the Company, as of the date hereof, that:

A. Organization (if applicable). The Purchaser is, and as of the Closing

Date will be, duly organized, validly existing and in good standing under the laws of its jurisdiction of organization.

B. Authorization. The Purchaser has, and as of the Closing Date will

have, all requisite power and authority to execute, deliver and perform this Agreement and to consummate the transactions contemplated hereby. The execution, delivery and performance of this Agreement, and the consummation of the transactions contemplated hereby, have been duly and validly authorized by all necessary action on the part of the Purchaser. This Agreement has been duly executed and delivered by the Purchaser and constitutes its legal, valid and binding obligation, enforceable against the Purchaser in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws affecting the enforceability of creditors' rights in general or by general principles of equity.

C. No Legal Bar; Conflicts. Neither the execution and delivery of this

Agreement, nor the consummation by the Purchaser of the transactions contemplated hereby, violates any law, statute, ordinance, regulation, order, judgment or decree of any court or governmental agency applicable to the Purchaser, or violates, or conflicts with, any contract, commitment, agreement, understanding or arrangement of any kind to which the Purchaser is a party or by which the Purchaser is bound.

D. No Litigation. No action, suit or proceeding against the Purchaser

relating to the consummation of any of the transactions contemplated by this Agreement nor any governmental action against the Purchaser seeking to delay or enjoin any such transactions is pending or, to the Purchaser's knowledge, threatened.

E. Investment Intent. The Purchaser: (i) is an accredited investor within

the meaning of Rule 501(a) under the Securities Act of 1933, as amended (the "Act"); (ii) is aware of the limits on resale imposed by virtue of the nature of the transactions contemplated by this Agreement, specifically the restrictions imposed by Rule 144 of the Act, and is aware that the certificates representing the Purchaser's respective ownership of the Securities will bear related restrictive legends; and (iii) except as otherwise set forth herein, is acquiring the shares of the Company hereunder without registration under the Act in reliance on the exemption from registration contained in Section 4(2) of the Act and/or Rule 506 promulgated pursuant to Regulation D of the Act, for investment for its own account, and not with a view toward, or for sale in connection with, any distribution thereof, nor with any present intention of distributing or selling such shares. The Purchaser represents that the Accredited Investor Questionnaire provided to the Company is true and complete in all respects. The Purchaser has been given the opportunity to ask questions of, and receive answers from, the officers of the Company regarding the Company, its current and proposed business operations and the Securities, and the officers of the Company have made

available to the Purchaser all documents and information that the Purchaser has requested relating to an investment in the Company. The Purchaser has been given the opportunity to retain competent legal counsel in connection with the purchase of the Securities and acknowledges that the Company has relied upon the Purchaser's representations in this Section 3 in offering and selling the Securities to the Purchaser.

F. Economic Risk; Restricted Securities. The Purchaser recognizes that the

investment in the Securities involves a number of significant risks. The foregoing, however, does not limit or modify the representations, warranties and agreements of the Company in Section 2 of this Agreement or the right of the Purchaser to rely thereon. The Purchaser is able to bear the economic risks of an investment in the Securities for an indefinite period of time, has no need for liquidity in such investment and, at the present time, can afford a complete loss of such investment.

G. Access to Information.

(i) The Purchaser has received and reviewed a copy of the following documents of the Company:

1. Annual Report on Form 10-KSB for the year ended June 30, 2003;
2. Definitive Proxy Statement for the 2003 Annual Meeting of Stockholders;
3. Quarterly Report on Form 10-QSB for the quarter ended September 30, 2003; and
4. Any press releases issued after the Company's most recently filed Form 10-QSB.

(ii) The Purchaser represents that it has not received any confidential information about the Company other than what has been disclosed in the public documents set forth above, and has had the opportunity to ask questions of, and receive answers from, the Company regarding the foregoing documents.

H. Suitability. The Purchaser has carefully considered, and has, to the

extent the Purchaser deems it necessary, discussed with the Purchaser's own professional legal, tax and financial advisers the suitability of an investment in the Securities for the Purchaser's particular tax and financial situation, and the Purchaser has determined that the Securities is a suitable investment.

I. Legend. The Purchaser acknowledges that the certificates evidencing the

Securities will bear the following legend:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). THE SHARES HAVE BEEN ACQUIRED FOR INVESTMENT AND MAY NOT BE PLEDGED, HYPOTHECATED, SOLD OR TRANSFERRED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SHARES UNDER SUCH ACT OR AN OPINION OF COUNSEL TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER THE ACT.

SECTION IV

THE CLOSING AND CONDITIONS TO CLOSING

A. Time and Place of the Closing. The initial closing shall be held at the

offices of Hale and Dorr LLP, 650 College Road East, Princeton, New Jersey 08540, on January 15, 2004. The Company may have subsequent closings at such other time and place as the Company and the Purchasers may mutually agree until February 2, 2004 (each, the "Closing Date").

B. Delivery by the Company. Delivery of the Securities shall be made by

the Company, or by its transfer agent, as applicable, to the Purchasers as soon as reasonably practicable after the Closing Date by delivering certificates representing their respective portion of Securities as set forth on the signature pages attached hereto, each such certificate to be accompanied by any requisite documentary or transfer tax stamps.

C. Delivery by the Purchasers. On or before the Closing Date, each

Purchaser shall deliver to the Company its respective portion of the aggregate purchase price, based on the number of Securities purchased by such Purchaser as set forth on the signature pages attached hereto, by certified bank check or by irrevocable wire transfer to the Company's escrow agent as per the escrow instructions attached hereto as Exhibit B; provided, however, that once the

amount deposited in the Escrow Account equals the Minimum Investment Amount (as defined below), the Purchasers shall deliver the purchase price directly to the Company as per the instructions attached hereto as Exhibit C.

D. Minimum Investment. The consummation of the sale and issuance of the

Securities hereunder shall be conditioned upon the Company receiving subscriptions of at least \$1,000,000.

E. Registration Rights Agreement. The Company shall deliver to each

Purchaser, and each Purchaser shall deliver to the Company, an executed copy of that certain Registration Rights Agreement made by and among the Company and the Purchasers of even date herewith, substantially in the form attached hereto as Exhibit D.

F. Other Conditions to Closing. As of the Closing Date, all requisite

action by the Company's Board of Directors shall have been taken pursuant to the By-Laws of the Company.

G. Expenses. The Company and each of the Purchasers shall bear their own

costs and expenses incurred in connection with the transactions contemplated hereby; provided, however, that the Company shall reimburse the lead investor

for their BONA FIDE expenses (including reasonable attorneys' fees) incurred in connection with the transactions contemplated hereby up to an amount not to exceed \$10,000. A Purchaser shall be deemed the lead investor if such Purchaser purchases Securities hereunder for an aggregate amount not less than \$1,000,000 and invests more than any other Purchaser. In the event two or more Purchasers invest an equal amount greater than \$1,000,000, the Company shall reimburse each of such Purchasers equally in an amount not to exceed \$10,000 in the aggregate.

SECTION V

MISCELLANEOUS

A. Entire Agreement. This Agreement contains the entire agreement between

the parties hereto with respect to the transactions contemplated hereby, and no modification hereof shall be effective unless in writing and signed by the party against which it is sought to be enforced.

B. Invalidity, Etc. If any provision of this Agreement, or the application

of any such provision to any person or circumstance, shall be held invalid by a court of competent jurisdiction, the remainder of this Agreement, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

C. Headings. The headings of this Agreement are for convenience of

reference only and are not part of the substance of this Agreement.

D. Binding Effect. This Agreement shall be binding upon and inure to the

benefit of the parties hereto and their respective successors and assigns.

E. Governing Law. This Agreement shall be governed by and construed in

accordance with the laws of the State of Delaware applicable in the case of agreements made and to be performed entirely within such State, without regard to principles of conflicts of law, and the parties hereto hereby submit to the exclusive jurisdiction of the state and federal courts located in the State of New Jersey.

F. Counterparts. This Agreement may be executed in one or more identical

counterparts, each of which shall be deemed an original but all of which together will constitute one and the same instrument.

* * * * *

IN WITNESS WHEREOF, this Agreement has been duly executed by the parties hereto as of the date first above written.

COMPANY:

Senesco Technologies, inc.

By:

Name: Bruce C. Galton
Title: President and Chief Executive Officer

PURCHASERS:

[If an entity]

Entity Name: -----

By:

Name: -----
Title: -----
Address: -----

Telecopy: -----

[If an individual]

Name: -----
Address: -----

Telecopy: -----

- (a) Investment Amount: \$ -----
- (b) ----- shares of Common Stock.

- (c) Warrant to purchase ----- shares of Common Stock.

EXHIBIT A

FORM OF ESCROW AGREEMENT

EXHIBIT B

ESCROW WIRE TRANSFER INSTRUCTIONS

EXHIBIT C

COMPANY TRANSFER INSTRUCTIONS

EXHIBIT D

REGISTRATION RIGHTS AGREEMENT

SCHEDULE OF PARTIES TO THE SECURITIES PURCHASE AGREEMENT

Name of Purchaser -----	Investment ----- Amount -----	Shares of ----- Common Stock ----- Issued -----	Shares ----- Underlying ----- Warrants Issued -----
Seneca Capital International Ltd.	\$670,000	282,700	98,945
Heartland Advisors, Inc., on behalf of the Raytheon Master Pension Trust Account	\$355,500	150,000	52,500
Seneca Capital L.P.	\$330,000	139,241	48,734
Heartland Group, Inc., on behalf of the Heartland Value Fund	\$237,000	100,000	35,000
Wm. Michael Phippen	\$150,000	63,291	22,152
St. Alban's Global Management	\$125,000	52,743	18,460
McLennan Holdco Inc.	\$125,000	52,743	18,460
Jack May	\$125,000	52,743	18,460
Spectra Capital Management, LLC	\$125,000	52,743	18,460
Richard Plue	\$100,000	42,194	14,768
Ruedi Stalder	\$75,000	31,646	11,076
Christopher Forbes	\$75,000	31,646	11,076

REGISTRATION RIGHTS AGREEMENT

This REGISTRATION RIGHTS AGREEMENT (the "Agreement") is dated as of _____, 2004 by and among Senesco Technologies, Inc., a Delaware corporation (the "Company"), and those persons listed on the signature pages attached hereto (individually, a "Purchaser" and, collectively, the "Purchasers").

RECITALS

WHEREAS, it is a condition precedent to the obligations of each Purchaser under that certain Securities Purchase Agreement made by and among the Purchasers and the Company, dated as of the date hereof (the "Securities Purchase Agreement"), that the Company grant registration rights for the shares of common stock of the Company, \$0.01 par value per share (the "Common Stock"), in connection with resales by the Purchasers of the Common Stock; and

WHEREAS, the Company and the Purchasers now desire to enter into this Agreement in order to facilitate such resales.

AGREEMENT

The parties hereto agree as follows:

ARTICLE 1

DEFINITIONS

1.1 Definitions. The following terms, as used herein, have the following meanings.

"Board" means the Board of Directors of the Company.

"Business Day" means any day except a Saturday, Sunday or other day on which banks in New Jersey are authorized by law to close.

"Common Stock" has the meaning given to it in the recitals to this Agreement.

"Closing Date" shall mean the final Closing Date as defined in the Securities Purchase Agreement.

"Commission" means the Securities and Exchange Commission.

"Company" means Senesco Technologies, Inc., a Delaware corporation.

"Effective Time" means the date of effectiveness of any Registration Statement.

"Exchange Act" means the Securities Exchange Act of 1934, as amended.

"Holder" has the meaning given to it in Section 2.1(b) hereof.

"NASD" means the National Association of Securities Dealers, Inc.

"Person" means an individual, corporation, partnership, association, trust or other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

"Prospectus" means the prospectus included in any Registration Statement, as amended or supplemented by any prospectus supplement and by all other amendments thereto, including post-effective amendments, and all material incorporated by reference into such Prospectus.

"Registration Statement" means a Registration Statement of the Company relating to the registration for sale of Common Stock, including the Prospectus included therein, all amendments and supplements thereto (including post-effective amendments) and all exhibits and materials incorporated by reference therein.

"Restricted Securities" means any Securities held by the Purchasers until (i) a Registration Statement covering such Securities has been declared effective by the Commission and such Securities have been disposed of pursuant to such effective Registration Statement, (ii) such Securities qualify to be sold under circumstances in Rule 144(k) (or any similar provisions then in force), (iii) such Securities are otherwise transferred, the Company has delivered a new certificate or other evidence of ownership for such Securities

not bearing a legend restricting further transfer and such Securities may be resold without registration under the Securities Act, or (iv) such Securities shall have ceased to be outstanding.

"SEC" means the U.S. Securities and Exchange Commission.

"Securities" means the shares of Common Stock held by the Purchaser on the date hereof, or issued upon the proper exercise of the Warrants issued to the Purchasers on the date hereof, and any securities issued in respect of such shares upon any stock split, stock dividend, recapitalization, merger, consolidation, reorganization or similar event.

"Securities Act" means the Securities Act of 1933, as amended.

"Securities Purchase Agreement" has the meaning given to it in the recitals to this Agreement.

"Warrants" shall have the meaning set forth in the Securities Purchase Agreement.

As used in this Agreement, words in the singular include the plural, and in the plural include the singular.

ARTICLE 2

REGISTRATION RIGHTS

2.1 Securities Subject to this Agreement. -----

(a) The Securities entitled to the benefits of this Agreement are the Restricted Securities, but only for so long as they remain Restricted Securities.

(b) A Person is deemed to be a holder of Restricted Securities (each, a "Holder") whenever such Person is the registered holder of such Restricted Securities on the Company's books and records.

2.2 Required Registration

(a) Within forty-five (45) days after the Closing Date (or, if the date that is forty-five (45) days after the Closing Date is not a business day, the next business day immediately following such date), the Company will prepare and file with the SEC a registration statement on Form S-3 or any successor form (except that if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, then such registration shall be on Form S-1, or Form S-2, as applicable, or any successor form) for the purpose of registering under the Securities Act all of the Registrable Securities for resale by, and for the account of, the Holders as selling stockholders thereunder (the "Registration Statement"). The Registration Statement shall permit the Holders to offer and sell, on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, any or all of the Registrable Securities. The Company agrees to use commercially reasonable efforts to cause the Registration Statement to become effective as soon as reasonably practicable. The Company shall use its commercially reasonable efforts to keep the Registration Statement effective until such date that is the earlier of (i) the date when all of the Registrable Securities registered thereunder shall have been sold or (ii) two (2) years after the Closing Date (the "Mandatory Registration Termination Date"). Thereafter, the Company shall be entitled to withdraw the Registration Statement and the Holders shall have no further right to offer or sell any of the Registrable Securities pursuant to the Registration Statement (or any prospectus relating thereto). In the event the right of the selling Holders to use the Registration Statement (and the prospectus relating thereto) is delayed or suspended pursuant to Sections 4(c) or 10 hereof, if the events described in subsection (a)(i) or (ii) have not yet occurred, the Company shall be required to extend the Mandatory Registration Termination Date by the same number of days as such delay or Suspension Period (as defined in Section 10 hereof), provided that such delay is not the result of the Holders' failure or delay to furnish information required under Section 5 hereof.

(b) In the event that the Registration Statement is not filed with the SEC within forty-five (45) days after the Closing Date (or, if the date that is forty-five (45) days after the Closing Date is not a business day, the next business day immediately following such date), the Company will pay, in cash, check or by wire transfer, to each Purchaser, one and one-half percent (1.5%) of the aggregate purchase price paid by the Purchaser for all Shares and Warrants sold to each such Purchaser pursuant to the Securities Purchase Agreement. For every additional forty-five (45) days that the Company continues to be delayed from filing the Registration Statement with the SEC, the Company will pay, in cash, check or by wire transfer, to each Purchaser, an additional one and one-half percent (1.5%) of the aggregate purchase price paid by the Purchaser for all Shares and Warrants sold to each such Purchaser pursuant to the Securities Purchase Agreement.

(c) Within three (3) business days after a Registration Statement that covers applicable Registrable Securities is declared effective by the SEC, the Company shall deliver, or shall cause legal counsel to deliver, to the transfer agent for such Registrable Securities (with copies to the Holders whose Registrable Securities are included in such Registration Statement)

confirmation that such Registration Statement has been declared effective by the SEC in such form as agreed to by counsel to the Company and counsel to the Holders at such time.

2.3 Registration Procedures. In connection with any Registration Statement

and any Prospectus required by this Agreement to permit the sale or resale of Restricted Securities, the Company shall:

(a) prepare and file with the Commission such amendments and post-effective amendments to such Registration Statement as may be necessary to keep such Registration Statement effective until the Mandatory Registration Termination Date; cause the Prospectus to be supplemented by any required Prospectus supplement, and as so supplemented to be filed pursuant to Rule 424 under the Securities Act, and to comply fully with the applicable provisions of Rules 424 and 430A, as applicable, under the Securities Act in a timely manner; and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such Registration Statement during the applicable period in accordance with the intended method or methods of distribution by the sellers thereof set forth in such Registration Statement or supplement or the Prospectus;

(b) promptly (and in respect of events covered by clause (i) hereof, within three (3) business days as the Company shall receive notice of effectiveness) advise the Holders covered by such Registration Statement and, if requested by such Persons, confirm such advice in writing, (i) when the Prospectus or any Prospectus supplement or post-effective amendment has been filed, and when the same has become effective, (ii) of any request by the Commission for post-effective amendments to such Registration Statement or post-effective amendments to such Registration Statement or post-effective amendments or supplements to the Prospectus or for additional information relating thereto, (iii) of the issuance by the Commission of any stop order suspending the effectiveness of any such Registration Statement under the Securities Act or of the suspension by any state securities commission of the qualification of the Restricted Securities for offering or sale in any jurisdiction, or the initiation of any proceeding for any of the preceding purposes, and (iv) of the existence of any fact or the happening of any event that makes any statement of a material fact made in any such Registration Statement, the related Prospectus, any amendment or supplement thereto, or any document incorporated by reference therein untrue, or that requires the making of any additions to or changes in any such Registration Statement or the related Prospectus in order to make the statements therein not misleading. If at any time the Commission shall issue any stop order suspending the effectiveness of such Registration Statement, or any state securities commission or other regulatory authority shall issue an order suspending the qualification or exemption from qualification of the Restricted Securities under state securities or Blue Sky laws, the Company shall use its reasonable efforts to obtain the withdrawal or lifting of such order at the earliest possible time;

(c) promptly furnish to each Holder of Restricted Securities covered by any Registration Statement, and each underwriter, if any, without charge, at least one conformed copy of any Registration Statement, as first filed with the Commission, and of each amendment thereto, including all documents incorporated by reference therein and all exhibits (including exhibits incorporated therein by reference) and any related correspondence between the

Company and its counsel or accountants and the Commission or staff of the Commission and such other documents as such Holder may reasonably request;

(d) deliver to each Holder covered by any Registration Statement, and each underwriter, if any, without charge, as many copies of the Prospectus (including each preliminary prospectus) and any amendment or supplement thereto as such Person reasonably may request;

(e) enter into such customary agreements and take all such other reasonable action in connection therewith (including those reasonably requested by the selling Holders or the underwriter(s), if any) required in order to expedite or facilitate the disposition of such Restricted Securities pursuant to such Registration Statement, including, but not limited to, dispositions pursuant to an underwritten registration, and in such connection:

(i) make such representations and warranties to the selling Holders and underwriter(s), if any, in form, substance and scope as are customarily made by issuers to underwriters in underwritten offerings (whether or not sales of securities pursuant to such Registration Statement are to be made to an underwriter(s)) and confirm the same if and when requested;

(ii) obtain opinions of counsel to the Company (which counsel and opinions, in form and substance, shall be reasonably satisfactory to the selling Holders and the underwriter(s), if any, and their respective counsel) addressed to each selling Holder and underwriter, if any, covering the matters customarily covered in opinions requested in underwritten offerings (whether or not sales of securities pursuant to such Registration Statement are to be made to an underwriter(s)) and dated the date of effectiveness of any Registration Statement (and, in the case of any underwritten sale of securities pursuant to such Registration Statement, each closing date of sales to the underwriter(s) pursuant thereto);

(iii) use reasonable efforts to obtain comfort letters dated the date of effectiveness of any Registration Statement (and, in the case of any underwritten sale of securities pursuant to such Registration Statement, each closing date of sales to the underwriter(s), if any, pursuant thereto) from the independent certified public accountants of the Company addressed to each selling Holder and underwriter, if any, such letters to be in customary form and covering matters of the type customarily covered in comfort letters in connection with underwritten offerings (whether or not sales of securities pursuant to such Registration Statement are to be made to an underwriter(s));

(iv) provide for the indemnification provisions and procedures of Section 2.7 hereof with respect to selling Holders and the underwriter(s), if any; and

(v) deliver such documents and certificates as may be reasonably requested by the selling Holders or the underwriter(s), if any, and which are customarily delivered in underwritten offerings (whether or not sales of securities pursuant to such Registration Statement are to be made to an underwriter(s), with such documents and certificates to be dated the date of effectiveness of any Registration Statement.

The actions required by clauses (i) through (v) above shall be done at each closing under such underwriting or similar agreement, as and to the extent required thereunder, and if at any time the representations and warranties of the Company contemplated in clause (i) above cease to be true and correct, the Company shall so advise the underwriter(s), if any, and each selling Holder promptly, and, if requested by such Person, shall confirm such advice in writing;

(f) prior to any public offering of Restricted Securities, cooperate with the selling Holders, the underwriter(s), if any, and their respective counsel in connection with the registration and qualification of the Restricted Securities under the securities or Blue Sky laws of such U.S. jurisdictions as the selling Holders or underwriter(s), if any, may reasonably request in writing by the time any Registration Statement is declared effective by the Commission, and do any and all other acts or filings necessary or advisable to enable disposition in such U.S. jurisdictions of the Restricted Securities covered by any Registration Statement and to file such consents to service of process or other documents as may be necessary in order to effect such registration or qualification; provided, however, that the Company shall not be required to register or qualify

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as a foreign corporation in any jurisdiction where it is not then so qualified or as a dealer in securities in any jurisdiction where it would not otherwise be required to register or qualify but for this Section 2.3, or to take any action that would subject it to the general service of process in suits or to general taxation, in any jurisdiction where it is not then so subject;

(g) in connection with any sale of Restricted Securities that will result in such securities no longer being Restricted Securities, cooperate with the selling Holders and the underwriter(s), if any, to facilitate the timely preparation and delivery of certificates representing Restricted Securities to be sold and not bearing any restrictive legends; and enable such Restricted Securities to be in such denominations and registered in such names as the Holders or the underwriter(s), if any, may request at least two (2) Business Days prior to any sale of Restricted Securities made by such underwriters;

(h) use its reasonable efforts to cause the disposition of the Restricted Securities covered by any Registration Statement to be registered with or approved by such other U.S. governmental agencies or authorities as may be necessary to enable the seller or sellers thereof or the underwriter(s), if any, to consummate the disposition of such Restricted Securities, subject to the proviso contained in Section 2.3(f);

(i) if any fact or event contemplated by Section 2.3(b) shall exist or have occurred, prepare a supplement or post-effective amendment to any Registration Statement or related Prospectus or any document incorporated therein by reference or file any other required document so that, as thereafter delivered to the purchasers of Restricted Securities, the Prospectus will not contain an untrue statement of a material fact or omit to state any material fact necessary to make the statement therein not misleading;

(j) cooperate and assist in the performance of any due diligence investigation by any underwriter (including any "qualified independent underwriter") that is required to be retained in accordance with the rules and regulations of the NASD, and use its reasonable efforts to cause any Registration Statement to become effective and approved by such U.S. governmental agencies or authorities as may be necessary to enable the Holders selling Restricted Securities to consummate the disposition of such Restricted Securities;

(k) otherwise use its reasonable efforts to comply with all applicable rules and regulations of the Commission, and make generally available to its security holders with regard to such Registration Statement, as soon as practicable, a consolidated earnings statement meeting the requirements of Rule 158 (which need not be audited) for the twelve (12)- month period (i) commencing at the end of any fiscal quarter in which Restricted Securities are sold to the underwriter in a firm or best efforts underwritten offering or (ii) if not sold to an underwriter in such an offering, beginning with the first month of the Company's first fiscal quarter commencing after the effective date of any Registration Statement;

(l) provide a CUSIP number for all Restricted Securities not later than the effective date of any Registration Statement;

(m) use its best efforts to list, not later than the effective date of such Registration Statement, all Restricted Securities covered by such Registration Statement on the NASD OTC Electronic Bulletin Board or any other trading market on which any Common Stock of the Company are then admitted for trading; and

(n) provide promptly to each Holder covered by any Registration Statement upon request each document filed with the Commission pursuant to the requirements of Section 12 and Section 14 of the Exchange Act.

Each Holder agrees by acquisition of a Restricted Security that, upon receipt of any notice from the Company of the existence of any fact of the kind described in Section 2.3(b)(iv), such Holder will forthwith discontinue disposition of Restricted Securities pursuant to any Registration Statement until such Holder's receipt of the copies of the supplemented or amended Prospectus contemplated by Section 2.3(i), or until it is advised in writing, in accordance with the notice provisions of Section 3.3 herein (the "Advice"), by the Company that the use of the Prospectus may be resumed, and has received copies of any additional or supplemental filings that are incorporated by reference in the Prospectus. If so directed by the Company, each Holder will deliver to the Company all copies, other than permanent file copies, then in such Holder's possession, of the Prospectus covering such Restricted Securities that was current at the time of receipt of such notice.

2.4 Preparation; Reasonable Investigation. In connection with the -----

preparation and filing of each Registration Statement under the Securities Act, the Company will give the Holders of Restricted Securities registered under such Registration Statement, their underwriter, if any, and their respective counsel and accountants, the opportunity to participate in the preparation of such Registration Statement, each prospectus included therein or filed with the Commission, and each amendment thereof or supplement thereto, and will give each of them access to its books and records and such opportunities to discuss the business, finances and accounts of the Company and its subsidiaries with its officers, directors and the independent public accountants who have certified its financial statements as shall be necessary, in the opinion of such Holders and such underwriters' respective counsel, to conduct a reasonable investigation within the meaning of the Securities Act.

2.5 Certain Rights of Holders. The Company will not file any Registration -----

Statement under the Securities Act which refers to any Holder of Restricted Securities by name or

otherwise without the prior approval of such Holder, which consent shall not be unreasonably withheld or delayed.

2.6 Registration Expenses.

(a) All expenses incident to the Company's performance of or compliance with this Agreement will be borne by the Company, regardless of whether a Registration Statement becomes effective, including without limitation: (i) all registration and filing fees and expenses (including filings made with the NASD and reasonable counsel fees in connection therewith); (ii) all reasonable fees and expenses of compliance with federal securities and state Blue Sky or securities laws (including all reasonable fees and expenses of one counsel to the underwriter(s) in any underwriting) in connection with compliance with state Blue Sky or securities laws for all states in the United States; (iii) all expenses of printing, messenger and delivery services and telephone calls; (iv) all fees and disbursements of counsel for the Company; and (v) all fees and disbursements of independent certified public accountants of the Company (including the expenses of any special audit and comfort letters required by or incident to such performance), but excluding from this paragraph, fees and expenses of counsel to the underwriter(s), if any, unless otherwise set forth herein.

(b) The Company will not be responsible for any underwriting discounts, commissions or fees attributable to the sale of Restricted Securities or any legal fees or disbursements (other than any such fees or disbursements relating to Blue Sky compliance or otherwise as set forth under Section 2.6(a)) incurred by any underwriters in any underwritten offering if the underwriter participates in such underwritten offering at the request of the Holders of Restricted Securities, or any transfer taxes that may be imposed in connection with a sale or transfer of Restricted Securities.

(c) The Company shall, in any event, bear its internal expenses (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expenses of any annual audit and the fees and expenses of any Person, including special experts, retained by the Company.

2.7 Indemnification; Contribution.

(a) The Company agrees to indemnify and hold harmless (i) each Holder covered by any Registration Statement, (ii) each other Person who participates as an underwriter in the offering or sale of such securities, (iii) each Person, if any, who controls (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) any such Holder or underwriter (any of the Persons referred to in this clause (iii) being hereinafter referred to as a "controlling Person"), and (iv) the respective officers, directors, partners, employees, representatives and agents of any such Holder or underwriter or any controlling Person (any Person referred to in clause (i), (ii), (iii) or (iv) may hereinafter be referred to as an "indemnified Person"), to the fullest extent lawful, from and against any and all losses, claims, damages, liabilities, judgments or expenses, joint or several (or actions or proceedings, whether commenced or threatened, in respect thereof) (collectively, "Claims"), to which such indemnified Person may become subject under either Section 15 of the Securities Act or Section 20 of the Exchange Act or otherwise, insofar as such Claims arise out of or are based upon, or are caused

by any untrue statement or alleged untrue statement of a material fact contained in any Registration Statement or Prospectus (or any amendment or supplement thereto), or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or a violation by the Company of the Securities Act or any state securities law, or any rule or regulation promulgated under the Securities Act or any state securities law, or any other law applicable to the Company relating to any such registration or qualification, except insofar as such losses, claims, damages, liabilities, judgments or expenses of any such indemnified Person; (x) are caused by any such untrue statement or omission or alleged untrue statement or omission that is based upon information relating to such indemnified Person furnished in writing to the Company by or on behalf of any of such indemnified Person expressly for use therein; (y) with respect to the preliminary Prospectus, result from the fact that such Holder sold Securities to a Person to whom there was not sent or given, at or prior to the written confirmation of such sale, a copy of the Prospectus, as amended or supplemented, if the Company shall have previously furnished copies thereof to such Holder in accordance with this Agreement and said Prospectus, as amended or supplemented, would have corrected such untrue statement or omission; or (z) as a result of the use by an indemnified Person of any Prospectus when, upon receipt of a notice from the Company of the existence of any fact of the kind described in Section 2.3(b)(iv), the indemnified Person or the related Holder was not permitted to do so. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of any indemnified Person and shall survive the transfer of such securities by such Holder.

In case any action shall be brought or asserted against any of the indemnified Persons with respect to which indemnity may be sought against the Company, such indemnified Person shall promptly notify the Company and the Company shall assume the defense thereof. Such indemnified Person shall have the right to employ separate counsel in any such action and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of the indemnified Person unless (i) the employment of such counsel shall have been specifically authorized in writing by the Company, (ii) the Company shall have failed to assume the defense and employ counsel, or (iii) the named parties to any such action (including any implied parties) include both the indemnified Person and the Company and the indemnified Person shall have been advised in writing by its counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the Company (in which case the Company shall not have the right to assume the defense of such action on behalf of the indemnified Person), it being understood, however, that the Company shall not, in connection with such action or similar or related actions or proceedings arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) at any time for all the indemnified Persons, which firm shall be (x) designated by such indemnified Persons; and (y) reasonably satisfactory to the Company. The Company shall not be liable for any settlement of any such action or proceeding effected without the Company's prior written consent, which consent shall not be withheld unreasonably, and the Company agrees to indemnify and hold harmless any indemnified Person from and against any loss, claim, damage, liability, judgment or expense by reason of any settlement of any action effected with the written consent of the Company. The Company shall not, without the prior written consent of each indemnified Person, settle or compromise or consent to the entry of judgment on or otherwise seek to terminate any pending or threatened action, claim, litigation or proceeding in respect of which

indemnification or contribution may be sought hereunder (whether or not any indemnified Person is a party thereto), unless such settlement, compromise, consent or termination includes an unconditional release of each indemnified Person from all liability arising out of such action, claim litigation or proceeding.

(b) Each Holder of Restricted Securities covered by any Registration Statement agrees, severally and not jointly, to indemnify and hold harmless the Company and its directors, officers and any Person controlling (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) the Company, and the respective officers, directors, partners, employees, representatives and agents of each, to the same extent as the foregoing indemnity from the Company to each of the indemnified Persons, but only (i) with respect to actions based on information relating to such Holder furnished in writing by or on behalf of such Holder expressly for use in any Registration Statement or Prospectus, and (ii) to the extent of the gross proceeds, if any, received by such Purchaser from the sale or other disposition of his or its Restricted Securities covered by such Registration Statement. In case any action or proceeding shall be brought against the Company or its directors or officers or any such controlling Person in respect of which indemnity may be sought against a Holder of Restricted Securities covered by any Registration Statement, such Holder shall have the rights and duties given the Company in Section 2.7(a) (except that the Holder may but shall not be required to assume the defense thereof), and the Company or its directors or officers or such controlling Person shall have the rights and duties given to each Holder by Section 2.7(a).

(c) If the indemnification provided for in this Section 2.7 is unavailable to an indemnified party under Section 2.7(a) or (b) (other than by reason of exceptions provided in those Sections) in respect of any losses, claims, damages, liabilities, judgments or expenses referred to therein, then each applicable indemnifying party (in the case of the Holders severally and not jointly), in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims damages, liabilities, judgments or expenses (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Holder on the other hand from sale of Restricted Securities, or (ii) if such allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and such Holder in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities, judgments or expenses, as well as any other relevant equitable considerations. The relative fault of the Company on the one hand and of such Holder on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or by such Holder and the parties relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The amount paid to a party as a result of the losses, claims, damages, liabilities judgments and expenses referred to above shall be deemed to include, subject to the limitations set forth in the second paragraph of Section 2.7(a), any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim.

The Company and each Holder of Restricted Securities covered by any Registration Statement agree that it would not be just and equitable if contribution pursuant to this Section

2.7(c) were determined by pro rata allocation (even if the Holders were treated as one entity for such purpose) or by any other method of allocation which does not take into account the equitable considerations referred to in the immediately preceding paragraph. Notwithstanding the provisions of this Section 2.7(c), no Holder (and none of its related indemnified Persons) shall be required to contribute, in the aggregate, any amount in excess of the amount by which the dollar amount of proceeds received by such Holder upon the sale of the Restricted Securities exceeds the amount of any damages which such Holder has otherwise been required to pay by reason of such untrue statement or omission or alleged omission. No Person guilty of fraudulent misrepresentations (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation.

The indemnity and contribution provisions contained in this Section 2.7 are in addition to any liability which the indemnifying Person may otherwise have to the indemnified Persons referred to above.

2.8 Participation in Underwritten Registrations. No Holder may participate

in any underwritten registration hereunder unless such Holder (a) agrees to sell such Holder's Restricted Securities on the basis provided in any underwriting arrangements approved by the Persons entitled hereunder to approve such arrangements and (b) completes and executes all reasonable questionnaires, powers of attorney, indemnities, underwriting agreements, lock-up letters and other documents required under the terms of such underwriting arrangements.

2.9 Selection of Underwriters. The Holders of Restricted Securities

covered by any Registration Statement who desire to do so may sell such Restricted Securities in an underwritten offering. In any such underwritten offering, the investment banker or investment bankers and manager or managers that will administer the offering will be selected by the Company. Such investment bankers and managers are referred to herein as the "underwriters."

ARTICLE 3

MISCELLANEOUS

3.1 Entire Agreement. This Agreement, together with the Securities

Purchase Agreement, constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreement and understandings, both oral and written, between the parties with respect to the subject matter hereof.

3.2 Successors and Assigns and Heirs. This Agreement shall inure to the

benefit of and be binding upon the successors and assigns and heirs of each of the parties, including, without limitation and without the need for an express assignment, subsequent Holders of Restricted Securities; provided, however, that

this Agreement shall not inure to the benefit of or be binding upon a successor or assign of a Holder unless and to the extent such successor or assign or heirs acquired Restricted Securities from such Holder at a time when such Holder could not transfer such Restricted Securities pursuant to any Registration Statement or pursuant to Rule 144(k) under the Securities Act as contemplated by clause (ii) of the definition of Restricted Securities.

3.3. Notices. All notices and other communications given or made pursuant

hereto or pursuant to any other agreement among the parties, unless otherwise specified, shall be in writing and shall be deemed to have been duly given or made if sent by telecopy (with confirmation in writing), delivered personally or by overnight courier or sent by registered or certified mail (postage prepaid, return receipt requested) to the parties at the telecopy number, if any, or address set forth below or at such other addresses as shall be furnished by the parties by like notice. Notices sent by telecopier shall be effective when receipt is acknowledged, notices delivered personally or by overnight courier shall be effective upon receipt and notices sent by registered or certified mail shall be effective three (3) days after mailing:

if to a Holder: to such Holder at the address set forth on the records of the Company as the record owners of the Common Stock

if to the Company: Senesco Technologies, Inc.
303 George Street, Suite 420
New Brunswick, New Jersey 08901
Telephone: (732) 296-8400
Telecopy: (732) 296-9292
Attention: Bruce C. Galton
President and Chief Executive Officer

with copies to: Hale and Dorr LLP
650 College Road East
Princeton, New Jersey 08540
Telephone: (609) 750-7600
Telecopy: (609) 750-7700
Attention: Emilio Ragosa, Esq.

3.4 Headings. The headings contained in this Agreement are for convenience

only and shall not affect the meaning or interpretation of this Agreement.

3.5 Counterparts. This Agreement may be executed in any number of

counterparts, each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same instrument.

3.6 Applicable Law. This Agreement shall be governed by and construed in

accordance with the laws of the State of Delaware applicable in the case of agreements made and to be performed entirely within such State, without regard to principles of conflicts of law, and the parties hereto hereby submit to the exclusive jurisdiction of the state and federal courts located in the State of New Jersey.

3.7 Specific Enforcement. Each party hereto acknowledges that the remedies

at law of the other parties for a breach or threatened breach of this Agreement would be inadequate, and, in recognition of this fact, any party to this Agreement, without posting any bond, and in addition to all other remedies which may be available, shall be entitled to obtain equitable relief in the form of specific performance, a temporary restraining order, a temporary to permanent injunction or any other equitable remedy which may then be available.

3.8 Amendment and Waivers; Subordination. The provisions of this Agreement

may not be amended, modified or supplemented, and waivers or consents to or departures from the provisions hereof may not be given unless the Company has obtained the written consent of the Holders of a majority of the Restricted Securities affected thereby.

3.9 Eligibility under Rule 144. With a view to making available to the

Purchasers the benefits of Rule 144 promulgated under the Securities Act or any other similar rule or regulation of the Commission that may at any time permit the Purchasers to sell securities of the Company to the public without registration, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144;

(b) file with the Commission in a timely manner all reports and other documents required of the Company under the Exchange Act so long as the Company remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144; and

(c) furnish to each Purchaser so long as such Purchaser owns Restricted Securities, promptly upon request (i) a written statement by the Company that it has complied with the reporting requirements of the Exchange Act, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested to permit the investors to sell such securities pursuant to Rule 144 without registration.

* * * * *

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be
duly executed as of the day and year first above written.

COMPANY:

SENESCO TECHNOLOGIES, INC.

By:

Name: Bruce C. Galton
Title: President and Chief Executive Officer

PURCHASERS:

[If an entity]

Entity Name: -----

By:

Name: -----

Title: -----

Address: -----

Telecopy: -----

[If an individual]

Name: -----

Address: -----

Telecopy: -----

SCHEDULE OF PARTIES TO THE REGISTRATION RIGHTS AGREEMENT

Name of Purchaser	Number of Shares of ----- Common Stock to be ----- Registered	Number of Shares of ----- Common Stock Underlying ----- Warrants to be Registered
Seneca Capital International Ltd.	282,700	98,945
Heartland Advisors, Inc., on behalf of the Raytheon Master Pension Trust Account	150,000	52,500
Seneca Capital L.P.	139,241	48,734
Heartland Group, Inc., on behalf of the Heartland Value Fund	100,000	35,000
Wm. Michael Phippen	63,291	22,152
St. Alban's Global Management	52,743	18,460
McLennan Holdco Inc.	52,743	18,460
Jack May	52,743	18,460
Spectra Capital Management, LLC	52,743	18,460
Richard Plue	42,194	14,768
Ruedi Stalder	31,646	11,076
Christopher Forbes	31,646	11,076

[GRAPHIC OMITTED]

COMPANY CONTACT:

Senesco Technologies, Inc.
(732) 296-8400
Joel Brooks
Chief Financial Officer
(jbrooks@senesco.com)

INVESTOR RELATIONS CONTACTS:

Lippert/Heilshorn & Associates
Kim Sutton Golodetz
(kgolodetz@lhai.com)

John Quirk(jquirk@lhai.com)
(212) 838-3777
Bruce Voss
(bvoss@lhai.com)

(310) 691-7100

SENESCO TECHNOLOGIES COMPLETES \$2.5 MILLION FINANCING

NEW BRUNSWICK, N.J. (February 3, 2004) - Senesco Technologies, Inc. ("Senesco" or the "Company") (AMEX: SNT) has completed a private placement of approximately one million units at \$2.37 per unit, comprised of one share of newly issued common stock and a warrant to purchase 0.35 of a share of common stock at an exercise price of \$3.79 per share to institutional and other accredited investors. Aggregate proceeds to the Company were approximately \$2.5 million. In connection with the private placement, Senesco has agreed to file a registration statement on Form S-3 by March 18, 2004 to register the shares of common stock and the shares underlying the warrants.

"We have been making progress with the research and development of our proprietary Factor 5A gene technology for both agricultural and human health applications," commented Bruce Galton, Senesco's President and CEO. "We believe that this financing provides sufficient funds so that we can continue to execute our operating and research plans at least through June 2005."

ABOUT SENESCO TECHNOLOGIES, INC.

Senesco takes its name from the scientific term for the aging of plant cells: senescence. The Company has developed technology that regulates the onset of cell death. Delaying cell breakdown in plants extends freshness after harvesting, while increasing crop yields, plant size and resistance to environmental stress for flowers, fruits and vegetables. The Company believes that its technology can be used to develop superior strains of crops without any modification other than delaying natural plant senescence. Senesco has begun to explore ways to trigger or delay cell death in mammals (apoptosis) to determine if the technology is applicable in human medicine. Accelerating apoptosis may have applications to development of cancer treatments. Delaying apoptosis may have applications to certain diseases such as Alzheimer's, glaucoma, ischemia and arthritis, among others. Senesco partners with leading-edge companies and earns research and development fees for applying its gene-regulating platform technology to enhance its partners' products. Senesco is headquartered in New Brunswick, New Jersey, and utilizes research laboratories at the University of Waterloo in Ontario, Canada and the University of Colorado in Denver, Colorado.

CERTAIN STATEMENTS INCLUDED IN THIS PRESS RELEASE ARE FORWARD-LOOKING STATEMENTS WITHIN THE MEANING OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995. ACTUAL RESULTS COULD DIFFER MATERIALLY FROM SUCH STATEMENTS EXPRESSED OR IMPLIED HEREIN AS A RESULT OF A VARIETY OF FACTORS, INCLUDING, BUT NOT LIMITED TO: THE DEVELOPMENT OF THE COMPANY'S GENE TECHNOLOGY; THE APPROVAL OF THE COMPANY'S PATENT APPLICATIONS; THE SUCCESSFUL IMPLEMENTATION OF THE COMPANY'S RESEARCH AND DEVELOPMENT PROGRAMS AND JOINT VENTURES; THE SUCCESS OF THE COMPANY'S LICENSE AGREEMENTS; THE SUCCESSFUL CONVERSION OF THE COMPANY'S LETTER OF INTENT INTO A LICENSE AGREEMENT; THE ACCEPTANCE BY THE MARKET OF THE COMPANY'S PRODUCTS; COMPETITION AND THE TIMING OF PROJECTS AND TRENDS IN FUTURE OPERATING PERFORMANCE, AS WELL AS OTHER FACTORS EXPRESSED FROM TIME TO TIME IN THE COMPANY'S PERIODIC FILINGS WITH THE SECURITIES AND EXCHANGE COMMISSION (THE "SEC"). AS A RESULT, THIS PRESS RELEASE SHOULD BE READ IN CONJUNCTION WITH THE COMPANY'S PERIODIC FILINGS WITH THE SEC. THE FORWARD-LOOKING STATEMENTS CONTAINED HEREIN ARE MADE ONLY AS OF THE DATE OF THIS PRESS RELEASE, AND THE COMPANY UNDERTAKES NO OBLIGATION TO PUBLICLY UPDATE SUCH FORWARD-LOOKING STATEMENTS TO REFLECT SUBSEQUENT EVENTS OR CIRCUMSTANCES.

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