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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

x **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended December 31, 2008

or

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File No. 001-31326

SENESCO TECHNOLOGIES, INC.
(exact name of registrant as specified in its charter)

Delaware	**84-1368850**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

303 George Street, Suite 420
New Brunswick, New Jersey 08901
(Address of principal executive offices)

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

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the past 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes: x No: o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "accelerated filer", "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o	Accelerated filer o
Smaller reporting company x	Non-accelerated filer o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes: o No: x

As of January 31, 2009, 19,027,719 shares of the issuer's common stock, par value $0.01 per share, were outstanding.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

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PART I. FINANCIAL INFORMATION.

Item 1. Financial Statements.

Certain information and footnote disclosures required under United States generally accepted accounting principles have been condensed or omitted from the following consolidated financial statements pursuant to the rules and regulations of the Securities and Exchange Commission. However, Senesco Technologies, Inc., a Delaware corporation, and its wholly owned subsidiary, Senesco, Inc., a New Jersey corporation (collectively, "Senesco" or the "Company"), believe that the disclosures are adequate to assure that the information presented is not misleading in any material respect.

The results of operations for the interim periods presented herein are not necessarily indicative of the results to be expected for the entire fiscal year.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED BALANCE SHEETS

	December 31, 2008 (unaudited)	June 30, 2008
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 1,115,788	$ 5,676,985
Short-term investments	2,500,000	500,000
Prepaid expenses and other current assets	828,919	180,556
Total Current Assets	4,444,707	6,357,541
Property and equipment, net	3,893	5,459

Intangibles, net	3,515,565	3,213,543
Deferred financing costs	847,385	1,059,230
Security deposit	7,187	7,187
TOTAL ASSETS	$ 8,818,737	$ 10,642,960
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 468,280	$ 370,167
Accrued expenses	413,684	314,267
Total Current Liabilities	881,964	684,434
Convertible note, net of discount	609	57
Grant payable	99,728	99,728
Other liability	19,539	23,062
TOTAL LIABILITIES	1,001,840	807,281
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value; authorized 5,000,000 shares, no shares issued	—	—
Common stock, $0.01 par value; authorized 100,000,000 shares, issued and outstanding 19,027,719 and 18,375,117, respectively	190,277	183,751
Capital in excess of par	40,655,397	39,874,958
Deficit accumulated during the development stage	(33,028,777)	(30,223,030)
TOTAL STOCKHOLDERS' EQUITY	7,816,897	9,835,679
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 8,818,737	$ 10,642,960

See Notes to Condensed Consolidated Financial Statements.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	For the Three Months Ended December 31, 2008	For the Three Months Ended December 31, 2007	For the Six Months Ended December 31, 2008	For the Six Months Ended December 31, 2007	From Inception on July 1, 1998 through December 31, 2008
Revenue	$ —	$ 6,250	$ 200,000	$ 377,500	$ 1,375,000
Operating Expenses:					
General and administrative	649,056	585,851	1,178,921	974,910	22,904,377
Research and development	579,286	392,254	1,083,672	745,149	11,041,267
Total Operating Expenses	1,228,342	978,105	2,262,593	1,720,059	33,945,644
Loss From Operations	(1,228,342)	(971,855)	(2,062,593)	(1,342,559)	(32,570,644)
Sale of state income tax loss, net	—	—	—	—	586,442
Other noncash income	—	—	—	—	321,259
Interest income, net	17,994	25,227	41,051	32,106	521,288
Amortization of debt discount and financing costs	(106,342)	(38,374)	(212,397)	(53,595)	(881,160)
Interest expense on convertible notes	(307,651)	(64,836)	(571,808)	(67,836)	(1,005,962)
Net Loss	$ (1,624,341)	$ (1,049,838)	$ (2,805,747)	$ (1,431,884)	$ (33,028,777)
Basic and Diluted Net Loss Per Common Share	$ (0.09)	$ (0.06)	$ (0.15)	$ (0.08)	
Basic and Diluted Weighted Average Number of Common Shares Outstanding	18,629,575	17,474,870	18,504,477	17,474,282	

See Notes to Condensed Consolidated Financial Statements.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2008
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Common stock outstanding	2,000,462	$ 20,005	$ (20,005)	—	—
Contribution of capital	—	—	85,179	—	$ 85,179
Issuance of common stock in reverse merger on January 22, 1999 at $0.01 per share	3,400,000	34,000	(34,000)	—	—
Issuance of common stock for cash on May 21, 1999 at $2.63437 per share	759,194	7,592	1,988,390	—	1,995,982
Issuance of common stock for placement fees on May 21, 1999 at $0.01 per share	53,144	531	(531)	—	—
Issuance of common stock for cash on January 26, 2000 at $2.867647 per share	17,436	174	49,826	—	50,000
Issuance of common stock for cash on January 31, 2000 at $2.87875 per share	34,737	347	99,653	—	100,000
Issuance of common stock for cash on February 4, 2000 at $2.934582 per share	85,191	852	249,148	—	250,000
Issuance of common stock for cash on March 15, 2000 at $2.527875 per share	51,428	514	129,486	—	130,000
Issuance of common stock for cash on June 22, 2000 at $1.50 per share	1,471,700	14,718	2,192,833	—	2,207,551
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2000	—	—	(260,595)	—	(260,595)
Fair market value of options and warrants vested during the year ended June 30, 2000	—	—	1,475,927	—	1,475,927

(continued)

See Notes to Condensed Consolidated Financial Statements.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2008
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Fair market value of options and warrants vesting during the year ended June 30, 2001	—	—	$ 308,619	—	$ 308,619
Issuance of common stock and warrants for cash from November 30, 2001 through April 17, 2002 at $1.75 per unit	3,701,430	$ 37,014	6,440,486	—	6,477,500
Issuance of common stock and warrants associated with bridge loan conversion on December 3, 2001	305,323	3,053	531,263	—	534,316
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2002	—	—	(846,444)	—	(846,444)

Fair market value of options and warrants vested during the year ended June 30, 2002	—	—	1,848,726	—	1,848,726
Fair market value of options and warrants vested during the year ended June 30, 2003	—	—	848,842	—	848,842
Issuance of common stock and warrants for cash from January 15, 2004 through February 12, 2004 at $2.37 per unit	1,536,922	15,369	3,627,131	—	3,642,500
Allocation of proceeds to warrants	—	—	(2,099,090)	—	(2,099,090)
Reclassification of warrants	—	—	1,913,463	—	1,913,463
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2004	—	—	(378,624)	—	(378,624)

(continued)

See Notes to Condensed Consolidated Financial Statements.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2008
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Fair market value of options and warrants vested during the year ended June 30, 2004	—	—	$ 1,826,514	—	$ 1,826,514
Options and warrants exercised during the year ended June 30, 2004 at exercise prices ranging from $1.00 - $3.25	370,283	$ 3,704	692,945	—	696,649
Issuance of common stock and warrants for cash on May 9, 2005 at $2.11 per unit	1,595,651	15,957	3,350,872		3,366,829
Allocation of proceeds to warrants	—	—	(1,715,347)	—	(1,715,347)
Reclassification of warrants	—	—	1,579,715	—	1,579,715
Commissions, legal and bank fees associated with issuance on May 9, 2005	—	—	(428,863)	—	(428,863)
Options and warrants exercised during the year ended June 30, 2005 at exercise prices ranging from $1.50 to $3.25	84,487	844	60,281	—	61,125
Fair market value of options and warrants vested during the year ended June 30, 2005	—	—	974,235	—	974,235
Fair market value of options and Warrants granted and vested During the year ended June 30, 2006	—	—	677,000	—	677,000
Warrants exercised during the year ended June 30, 2006 at an exercise price of $0.01	10,000	100	—	—	100
Issuance of common stock and warrants for cash on October 11, 2006 at $1.135 per unit	1.986,306	19,863	2,229,628	—	2,249,491

(continued)

See Notes to Condensed Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2008
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Commissions, legal and bank fees associated with issuance on October 11, 2006	—	—	$ (230,483)	—	$ (230,483)
Fair market value of options and warrants vested during the year ended June 30, 2007	—	—	970,162	—	970,162
Warrants exercised during the year ended June 30, 2007 at an exercise price of $0.01	10,000	$ 100	—	—	100
Fair market value of options and warrants vested during the year ended June 30, 2008	—	—	1,536,968	—	1,536,968
Allocation of proceeds from issuance of convertible notes and warrants from September 21, 2007 through June 30, 2008	—	—	9,340,000	—	9,340,000
Issuance of common stock in lieu of cash payment for interest during the year ended June 30, 2008	345,867	3,458	430,696	—	434,154
Convertible notes converted into common stock during the year ended June 30, 2008	555,556	5,556	430,952	—	436,508
Fair market value of options and warrants vested during the six months ended December 31, 2008	—	—	215,157	—	215,157
Cashless exercise of warrants during the six months ended December 31, 2008 at an exercise price of $0.74	2,395	24	(24)	—	—
Issuance of common stock in lieu of cash payment for interest during the six months ended December 31,2008	537,507	5,375	566,433	—	571,808
Issuance of common stock in connection with the Company's short term incentive plan during the six months ended December 31, 2008	112,700	1,127	(1,127)	—	—
Net loss	—	—	—	$ (33,028,777)	(33,028,777)
Balance at December 31, 2008	19,027,719	$ 190,277	$ 40,655,397	$ (33,028,777)	$ 7,816,897

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	For the Six Months Ended December 31,		From Inception on July 1, 1998 through December 31,
	2008	2007	2008
Cash flows from operating activities:			
Net loss	$ (2,805,747)	$ (1,431,884)	$ (33,028,777)
Adjustments to reconcile net loss to net cash (used in) operating activities:			
Noncash capital contribution	—	—	85,179
Noncash conversion of accrued expenses into equity	—	—	131,250
Noncash income related to change in fair value of warrant liability	—	—	(321,259)
Issuance of common stock and warrants for interest	571,808	67,836	1,015,277

Share-based compensation expense	215,157	146,189	9,911,254
Depreciation and amortization	53,740	44,042	514,428
Amortization of convertible note discount and deferred financing costs	212,397	53,594	881,160
(Increase) decrease in operating assets:			
Accounts receivable	—	—	—
Prepaid expense and other current assets	(648,363)	51,567	(828,919)
Security deposit	—	—	(7,187)
Increase (decrease) in operating liabilities:			
Accounts payable	98,113	442,768	468,280
Accrued expenses	99,417	(24,656)	413,684
Deferred revenue	—	(12,500)	—
Other liability	(3,523)	(3,067)	19,539
Net cash (used in) operating activities	(2,207,001)	(666,111)	(20,746,091)
Cash flows from investing activities:			
Patent costs	(354,196)	(394,471)	(3,860,996)
Redemption (purchase) of investments, net	(2,000,000)	(250,000)	(2,500,000)
Purchase of property and equipment	—	—	(172,890)
Net cash (used in) investing activities	(2,354,196)	(644,471)	(6,533,886)
Cash flows from financing activities:			
Proceeds from grant	—	—	99,728
Proceeds from issuance of bridge notes	—	—	525,000
Proceeds from issuance of common stock, net and exercise of options and warrants	—	—	19,082,818
Proceeds from issuance of convertible note and warrants, net .	—	6,550,000	9,340,000
Deferred financing costs	—	(511,835)	(651,781)
Net cash provided by financing activities	—	6,038,165	28,395,765
Net (decrease) increase in cash and cash equivalents	(4,561,197)	4,727,583	1,115,788
Cash and cash equivalents at beginning of period	5,676,985	408,061	—
Cash and cash equivalents at end of period	$ 1,115,788	$ 5,135,644	$ 1,115,788
Supplemental disclosure of cash flow information:			
Cash paid during the period for interest	$ —	$ —	$ 22,317
Supplemental schedule of noncash financing activity:			
Conversion of convertible notes into common stock, net	$ —	$ —	$ 500,000
Conversion of bridge notes into stock	$ —	$ —	$ 534,316
Allocation of convertible debt proceeds to warrants and beneficial conversion feature	$ —	$ 6,550,000	$ 9,340,000
Warrants issued for financing costs	$ —	$ 277,979	$ 639,645
Issuance of common stock for interest on convertible notes	$ 571,808	$ 67,836	$ 1,015,277

See Notes to Condensed Consolidated Financial Statements.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

Note 1 - Basis of Presentation:

The financial statements included herein have been prepared by Senesco Technologies, Inc. (the "Company"), without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in financial statements prepared in accordance with United States generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2008.

In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting solely of those which are of a normal recurring nature, necessary to present fairly its financial position as of December 31, 2008, the results of its operations for the three-month and six-month periods ended December 31, 2008 and 2007, cash flows for the six-month periods ended December 31, 2008 and 2007, and the results of its operations and cash flows for the period from inception on July 1, 1998 through December 31, 2008.

Interim results are not necessarily indicative of results for the full fiscal year.

Note 2 — Liquidity:

There is substantial doubt about the Company's ability to continue as a going concern due to its limited assets and capital and recurring losses as explained in the following paragraph.

The Company has a limited operating history and limited assets and capital and has incurred losses each year since inception with a deficit accumulated during the development stage from inception on July 1, 1998 through December 31, 2008 of $33,028,777. The Company has generated minimal revenues by licensing its technology for certain crops to companies willing to share in its development costs. In addition, the Company's technology may not be ready for commercialization for several years. The Company expects to continue to incur losses for the next several years because it anticipates that its expenditures on research and development, and administrative activities will significantly exceed its revenues during that period. The Company cannot predict when, if ever, it will become profitable.

The Company's operations to date have required significant cash expenditures. The Company's future capital requirements will depend on the results of its research and development activities, preclinical and clinical studies, and competitive and technological advances.

The Company plans to address these matters by raising capital through the placement of debt instruments or equity or both. However, the Company may not be able to obtain adequate

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funds for its operations when needed or on acceptable terms. If the Company is unable to raise additional funds, it will need to do one or more of the following:

- delay, scale-back or eliminate some or all of its research and product development programs;
- provide a license to third parties to develop and commercialize products or technologies that the Company would otherwise seek to develop and commercialize itself;
- seek strategic alliances or business combinations;
- attempt to sell the Company;
- cease operations; or
- declare bankruptcy.

As of December 31, 2008, the Company had cash and investments in the amount of $3,615,788, which consisted of money market funds and U.S. treasury bills. The Company estimates that such amount will cover its expenses for approximately the next seven months from December 31, 2008. The accompanying financial statements do not include any adjustment from the outcome of this uncertainty.

Note 3 — Intangible Assets:

The Company conducts research and development activities, the cost of which is expensed as incurred, in order to generate patents that can be licensed to third parties in exchange for license fees and royalties. Because the patents are the basis of the Company's future revenue, the patent costs are capitalized. The capitalized patent costs represent the outside legal fees incurred by the Company to submit and undertake all necessary efforts to have such patent applications issued as patents.

The length of time that it takes for an initial patent application to be approved is generally between four to six years. However, due to the unique nature of each patent application, the actual length of time may vary. If a patent application is denied, the associated cost of that application would be written off. However, the Company has not had any patent applications denied as of December 31, 2008. Additionally, should a patent application become impaired during the application process, the Company would write down or write off the associated cost of that patent application.

Issued patents and agricultural patent applications pending are being amortized over a period of 17 years, the expected economic life of the patent.

The Company assesses the impairment in value of intangible assets whenever events or circumstances indicate that their carrying value may not be recoverable. Factors the Company considers important which could trigger an impairment review include the following:

- significant negative industry trends;
- significant underutilization of the assets;
- significant changes in how the Company uses the assets or its plans for their use; and
- changes in technology and the appearance of competing technology.

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If the Company's review determines that the future discounted cash flows related to these assets will not be sufficient to recover their carrying value, the Company will reduce the carrying values of these assets down to its estimate of fair value and continue amortizing them over their remaining useful lives. To date, the Company has not recorded any impairment of intangible assets.

Note 4 - Loss Per Share:

Net loss per common share is computed by dividing the loss by the weighted-average number of common shares outstanding during the period. Shares to be issued upon the exercise of the outstanding options and warrants aggregating 23,866,268 and 19,281,261 as of December 31, 2008 and 2007, respectively, are not included in the computation of net loss per share, as their effect is anti-dilutive. Additionally, as of December 31, 2008, 10,555,556 shares to be issued upon the conversion of convertible notes at a fixed conversion price of $0.90 are not included in the computation of diluted net loss per share, as their effect is anti-dilutive.

Note 5 — Share-Based Transactions:

The terms and vesting schedules for share-based awards vary by type of grant and the employment status of the grantee. Generally, the awards vest based upon time-based conditions.

The fair value of each stock option and warrant granted has been determined using the Black-Scholes model. The material factors incorporated in the Black-Scholes model in estimating the value of the options and warrants include the following:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2008	2007	2008	2007
Estimated life in years	3.5-5.5	6	3.5-5.5	6
Risk-free interest rate (1)	1.1%–2.1%	3.4% – 4.1%	1.1%-2.1%	3.4%-4.1%
Volatility	100%	100%	100%	100%
Dividend paid	None	None	None	None

(1) Represents the interest rate on a U.S. Treasury security with a maturity date corresponding to that of the option term.

The economic values of the options will depend on the future price of the Company's common stock, par value $0.01 (the "Common Stock"), which cannot be forecast with reasonable accuracy.

A summary of changes in the stock option plan for the six month period ended December 31, 2008 is as follows:

	Number of Options.	Weighted-Average Exercise Price.
Outstanding at July 1, 2008	3,715,600	$ 1.95
Granted	585,084	$ 0.60
Exercised	—	—
Canceled	—	—
Outstanding at December 31, 2008	4,300,684	$ 1.77
Exercisable at December 31, 2008	3,417,684	$ 2.00

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A summary of changes to the non-vested stock options for the six month period ended December 31, 2008 is as follows:

	Weighted-Average	
	Number of Options.	Grant-Date Fair Value.
Non-vested stock options at July 1, 2008	937,264	$ 0.77
Granted	585,084	$ 0.46
Vested	(639,348)	$ (0.65)
Forfeited	—	—
Non-vested stock options at December 31, 2008	883,000	$ 0.66

As of December 31, 2008, the aggregate intrinsic value of stock options outstanding was $171,650, with a weighted-average remaining term of 6.2 years. The aggregate intrinsic value of stock options exercisable at that same date was $77,550, with a weighted-average remaining term of 5.4 years. As of December 31, 2008, the Company has 5,137,200 shares available for future stock option grants.

As of December 31, 2008, total compensation expense not yet recognized related to stock option grants and restricted stock units amounted to approximately $267,000**,** which will be recognized over the next 24 months, and an additional $640,000 which may be recognized as achievement of certain target goals under the Company's Long-Term Incentive Program become probable over the next 27 months.

Short-Term Incentive Program

On November 19, 2008, upon recommendation of the Company's Compensation Committee, the Board adopted a Short-Term Equity Incentive Program for each of Bruce C. Galton, John E. Thompson, Ph.D., Joel Brooks, Richard Dondero and Sascha Fedyszyn. The Programs are intended to ensure the achievement of certain goals of the Company, continuity of the Company's executive management, and to align the interests of the executive management with those of the shareholders.

Pursuant to and as defined in the Short-Term Equity Incentive Program, each executive would be awarded shares of the Company's Common Stock, or options to acquire shares of the Company's Common Stock, if the Company achieves certain target goals relating to research, financing, licensing, investor relations and other administrative items during the fiscal year ending June 30, 2009.

The number of eligible shares and options to be awarded to the executive is based upon the following weightings:

1. 25% of eligible shares and options for contributions relating to the Company's Human Health Objectives;
2. 15% of eligible shares and options for contributions relating to the Company's Finance Objectives;
3. 20% of eligible shares and options for contributions relating to the Company's Agricultural Licensing Objectives;

4. 25% of eligible shares and options for contributions relating to the Company's Investor Relations, Intellectual Property and Website Administration; and
5. 15% of the eligible shares and options relating to the Company's Organizational Objectives.

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If the target goals are achieved by the Company, the executive officers would be awarded the following number of shares and options for the fiscal year ended June 30, 2009:

	Number of Shares	Number of Options (1)
Bruce C. Galton	66,000	—
John E. Thompson, Ph.D.	—	48,000
Joel Brooks	28,000	—
Richard Dondero	—	80,000
Sascha P. Fedyszyn	42,000	—
Total	136,000	128,000

(1) Such options are exercisable at a strike price of $0.60, which represents the closing price of the common stock on November 18, 2008.

As of December 31, 2008, the Company has determined that the achievement of the target goals is probable. The total amount of compensation expense in connection with the short-term incentive program in the amount of $140,480 is being recorded ratably over the seven and one-half month period from November 19, 2008 through June 30, 2009. For the six months ended December 31, 2008, the Company recorded $28,096 of such expense.

Long-Term Incentive Program

On December 13, 2007, upon recommendation of the Company's Compensation Committee, the Board adopted a Long-Term Equity Incentive Program for the members of the executive management team. The Long-Term Equity Incentive Program is intended to ensure the achievement of certain goals of the Company, continuity of the Company's executive management, and to align the interests of the executive management with those of the shareholders.

Pursuant to and as defined in the Long-Term Equity Incentive Program, each executive would be awarded shares of the Company's Common Stock and options to acquire shares of the Company's Common Stock if the Company achieves certain target goals relating to its Multiple Myeloma research project over the next three fiscal years.

The number of eligible shares and options to be awarded to the executives is based upon the following weightings:

1. 20% of the eligible shares upon the execution of a research agreement to conduct a phase I/II clinical trial at a research facility;
2. 20% of the eligible shares upon the filing and acceptance by the FDA of an investigational new drug application; and
3. 60% of the eligible shares upon the successful completion of a FDA approved phase I/II clinical trial .

If the target goals are achieved by the Company, the executive officers would be awarded the following number of shares and options :

	Goal 1	Goal 2	Goal 3
Number of Shares			
Bruce C. Galton	25,000	25,000	75,000
Joel Brooks	10,000	10,000	30,000
Sascha P. Fedyszyn	10,000	10,000	30,000
Total number of shares	45,000	45,000	135,000
Number of Options (1)			
John E. Thompson, Ph.D.	50,000	50,000	150,000
Richard Dondero	60,000	60,000	180,000
Total number of options	110,000	110,000	330,000

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(1) Such options are exercisable at a strike price of $0.99, which represents the closing price of the common stock on December 12, 2007.

As of December 31, 2008, the Company is not able to determine if the achievement of the target goals under the Long-Term Equity Incentive Program are probable and, therefore, has not yet begun to recognize any of the $640,000 compensation expense that was computed on the date of adoption of the Long-Term Equity Incentive Program. The Company will begin recognizing such compensation expense ratably over the remaining term of the Long-Term Equity Incentive Program at such time that the Company is able to determine that the achievement of the target goals are probable.

Note 6 — Revenue Recognition:

The Company receives certain nonrefundable upfront fees in exchange for the transfer of its technology to licensees. Upon delivery of the technology, the Company has no further obligations to the licensee with respect to the basic technology transferred and, accordingly, recognizes revenue at that time. The Company may, however, receive additional payments from its licensees in the event such licensees achieve certain development or commercialization milestones in their particular field of use. Other nonrefundable upfront fees and milestone payments, where the milestone payments are a function of time as opposed to achievement of specific achievement-based milestones, are deferred and amortized ratably over the estimated research period of the license.

Note 7 —Convertible Notes and Stockholders Equity:

During the year ended June 30, 2008, the Company issued $5,000,000 of convertible notes and warrants to YA Global Investments L.P. ("YA Global") and $5,000,000 of convertible notes and warrants to Stanford Venture Capital Holdings, Inc. ("Stanford"), for an aggregate gross proceeds of $10,000,000. The convertible notes convert into the Company's common stock at a fixed price of $0.90 per share, subject to certain adjustments (the "Fixed Conversion Price"), through August 1, 2009 and December 20, 2009, respectively, at which time the convertible notes may convert into shares of the Company's common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price (the "VWAP") of the common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global and Stanford is December 30, 2010 and December 31, 2010, respectively.

The convertible notes accrue interest on their outstanding principal balances at an annual rate of 8%. The Company has the option to pay interest in cash or, upon certain conditions, common stock. If the Company pays interest in common stock, the stock will be valued at a

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10% discount to the average daily VWAP for the five day trading period prior to the interest payment date (the "Interest Shares").

At the Company's option, it can redeem a portion of, or all of, the principal owed under the convertible notes by providing the investors with at least 30 business days' written notice, provided that, at the time of receipt of the notice, either: (A)(i) the VWAP of the common stock exceeds 130% of the Fixed Conversion Price for at least 20 of 30 prior trading days, and (ii) there is an effective registration statement for the resale of the common stock that will be issued under the redemption or (B) it redeems a portion, or all, of the principal owed at a 20% premium above the principal then outstanding and any accrued interest thereupon. If the Company redeems all or any of the principal outstanding under the convertible notes, it will pay an amount equal to the principal being redeemed plus accrued interest.

If there is an effective registration statement for the resale of the shares underlying the convertible notes or if such shares become Rule 144(k) eligible, the Company will have the option to force the investors to convert 50% and 100% of its then-outstanding convertible notes if its common stock price exceeds 150% and 175% of the Fixed Conversion Price, respectively, for any 20 out of 30 trading days; provided that such forced conversion meets certain conditions (the "Call Option"). If the Company exercises its Call Option prior to the third anniversary of the signing date, it will issue additional warrants to the investor equal to 50% of the number of shares underlying the convertible note subject to the forced conversion. These warrants will be exercisable at the fixed conversion price and will have the same maturity as the other warrants issued under the YA Global financing.

The Company's obligations under the convertible notes are secured by all of its and its subsidiary's assets and intellectual property, as evidenced by certain Security Agreements and certain Patent Security Agreements by and between the Company and each of YA Global and Stanford. Pursuant to a subordination agreement, YA Global is the senior secured creditor.

The conversion rate of each convertible note is subject to adjustment for certain events, including dividends, stock splits, combinations and the sale of the Company's Common Stock or securities convertible into or exercisable for the Company's Common Stock at a price less than the then applicable conversion or exercise price.

The investors have a right of first refusal on any future funding that involves the issuance of the Company's capital stock for so long as a portion of the convertible notes are outstanding.

Pursuant to the Registration Rights Agreement, the Company filed an initial registration statement on October 12, 2007 to register 3,333,333 shares of common stock, underlying the convertible notes, issuable to YA Global, and such registration statement became effective on November 1, 2007.

The convertible notes and warrants issued to YA Global are subject to a maximum cap of 30,500,000 on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

The convertible notes and warrants issued to Stanford are subject to a maximum cap of 31,888,888 on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

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Currently, at the fixed conversion price, the number of shares of common stock issuable upon conversion of the remaining $9,500,000 of convertible notes outstanding and shares of common stock to be issued upon exercise of the warrants outstanding at December 31, 2008 represents, in the aggregate, 24,438,888 shares, plus an estimated additional 1,800,000 shares (based upon the stock price at December 31, 2008) for the payment of interest in stock under the convertible notes.

As of December 31, 2008, the outstanding balance of the Convertible Notes were $609, which is comprised of notes with an aggregate face amount of $9,500,000 less unamortized debt discount of $9,499,391. Debt discount associated with the Convertible Notes is amortized to interest expense, using the effective yield method, over the remaining life of the Convertible Notes. Upon conversion of the Convertible Notes into Common Stock, any unamortized

debt discount relating to the portion converted will be charged to interest. Total charges to interest for amortization of debt discount were $133 and $419 for the three month and six month periods ended December 31, 2008.

The costs associated with the issuances in the amount of $1,291,427 have been recorded as deferred financing costs and are being amortized ratably over the term of the convertible notes. The balance of deferred financing costs as of December 31, 2008 amounted to $847,385.

Note 8 — Income Taxes:

No provision for income taxes has been made in the three month and six month periods ended December 31, 2008 and 2007 given the Company's losses in 2008 and 2007 and available net operating loss carryforwards. A benefit has not been recorded as the realization of the net operating losses is not assured and the timing in which the Company can utilize its net operating loss carryforwards in any year or in total may be limited by provisions of the Internal Revenue Code regarding changes in ownership of corporations.

Note 9 — Effects of New Accounting Pronouncements Applicable to the Company

EITF Issue No. 07-1 — Accounting for Collaborative Arrangements

This pronouncement defines a collaborative arrangement as a contractual arrangement that involves a joint operating activity that involves two or more parties who are both active participants in the activity and exposed to significant risks and rewards dependent on the commercial success of the activity. The pronouncement also defines how the costs incurred and revenues generated from transactions with third parties should be recorded and presented in each entity's income statement. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years, and shall be applied retrospectively to all prior periods presented for all collaborative arrangements existing as of the effective date. The Company does not believe that this pronouncement will have any material effect on its financial statements.

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EITF Issue No. 07-3 — Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities.

This pronouncement states that nonrefundable advance payments for future research and development activities should be deferred and capitalized. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2007, and interim periods within those fiscal years. Early application is not permitted. This pronouncement has not had a material effect on the Company's financial statements.

SFAS No. 157 — Fair Value Measurements

In September 2006 the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* (SFAS No. 157). SFAS No. 157 defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurement. SFAS No. 157 also emphasizes that fair value is a market-based measurement, not an entity-specific measurement, and sets out a fair value hierarchy with the highest priority being quoted prices in active markets. Under SFAS No. 157, fair value measurements are disclosed by level within that hierarchy. In February 2008, the FASB issued FASB Staff Position No. 157-2, *Effective Date of FASB Statement No. 157*, which permits a one-year deferral for the implementation of SFAS No. 157 with regard to nonfinancial assets and liabilities that are not recognized or disclosed at fair value in the financial statements on a recurring basis. The Company adopted SFAS No. 157 for the fiscal year beginning July 1, 2008, except for nonfinancial assets and nonfinancial liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis for which delayed application is permitted until our fiscal year beginning July 1, 2009. The adoption of the remaining provisions of SFAS No. 157 is not expected to have a material impact on the Company's financial position, results of operations or cash flows.

EITF Issue No. 07-5 — Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock.

In June 2008, the FASB ratified EITF Issue No. 07-5, "Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock" ("EITF 07-5"). EITF 07-5 provides guidance on how to determine if certain instruments or embedded features are considered indexed to our own stock, including instruments similar to our convertible notes and warrants to purchase our stock. EITF 07-5 requires companies to use a two-step approach to evaluate an instrument's contingent exercise provisions and settlement provisions in determining whether the instrument is considered to be indexed to its own stock and exempt from the application of SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities". Although EITF 07-5 is effective for fiscal years beginning after December 15, 2008, any outstanding instrument at the date of adoption will require a retrospective application of the accounting through a cumulative effect adjustment to retained earnings upon adoption. The Company is currently evaluating the impact that adoption of EITF 07-5 will have on its consolidated financial statements.

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Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the related notes thereto included in this Quarterly Report on Form 10-Q. The discussion and analysis may contain forward-looking statements that are based upon current expectations and entail various risks and uncertainties. Our actual results and the timing of events could differ materially from those anticipated in the forward-looking statements as a result of various factors, including those set forth under "Factors That May Affect Our Business, Future Operating Results and Financial Condition" and elsewhere in this report.

Overview

Our Business

The primary business of Senesco Technologies, Inc., a Delaware corporation incorporated in 1999, and its wholly-owned subsidiary, Senesco, Inc., a New Jersey corporation incorporated in 1998, collectively referred to as "Senesco," "we," "us" or "our," is to utilize our patented and patent-pending genes, primarily eucaryotic translation initiation Factor 5A, or Factor 5A, and deoxyhypusine synthase, or DHS, and related technologies for their inhibition in human health applications to develop novel approaches to treat inflammatory diseases and cancer.

In agricultural applications, we are developing and licensing Factor 5A, DHS and Lipase to enhance the quality and productivity of fruits, flowers, and vegetables and agronomic crops through the control of cell death, referred to herein as senescence, and growth in plants.

Human Health Applications

We believe that our gene technology could have broad applicability in the human health field, by either inhibiting or inducing apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis. Inducing apoptosis may be useful in treating certain forms of cancer because the cancerous cells have failed to initiate apoptosis on their own due to damaged or inhibited apoptotic pathways.

We have commenced preclinical *in-vivo* and *in-vitro* research to determine the ability of Factor 5A to regulate key execution genes, pro-inflammatory cytokines, receptors, and transcription factors, which are implicated in numerous apoptotic diseases.

Certain preclinical human health results to date include:

- Performing efficacy, toxicological and dose-finding studies in mice for our potential multiple myeloma drug candidate, SNS-01. SNS-01 is a nano-encapsulated combination therapy of Factor 5A and an siRNA against Factor 5A. Our anti-myeloma efficacy study in severe combined immune-deficient mice with human multiple myeloma subcutaneous tumors tested SNS-01 dosages ranging from 0.15 mg/kg to 1.5 mg/kg. In these studies, mice treated with a dose of either 0.75 mg/kg or 1.5 mg/kg both showed a 91% reduction in tumor volume and a decrease in tumor weight of 87% and 95%, respectively. For mice

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that received smaller doses of either 0.38 mg/kg or 0.15 mg/kg, there was also a reduction in tumor volume (73% and 61%, respectively) and weight (74% and 36%, respectively). All of the treated mice, regardless of dose, survived. This therapeutic dose range provided the basis for an 8-day maximum tolerated dose study in which normal mice received two intravenous doses of increasing amounts of SNS-01 (from 2.2 mg/kg). Body weight, organ weight and serum levels of liver enzymes were used as clinical indices to assess toxicity. A dose between 2.2 mg/kg and 2.9 mg/kg was well tolerated with respect to these clinical indices, and the survival rate at 2.9 mg/kg was 80%. Those mice receiving above 2.9 mg/kg of SNS-01 showed evidence of morbidity and up to 80% mortality. The 2.9 mg/kg threshold, twice the upper end of the therapeutic dose range, was therefore determined to be the maximum tolerated dose in mice.

- demonstrated significant tumor regression and diminished rate of tumor growth of multiple myeloma tumors in SCID mice treated with Factor 5A technology encapsulated in nanoparticles;

- increased median survival by approximately 250% in a tumor model of mice injected with melanoma cancer cells;

- induced apoptosis in both human cancer cell lines derived from tumors and in lung tumors in mice;

- induced apoptosis of cancer cells in a human multiple myeloma cell line;

- measured VEGF reduction in mouse lung tumors as a result of treatment with our genes;

- decreased ICAM and activation of NFKB in cancer cells employing siRNA against Factor 5A;

- increased the survival, while maintaining functionality, of mouse pancreatic islet cells isolated for transplantation, using intraperitaneal administration of our technology. Initial animal studies have shown that our technology administered prior to harvesting beta islet cells from a mouse, has a significant impact not only on the survival of the beta islet cells, but also on the retention of the cells' functionality when compared to the untreated beta islet cells. Additional studies have shown that the treated beta islet cells survive a pro-inflammatory cytokine challenge, while maintaining their functionality with respect to insulin production. These further studies also revealed eIF-5A's involvement in the modulation of inducible nitric oxide synthase (iNOS), an important indicator of inflammation; and

- increased the survival rate of mice in a lethal challenge sepsis model. Additionally, a broad spectrum of systemic pro-inflammatory cytokines were down-regulated, while not effecting the anti-inflammatory cytokine IL-10.

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Accelerating Apoptosis

The data from our pre-clinical studies indicate that the up-regulation of Factor 5A induces cell death in cancer cells through both the p53 (intrinsic) and cell death receptor (extrinsic) apoptotic pathways. Tumors arise when abnormal cells fail to undergo apoptosis due to an inability to activate their apoptotic pathways. Just as the Factor 5A gene appears to facilitate expression of the entire suite of genes required for programmed cell death in plants, the Factor 5A gene appears to regulate expression of a suite of genes required for programmed cell death in human cells. Because the Factor 5A gene appears to function at the initiation point of the apoptotic pathways, both intrinsic and extrinsic, we believe that our gene technology has potential application as a means of combating a broad range of cancers. Based on the results obtained through our *in-vitro* studies, we have found that up-regulating Factor 5A results in:

(i) the up-regulation of p53; (ii) increased inflammatory cytokine production; (iii) increased cell death receptor formation; and (iv) increased caspase activity. These features, coupled with a simultaneous down-regulation Bcl-2, result in apoptosis of cancer cells. In addition, our *in-vitro* studies have shown that the up-regulation of Factor 5A also down-regulates VEGF, a growth factor which allows tumors to develop additional vascularization needed for growth beyond a small mass of cells.

Inhibiting Apoptosis

Our preclinical studies indicate that down-regulation of our proprietary Factor 5A gene may have potential application as a means for controlling the effects of a broad range of diseases that are attributable to premature cell death, ischemia, or inflammation. Such inflammatory diseases include glaucoma, heart disease, and other certain inflammatory diseases such as Crohn's disease, sepsis and diabetic retinopathy. We are engaged in preclinical research on certain inflammatory diseases. Using small inhibitory RNA's, or siRNA's, against Factor 5A to inhibit its expression, the results of our studies have indicated a reduction in pro-inflammatory cytokine formation and the formation of receptors for liposolysaccharide, or LPS, interferon-gamma and TNF-alpha. Our studies have also indicated that by inhibiting Factor 5A iNOS, MAPK, NFkB, JAK1 and ICAM are downregulated, which decreases the inflammatory cytokines formed through these pathways. Additionally, a mouse study has indicated that our siRNA is comparable to a steroid and to a prescription anti-TNF drug in its ability to reduce cytokine response to LPS. Other mouse studies have also indicated that the siRNA against Factor 5A (i) protects thymocyte cells from apoptosis and decreases formation of myeloperoxidase, or MPO, TNF-a, MIP-1alpha, and IL-1 in the lungs of mice challenged with LPS; (ii) increases the survival rate in which sepsis was induced by a lethal injection of LPS; and (iii) reduces blood serum levels of inflammatory proteins, such as IL-1, IL-2, IL-6, IL-12, TNF-a, IFNg and MIP-1alpha, while not effecting IL-10, an anti-inflammatory cytokine. Other experiments utilizing siRNA to Factor 5A include inhibition of or apoptosis during the processing of mouse pancreatic beta islet cells for transplantation, the inhibition of early inflammatory changes associated with type-1 diabetes in an in-vivo rat model and the down-regulation of certain markers of viral replication in a human cell line infected with HIV-1.

Proteins required for cell death include p53, interleukins, TNF-a and other cytokines and caspases. Expression of these cell death proteins is required for the execution of apoptosis. Based on our studies, we believe that down-regulating Factor 5A by treatment with siRNA inhibits the expression of p53, a major cell death transcription factor that in turn controls the

formation of a suite of other cell death proteins. In addition, we believe that the down-regulation of Factor 5A up-regulates Bcl-2, a suppressor of apoptosis.

Human Health Target Markets

We believe that our gene technology may have broad applicability in the human health field, by either inhibiting or accelerating apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis, including diabetes, diabetic retinopathy and lung inflammation, among others. Accelerating apoptosis may be useful in treating certain forms of cancer because the body's immune system is not able to force cancerous cells to undergo apoptosis.

Our preclinical research has yielded data that we have presented to various biopharmaceutical companies that may be prospective licensees for the development and marketing of potential applications of our technology. Additionally, we are using the proceeds of our recent financing to advance our research in multiple myeloma with the goal of initiating a Phase I clinical trial, and may select additional human health indications to bring into clinical trials on our own. We believe that the success of our future operations will likely depend on our ability to transform our research and development activities into a commercially feasible technology.

Human Health Research Program

Our human health research program, which has consisted of pre-clinical *in-vitro* and *in-vivo* experiments designed to assess the role and method of action of the Factor 5A genes in human diseases, is being performed by approximately thirteen (13) third party researchers, at our direction, at Mayo Clinic, the University of Virginia, and the University of Waterloo.

Our research and development expenses incurred on human health applications were approximately 71% and 52% of our total research and development expenses for the six months ended December 31, 2008 and 2007, respectively. Since inception, the proportion of our research and development expenses on human health applications has increased, as compared to our research and development expenses on agricultural applications. This change is primarily due to the fact that our research focus on human health has increased and some of our research costs for plant applications have shifted to our license partners.

Our planned future pre-clinical research and development initiatives for human health include:

- Multiple Myeloma. Our objective is to advance our technology for the potential treatment of multiple myeloma with the goal of initiating a clinical trial. In connection with the potential clinical trial, we have engaged a clinical research organization, or CRO, to assist us through the process. We have also determined the delivery system for our technology, contracted for the supply of pharmaceutical grade materials to be used in toxicology and human studies, performed certain toxicity studies, and have contracted with a third party laboratory to conduct additional toxicoly studies. Together with the assistance of our CRO, we will have additional toxicology studies performed with the goal of

filing an investigational new drug application, or IND application, with the U.S. Food and Drug Administration, or FDA, for their review and consideration in order to initiate a clinical trial. We estimate that it will take less than twelve (12) months from December 31, 2008 to complete these objectives.

- Lung Inflammation. The objective of our planned future lung inflammation experiments is to optimize the delivery and dose of the siRNA to Factor 5A to the lungs. A mouse model system is currently being conducted to illustrate the siRNA to Factor 5A's ability to reduce morbidity and mortality of lung inflammation, caused by the up-regulation of pro-inflammatory cytokines induced by a pathogen.

- Other. We may continue to look at other disease states in order to determine the role of Factor 5A.

In order to pursue the above research initiatives, as well as other research initiatives that may arise, we completed private placements of $10 million of convertible notes and warrants in fiscal 2008. However, it will be necessary for us to raise a significant amount of additional working capital in the future to continue to pursue some of the above and new initiatives. If we are unable to raise the necessary funds, we may be required to significantly curtail the future development of some of our research initiatives and we will be unable to pursue other possible research initiatives.

We may further expand our research and development program beyond the initiatives listed above to include other research centers.

Human Health Competition

Our competitors in human health that are presently attempting to distribute their technology have generally utilized one of the following distribution channels:

- Entering into strategic alliances, including licensing technology to major marketing and distribution partners; or

- developing in-house production and marketing capabilities.

In addition, some competitors are established distribution companies, which alleviates the need for strategic alliances, while others are attempting to create their own distribution and marketing channels.

There are many large companies and development stage companies working in the field of apoptosis research including: Amgen, Centocor, Genzyme, OSI Pharmaceuticals, Inc., Novartis, Introgen Therapeutics, Inc., Genta, Inc., and Vertex Pharmaceuticals, Inc., amongst others.

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Agricultural Applications

Our agricultural research focuses on the discovery and development of certain gene technologies, which are designed to confer positive traits on fruits, flowers, vegetables, forestry species and agronomic crops. To date, we have isolated and characterized the senescence-induced Lipase gene, DHS, and Factor 5A in certain species of plants. Our goal is to modulate the expression of these genes in order to achieve such traits as extended shelf life, increased biomass, increased yield and increased resistance to environmental stresses and disease, thereby demonstrating proof of concept in each category of crop.

Certain agricultural results to date include:

- longer shelf life of perishable produce;

- increased biomass and seed yield;

- greater tolerance to environmental stresses, such as drought and soil salinity;

- greater tolerance to certain fungal and bacterial pathogens;

- more efficient use of fertilizer; and

- advancement to field trials in banana and trees.

The technology presently utilized by the industry for increasing the shelf life in certain flowers, fruits and vegetables relies primarily on reducing ethylene biosynthesis, and therefore only has application to the crops that are ethylene-sensitive. Because Factor 5A, DHS and Lipase are already present in all plant cells, our technology may be incorporated into crops by using either conventional breeding methods (non-genetically modified) or biotechnology techniques.

We have licensed this technology to various strategic partners and have entered into a joint venture. We may continue to license this technology, as the opportunities present themselves, to additional strategic partners and/or enter into additional joint ventures. Our commercial partners have licensed our technology for use in turfgrass, canola, corn, soybean, cotton, banana, alfalfa, rice and certain species of trees and bedding plants, and we have obtained proof of concept for enhanced post harvest shelf life, seed yield, biomass, and resistance to disease in several of these plant species.

We have ongoing field trials of certain trees and bananas with our respective partners. The initial field trials conducted with ArborGen over a three year period in certain species of trees have concluded and the trees have been harvested for wood quality assessment. Preliminary data from our joint field trials show significantly enhanced growth rates in some of the trees relative to controls. Additional field trials for enhanced growth rates and other traits are currently being performed with ArborGen.

To date, banana field trials have indicated that our technology extends the shelf life of banana fruit by 100%. In addition to the post-harvest shelf life benefits, an additional field trial generated encouraging disease tolerance data specific to Black Sigatoka (Black Leaf Streak

Disease) for banana plants. Additional field trials for banana plants are ongoing for the combined traits of disease tolerance and shelf life extension.

Commercialization by our partners may require a combination of traits in a crop, such as both post harvest shelf life and disease resistance, or other traits. Our near-term research and development initiatives include modulating the expression of DHS and Factor 5A genes in these plants and then propagation and phenotype testing of such plants.

Our ongoing research and development initiatives for agriculture include assisting our license and joint venture partners to:

- further develop and implement the DHS and Factor 5A gene technology in banana, canola, cotton, turfgrass, bedding plants, rice, alfalfa, corn, soybean and trees; and

- test the resultant crops for new beneficial traits such as increased yield, increased tolerance to environmental stress, disease resistance and more efficient use of fertilizer.

Agricultural Target Markets

In order to address the complexities associated with marketing and distribution in the worldwide market, we have adopted a multi-faceted commercialization strategy in which we have entered into and plan to enter into, as the opportunities present themselves, additional licensing agreements or other strategic relationships with a variety of companies or other entities on a crop-by-crop basis. We anticipate revenues from these relationships in the form of licensing fees, royalties, usage fees, or the sharing of gross profits. In addition, we anticipate payments from certain of our partners, which are described in the *Agricultural Development and License Agreements* section of this Form 10-Q, upon our achievement of certain research and development benchmarks. This commercialization strategy allows us to generate revenue at various stages of product development, while ensuring that our technology is incorporated into a wide variety of crops. Our optimal partners combine the technological expertise to incorporate our technology into their product line along with the ability to successfully market the enhanced final product, thereby eliminating the need for us to develop and maintain a sales force.

Because the agricultural market is dominated by privately held companies or subsidiaries of foreign-owned companies, market size and market share data for the crops under our license and development agreements is not readily available. Additionally, because we have entered into confidentiality agreements with our license and development partners, we are unable to report the specific financial terms of the agreements as well as any market size and market share data that our partners may have disclosed to us regarding their companies.

Agricultural Development and License Agreements

Through January 31, 2008, we have eight (8) active license agreements and one joint collaboration with established agricultural biotechnology companies or, in the case of Poet, as more fully described below, an established ethanol company, as follows:

- In June 2002, we entered into a three-year worldwide exclusive development and option agreement with ArborGen, LLC to develop our technology in certain species of trees. In June 2006, ArborGen exercised their option to license our technology and in December 2006, converted the development and option agreement into a license agreement, referred to herein as the ArborGen Agreement. To date, the research being conducted by ArborGen has proceeded according to schedule. ArborGen has seen promising positive growth responses in greenhouse-grown seedlings. These initial greenhouse data led to the initiation of field trials by ArborGen in the second half of calendar year 2004. At the end of the 2005 growing season, certain trees which were enhanced by our technology had approximately double the increase in volume relative to control trees. Further field trials are ongoing to support these data and to analyze the growth rates of trees which incorporate our technology. Under the ArborGen Agreement, we have received an upfront payment and benchmark payments and we may receive additional benchmark payments upon achievement of certain development milestones and royalties upon commercialization.

- In September 2002, we entered into an exclusive development and license agreement with Cal/West Seeds, referred to herein as the Cal/West License, to commercialize our technology in certain varieties of alfalfa. The Cal/West License will continue until the expiration of the patents set forth in the agreement, unless terminated earlier by either party pursuant to the terms of the agreement. The Cal/West License also grants Cal/West an exclusive option to develop our technology in various other forage crops. The Cal/West Seeds development effort successfully incorporated our technology into their alfalfa seed as of July 2004. Seed transformation and greenhouse trait analysis is ongoing. Under the Cal/West License, we have received an upfront payment and we may receive benchmark payments as certain development milestones are achieved and a royalty upon commercialization based upon the volume of alfalfa seed sold that contains our technology.

- In March 2004, we entered into an exclusive development and license agreement with The Scotts Company, referred to herein as the Scotts Agreement, to commercialize our technology in turfgrass and certain species of bedding plants. Scotts is working on incorporating our technology to enhance a variety of traits in these plants, including environmental stress resistance, disease resistance and enhanced bloom properties. We are collaborating with Scotts in the areas of ornamental bedding plants and turfgrass. A large-scale greenhouse evaluation of bedding plants was being conducted and additional greenhouse testing is planned. Transformation and initial tissue culture screening of events have been undertaken in turfgrass. In tissue culture, turfgrass containing our technology has grown more successfully than control turfgrass without our technology. Greenhouse testing of the grass containing our technology is the next planned development step. Under the Scotts Agreement, we have received an upfront payment and benchmark payments. In January 2006, the development and license agreement with

Scotts was amended. Due to a change in the corporate financial policy at Scotts, Scotts requested that we defer certain milestone payments, which were to be made on a calendar year basis. We agreed and these payments have now been deferred and incorporated in the amount to be paid to us

upon commercialization. Additionally, the commercialization fee has been increased. All other aspects of the agreement remain unchanged, and the project continues to move forward without interruption. We may also receive royalties upon commercialization from the net sales of turfgrass seed and bedding plants containing our technology.

- In October 2005, we entered into an agreement with Poet to license our proprietary gene technology to Poet to improve aspects of Poet's ethanol production capabilities. We are currently revising our work plan to incorporate our technology into those aspects of Poet's ethanol production. We will receive an annual payment for each Poet facility that incorporates our technology. If Poet incorporates our technology into each of its facilities, we would be entitled to receive an annual payment in excess of $1,000,000.

- On November 8, 2006, we entered into a license agreement with Bayer CropScience GmbH for the development and commercialization of canola. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones and will receive commercialization fees based upon specified benchmarks. In August, 2008, Bayer CropScience GmbH successfully completed the first development milestone related to this license.

- On July 17, 2007, we entered into a license agreement with Bayer CropScience AG for the development and commercialization of cotton. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

- On August 6, 2007, we entered into a license agreement with Monsanto for the development and commercialization of corn and soy. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

- On September 11, 2007, we entered into a license agreement with Bayer CropScience AG for the development and commercialization of rice. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

In December 2008, the Development and License Agreement with the Harris Moran Seed Company ("Harris Moran") was terminated by mutual agreement due to Harris Moran's recently announced corporate restructuring. Harris Moran has reported that its parent company, Limagrain, restructured its vegetable seed operations and that Harris Moran will now be part of a new business unit with Clause (France) and Marco Polo (Thailand). This restructuring has resulted in a consolidation of research and development efforts amongst Harris Moran and its sister companies that will not encompass our technology. Harris Moran made us aware of this

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shift in research and development focus and presented us with a letter on December 1, 2008 formally ending the relationship through the mutual agreement of the parties. Pursuant to the terms of the Development and License Agreement all rights to use our technology in lettuce and melon revert to us.

Joint Venture

On May 14, 1999, we entered into a agreement with Rahan Meristem Ltd., or Rahan Meristem, an Israeli company engaged in the worldwide export marketing of banana germplasm, referred to herein as the Rahan Joint Venture**.** In general, bananas are grown either for local domestic consumption or grown for export. According to the Food and Agriculture Organization of the United Nations, there were approximately 16 million metric tons of bananas exported in 2004. The level of production equates to the fruit of approximately 480 million banana plants. A percentage of these plants are replaced each year with new banana seedlings. Rahan Meristem accounts for approximately 10% of the worldwide export of enhanced banana seedlings.

We have contributed, by way of a limited, exclusive, worldwide license to the Rahan Joint Venture, access to our technology, discoveries, inventions and know-how, whether patentable or otherwise, pertaining to plant genes and their cognate expressed proteins that are induced during senescence for the purpose of developing, on a joint basis, genetically enhanced banana plants which will result in a banana that has a longer shelf life. Rahan Meristem has contributed its technology, inventions and know-how with respect to banana plants. Rahan Meristem and Senesco have equally shared the expense of field trials.

All aspects of the Rahan Joint Venture's research and development initiative are proceeding on time**.** Both the DHS and lipase genes have been identified and isolated in banana, and the Rahan Joint Venture is currently in the process of silencing these genes. Two Israeli field trials indicated that Senesco's proprietary technology extends the shelf life of the banana fruit up to 100%, while allowing the banana fruit to ripen normally. Later field trials have indicated what we believe are promising disease tolerance results and we are currently performing additional field trials to further assess disease tolerance. However, as the banana modified with our technology may be considered a genetically modified organism, or GMO, shelf life extension may have to be combined with disease tolerance to gain acceptance by the growers.

Agricultural Research Program

Our agricultural research and development is performed by three (3) researchers, at our direction, at the University of Waterloo, where the technology was developed. Additional agricultural research and development is performed by our partners in connection with the Scotts Agreement, the ArborGen License, the Cal/West License, the Bayer Licenses, the Monsanto License and through the Rahan Joint Venture.

The discoverer of our technology, John E. Thompson, Ph.D., is the Associate Vice President, Research and former Dean of Science at the University of Waterloo in Ontario, Canada, and is our Executive Vice President and Chief Scientific Officer. Dr. Thompson is also

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one of our directors and owns 3.0% of the outstanding shares of our common stock as of December 31, 2008. On September 1, 1998, we entered into, and have extended through August 31, 2009, a research and development agreement with the University of Waterloo and Dr. Thompson as the principal inventor. The Research and Development Agreement provides that the University of Waterloo will perform research and development under our direction, and we will pay for the cost of this work and make certain payments to the University of Waterloo. In return for payments made under the Research and Development Agreement, we have all rights to the intellectual property derived from the research.

Agricultural Competition

Our competitors in both human health and agriculture that are presently attempting to distribute their technology have generally utilized one or more of the following distribution channels:

- licensing technology to major marketing and distribution partners;
- entering into strategic alliances; or
- developing in-house production and marketing capabilities.

In addition, some competitors are established distribution companies, which alleviates the need for strategic alliances, while others are attempting to create their own distribution and marketing channels.

Our competitors in the field of delaying plant senescence are companies that develop and produce transformed plants with a variety of enhanced traits. Such companies include: Icora (formerly Paradigm Genetics); Mendel Biotechnology; Renessen LLC; Exelixis Plant Sciences, Inc.; Syngenta International AG; and Eden Bioscience, among others.

Agricultural Development Program

Generally, projects with our licensees and joint venture partner begin by transforming seed or germplasm to incorporate our technology. Those seeds or germplasm are then grown in our partners' greenhouses. After successful greenhouse trials, our partners will transfer the plants to the field for field trials. After completion of successful field trials, our partners may have to apply for and receive regulatory approval prior to initiation of any commercialization activities.

Generally, the approximate time to complete each sequential development step is as follows:

Seed Transformation	approximately 1 to 2 years
Greenhouse	approximately 1 to 2 years
Field Trials	approximately 2 to 5 years

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The actual amount of time spent on each development phase depends on the crop, its growth cycle and the success of the transformation achieving the desired results. As such, the amount of time for each phase of development could vary, or the time frames may change.

The development of our technology with Poet is different than our other licenses in that we are modifying certain production inputs for ethanol. That process involves modifying the inputs, testing such inputs in Poet's production process and if successful, implementing such inputs in Poet's production process on a plant by plant basis.

The status of each of our projects with our partners is as follows:

Project	Partner	Status
Banana	Rahan Meristem	
- Shelf Life		Field trials
- Disease Resistance		Field trials
Trees	Arborgen	
- Growth		Field trials
Alfalfa	Cal/West	Greenhouse
Corn	Monsanto	Proof of concept ongoing
Cotton	Bayer	Proof of concept ongoing
Canola	Bayer	Seed transformation
Rice	Bayer	Proof of concept ongoing
Soybean	Monsanto	Proof of concept ongoing
Turfgrass	The Scotts Company	Greenhouse
Bedding Plants	The Scotts Company	Greenhouse
Ethanol	Poet	Modify inputs

Commercialization by our partners may require a combination of traits in a crop, such as both shelf life and disease resistance, or other traits.

Based upon our commercialization strategy, we anticipate that there may be a significant period of time before plants enhanced using our technology reach consumers. Thus, we have not begun to actively market our technology directly to consumers, rather, we have sought to establish ourselves within the industry through presentations at industry conferences, our website and direct communication with prospective licensees.

Consistent with our commercialization strategy, we intend to attract other companies interested in strategic partnerships or licensing our technology, which may result in additional license fees, revenues from contract research and other related revenues. Successful future operations will depend on our ability to transform our research and development activities into a commercially feasible technology.

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Intellectual Property

We have nineteen (19) issued patents from the United States Patent and Trademark Office, or PTO, and twenty-three (23) issued patents from foreign countries, thirty-one (31) of which are for the use of our technology in agricultural applications and eleven (11) of which relate to human health applications.

In addition to our forty-two (42) patents, we have a wide variety of patent applications, including divisional applications and continuations-in-part, in process with the PTO and internationally. We intend to continue our strategy of enhancing these new patent applications through the addition of data as it is collected.

Government Regulation

At present, the U.S. federal government regulation of biotechnology is divided among three agencies: (i) the U.S. Department of Agriculture regulates the import, field-testing and interstate movement of specific types of genetic engineering that may be used in the creation of transformed plants; (ii) the Environmental Protection Agency regulates activity related to the invention of plant pesticides and herbicides, which may include certain kinds of transformed plants; and (iii) the FDA regulates foods derived from new plant varieties. The FDA requires that transformed plants meet the same standards for safety that are required for all other plants and foods in general. Except in the case of additives that significantly alter a food's structure, the FDA does not require any additional standards or specific approval for genetically engineered foods but expects transformed plant developers to consult the FDA before introducing a new food into the market place.

In addition, our ongoing preclinical research with cell lines and lab animal models of human disease is not currently subject to the FDA requirements that govern clinical trials. However, use of our technology, if developed for human health applications, will also be subject to FDA regulation. Generally, the FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human health technology must be approved by the regulatory agencies of foreign governments. Prior to filing a new drug application or biologics license application with the FDA, we would have to perform extensive clinical trials, and prior to beginning any clinical trial, we need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

We believe that our current activities, which to date have been confined to research and development efforts, do not require licensing or approval by any governmental regulatory agency. However, we, or our licensees, may be required to obtain such licensing or approval from governmental regulatory agencies prior to the commercialization of our genetically transformed plants and the application of our human health technology.

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Liquidity and Capital Resources

Overview

As of December 31, 2008, our cash balance and investments, which consisted of money market funds and U.S. treasury bills, totaled $3,615,788**,** and we had working capital of $3,562,743. As of December 31, 2008, we had a federal tax loss carryforward of approximately $21,940,000 and a state tax loss carry-forward of approximately $14,580,000 to offset future taxable income. We cannot assure you that we will be able to take advantage of any or all of such tax loss carryforwards, if at all, in future fiscal years.

Contractual Obligations

The following table lists our cash contractual obligations as of December 31, 2008:

	Payments Due by Period				
Contractual Obligations	**Total**	**Less than 1 year**	**1 - 3 years**	**4 - 5 years**	**More than 5 years**
Research and Development Agreements (1)	$ 2,150,525	$ 2,150,525	$ —	$ —	$ —
Facility, Rent and Operating Leases (2)	$ 192,280	$ 78,964	$ 113,316	$ —	$ —
Employment, Consulting and Scientific Advisory Board Agreements (3)	$ 514,511	$ 510,023	$ 4,488	$ —	$ —
Total Contractual Cash Obligations	$ 2,857,316	$ 2,739,512	$ 117,804	$ —	$ —

(1) Certain of our research and development agreements disclosed herein provide that payment is to be made in Canadian dollars and, therefore, the contractual obligations are subject to fluctuations in the exchange rate.

(2) The lease for our office space in New Brunswick, New Jersey is subject to certain escalations for our proportionate share of increases in the building's operating costs.

(3) Certain of our employment and consulting agreements provide for automatic renewal, which is not reflected in the table, unless terminated earlier by the parties to the respective agreements.

We expect our capital requirements to increase significantly over the next several years as we commence new research and development efforts. Our future liquidity and capital funding requirements will depend on numerous factors, including, but not limited to, the levels and costs of our research and development initiatives and the cost and timing of the expansion of our business development and administrative staff.

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Effective September 1, 2008, we extended our research and development agreement with the University of Waterloo for an additional one-year period through August 31, 2009, in the amount of CAD $735,000 or approximately USD $700,000. Research and development expenses under this agreement aggregated USD $180,000 and USD $176,536 for the three month periods ended December 31, 2008 and 2007 and USD $349,518 and $368,792 for the six month periods ended December 31, 2008 and 2007 and USD $4,976,782 for the cumulative period from inception through December 31, 2008.

During the six months ended December 31, 2008, we made significant payments for services to be performed and for the manufacture of materials in connection with our toxicology studies and clinical trial totaling approximately $720,000, which have been included as prepaid expenses on our Balance Sheet as of December 31, 2008.

Capital Resources

Since inception, we have generated revenues of $1,375,000 in connection with the initial fees and milestone payments received under our license and development agreements. We have not been profitable since inception, we will continue to incur additional operating losses in the future, and we will require additional financing to continue the development and subsequent commercialization of our technology. While we do not expect to generate significant revenues from the licensing of our technology for the next one to three years, or longer, we may enter into additional licensing or other agreements with marketing and distribution partners that may result in additional license fees, revenues from contract research, or other related revenue.

We anticipate that, based upon our current cash and investments, as of December 31, 2008 we will be able to fund our operations for the next seven (7) months. Over the next twelve months, we plan to fund our research and development and commercialization activities by:

- utilizing our current cash balance and investments;
- achieving some of the milestones set forth in our current licensing agreements;
- through the possible execution of additional licensing agreements for our technology; and
- through the placement of equity or debt instruments.

We cannot assure you that we will be able to raise money through any of the foregoing transactions, or on favorable terms, if at all.

Changes to Critical Accounting Policies and Estimates

We adopted Financial Accounting Standards Board (“FASB”) Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* (SFAS No. 157) for the fiscal year beginning July 1, 2008, except for nonfinancial assets and nonfinancial liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis for which delayed application is permitted until our fiscal year beginning July 1, 2009. The adoption of the

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remaining provisions of SFAS No. 157 is not expected to have a material impact on the Company’s financial position, results of operations or cash flows.

Except for the adoption of SFAS No. 157, there have been no changes to our critical accounting policies and estimates as set forth in our Annual Report on Form 10-K for the fiscal year ended June 30, 2008.

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Results of Operations

Three Months Ended December 31, 2008 and Three Months Ended December 31, 2007

The net loss for the three month period ended December 31, 2008 was $1,624,341. The net loss for the three month period ended December 31, 2007 was $1,049,838. Such a change represents an increase in net loss of $574,503**,** or 54.7%. This increase in net loss was primarily the result of an increase in non-cash expenses associated with the outstanding convertible notes that were issued during the year ended June 30, 2008, and an increase in operating expenses.

Revenue

There were no revenues for the three month period ended December 31, 2008. Total revenues of $6,250 for the three month period ended December 31, 2007 consisted of the amortized portion of previous milestone payments received in connection with certain agricultural license agreements.

We anticipate that we will continue to receive milestone payments in connection with our current agricultural development and license agreements while we continue to pursue our goal of attracting other companies to license our technologies in various other crops. Additionally, we anticipate that we will receive royalty payments from our license agreements when our partners commercialize their crops containing our technology. However, it is difficult for us to determine our future revenue expectations because we are a development stage biotechnology company. As such, the timing and outcome of our experiments, the timing of signing new partners and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

Operating Expenses

	Three Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
General and administrative	$ 649	$ 586	$ 63	10.8%
Research and development	579	392	187	47.7%
Total operating expenses	$ 1,228	$ 978	$ 250	25.6%

We expect operating expenses to increase over the next twelve months as we anticipate that research and development expenses will increase as we continue to expand our research and development activities.

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General and Administrative Expenses

	Three Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 131	$ 67	$ 64	95.5%
Payroll and benefits	181	177	4	2.3%
Investor relations	109	160	(51)	(31.9)%
Professional fees	134	113	21	18.6%
Depreciation and amortization	27	22	5	22.7%
Director fees	16	—	16	—
Other general and administrative	51	47	4	8.5%
Total general and administrative	$ 649	$ 586	$ 63	10.8%

- Stock-based compensation for the three months ended December 31, 2008 and 2007 consisted of the amortized portion of the Black-Scholes value of options, restricted stock units and warrants granted to directors, employees and consultants. During the three month periods ended December 31, 2008 and 2007, there were 721,584 and 1,408,300 options, restricted stock units and warrants granted to such directors, employees and consultants.

- Payroll and benefits increased primarily as a result of salary increases.

- Investor relations decreased primarily as a result of a decrease in the cost of our annual report and investor relations consulting costs.

- Professional fees increased primarily as a result of an increase in legal fees related to our multiple myeloma project and the review and filing of our securities filings.

- Depreciation and amortization increased primarily as a result of additional agricultural and human health patent costs being amortized.

- Director fees increased due to the Company implementing a cash compensation plan for non-employee directors beginning July 1, 2008. During the three month period ended December 31, 2007, the non-employee directors did not receive any cash compensation.

We expect general and administrative expenses to modestly increase over the next twelve months primarily due to an increase in payroll and benefits and legal and accounting fees related to the increased regulatory environment surrounding our business.

Research and Development Expenses

	Three Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 7	$ 16	$ (9)	(56.3)%
Other research and development	572	376	196	52.1%
Total research and development	$ 579	$ 392	$ 187	47.7%

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- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options, restricted stock units and warrants granted to research and development consultants and employees.

- Other research and development costs increased primarily as a result of an expansion of our human health programs, specifically our multiple myeloma research program.

The breakdown of our research and development expenses between our agricultural and human health research programs is as follows:

	Three Months Ended December 31,			
	2008	%	2007	%
	(in thousands, except % values)			
Agricultural	$ 142	25%	$ 172	44%
Human health	437	75%	220	56%
Total research and development	$ 579	100%	$ 392	100%

- Agricultural research expenses decreased during the three month period ended December 31, 2008 primarily as a result of a decrease in the allocation of resources from agriculture to human health at the University of Waterloo .

- Human health research expenses increased during the three month period ended December 31, 2008 primarily as a result of the multiple myeloma project.

We expect the percentage of human health research programs to continue to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human health initiatives.

Amortization of debt discount, financing costs and interest expense

During the year ended June 30, 2008, we issued $10,000,000 in convertible notes and warrants. The net proceeds of those notes and warrants were recorded as equity. The discount on the convertible notes is being amortized, using the effective yield method, over the term of the convertible notes. The related costs of issuance were recorded as deferred financing costs and are being amortized on a straight line basis over the term of the convertible notes. At December 31, 2008 there were $9,500,000 of convertible notes outstanding. At December 31, 2007, there were $7,000,000 of convertible notes outstanding.

Interest Income, net

Interest income was lower during the three month period ended December 31, 2008 as a result of lower interest rates compared to the three-month period ended December 31, 2007.

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Six Months Ended December 31, 2008 and Six Months Ended December 31, 2007

The net loss for the six month period ended December 31, 2008 was $2,805,747. The net loss for the six month period ended December 31, 2007 was $1,431,884. Such a change represents an increase in net loss of $1,373,863**,** or 96.0%. This increase in net loss was primarily the result of an increase in non-cash expenses associated with the outstanding convertible notes that were issued during the year ended June 30, 2008, an increase in operating expenses and a decrease in revenue.

Revenue

Total revenues of $200,000 for the six month period ended December 31, 2008 consisted of milestone payments in connection with certain agricultural license agreements. Total revenues of $377,500 for the six month period ended December 31, 2007 consisted of the initial payments and the amortized portion of previous milestone payments received in connection with certain agricultural license agreements.

We anticipate that we will continue to receive milestone payments in connection with our current agricultural development and license agreements while we continue to pursue our goal of attracting other companies to license our technologies in various other crops. Additionally, we anticipate that we will receive royalty payments from our license agreements when our partners commercialize their crops containing our technology. However, it is difficult for us to determine our future revenue expectations because we are a development stage biotechnology company. As such, the timing and outcome of our experiments, the timing of signing new partners and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

Operating Expenses

	Six Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
General and administrative	$ 1,179	$ 975	$ 204	20.9%
Research and development	1,084	745	339	45.5%
Total operating expenses	$ 2,263	$ 1,720	$ 543	31.6%

We expect operating expenses to increase over the next twelve months as we anticipate that research and development expenses will increase as we continue to expand our research and development activities.

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General and Administrative Expenses

	Six Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 203	$ 115	$ 88	76.5%
Payroll and benefits	345	332	13	3.9%
Investor relations	155	211	(56)	(26.5)%
Professional fees	276	171	105	61.4%
Depreciation and amortization	54	44	10	22.7%
Director fees	44	—	44	—
Other general and administrative	102	102	—	—
Total general and administrative	$ 1,179	$ 975	$ 204	20.9%

- Stock-based compensation for the six months ended December 31, 2008 and, 2007 consisted of the amortized portion of the Black-Scholes value of options, restricted stock units and warrants granted to directors, employees and consultants. During the six month periods ended December 31, 2008 and 2007, there were 721,584 and 1,408,300 options, restricted stock units and warrants granted to such directors, employees and consultants..

- Payroll and benefits increased primarily as a result of salary increases.

- Investor relations decreased primarily as a result of a decrease in the cost of our annual report and investor relations consulting costs.

- Professional fees increased primarily as a result of an increase in legal fees and accounting fees primarily due to an increase in legal fees related to our multiple myeloma project and accounting and legal fees related to the review and filing of our securities filings.

- Depreciation and amortization increased primarily as a result of additional agricultural and human health patent costs being amortized.

- Director fees increased due to the Company implementing a cash compensation plan for non-employee directors beginning July 1, 2008. During the six month period ended December 31, 2007, the non-employee directors did not receive any cash compensation.

We expect general and administrative expenses to modestly increase over the next twelve months primarily due to an increase in payroll and benefits and legal and accounting fees related to the increased regulatory environment surrounding our business.

Research and Development Expenses

	Six Months Ended December 31,			
	2008	2007	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 12	$ 31	$ (19)	(61.3)%
Other research and development	1,072	714	358	50.1%
Total research and development	$ 1,084	$ 745	$ 339	45.5%

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- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options, restricted stock units and warrants granted to research and development consultants and employees.

- Other research and development costs increased primarily as a result of an expansion of our human health programs, specifically our multiple myeloma research program, which was partially offset by a decrease in the cost of our research agreement with the University of Waterloo due to the strengthening of the U.S. dollar against the Canadian dollar.

The breakdown of our research and development expenses between our agricultural and human health research programs is as follows:

	Six Months Ended December 31,			
	2008	%	2007	%
	(in thousands, except % values)			
Agricultural	$ 311	29%	$ 357	48%
Human health	773	71%	388	52%
Total research and development	$ 1,084	100%	$ 745	100%

- Agricultural research expenses decreased during the three month period ended December 31, 2008 primarily as a result of a decrease in the allocation of resources from agriculture to human health at the University of Waterloo. Human health research expenses increased during the six month period ended December 31, 2008 primarily as a result of the multiple myeloma project.

We expect the percentage of human health research programs to continue to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human health initiatives.

Amortization of debt discount, financing costs and interest expense

During the year ended June 30, 2008, we issued $10,000,000 in convertible notes and warrants. The net proceeds of those notes and warrants were recorded as equity. The discount on the convertible notes is being amortized, using the effective yield method, over the term of the convertible notes. The

related costs of issuance were recorded as deferred financing costs and are being amortized on a straight line basis over the term of the convertible notes. At December 31, 2008 there were $9,500,000 of convertible notes outstanding. At December 31, 2007, there were $7,000,000 of convertible notes outstanding.

Interest Income, net

Interest income was higher during the six month period ended December 31, 2008 as a result of an higher average cash balance compared to the six month period ended December 31, 2007, which was partially offset by lower interest rates during the six month period ended December 31, 2008.

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Period From Inception on July 1, 1998 through December 31, 2008

From inception of operations on July 1, 1998 through December 31, 2008, we had revenues of $1,375,000, which consisted of the initial license fees and milestone payments in connection with our various development and license agreements. We do not expect to generate significant revenues for approximately the next one to three years, during which time we will continue to engage in significant research and development efforts.

We have incurred losses each year since inception and have an accumulated deficit of $33,028,777 at December 31, 2008. We expect to continue to incur losses as a result of expenditures on research and development and administrative activities.

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Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Foreign Currency Risk

Our financial statements are denominated in United States dollars and, except for our agreement with the University of Waterloo, which is denominated in Canadian dollars, all of our contracts are denominated in United States dollars. Therefore, we believe that fluctuations in foreign currency exchange rates will not result in any material adverse effect on our financial condition or results of operations. In the event we derive a greater portion of our revenues from international operations or in the event a greater portion of our expenses are incurred internationally and denominated in a foreign currency, then changes in foreign currency exchange rates could effect our results of operations and financial condition.

Interest Rate Risk

We invest in high-quality financial instruments, primarily money market funds and United States treasury notes, with an effective duration of the portfolio of less than one year, and no security with an effective duration in excess of one year, which we believe are subject to limited credit risk. We currently do not hedge our interest rate exposure. Due to the short-term nature of our investments, which we plan to hold until maturity, we do not believe that we have any material exposure to interest rate risk arising from our investments.

Item 4T. Controls and Procedures.

(a) Evaluation of disclosure controls and procedures.

The principal executive officer and principal financial officer have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2008. Based on this evaluation, they have concluded that our disclosure controls and procedures were effective to ensure that the information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, and to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive and principal financial officers, to allow timely decisions regarding required disclosure.

(b) Changes in internal controls.

No change in our internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three month and six month periods ended December 31, 2008 that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

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PART II. OTHER INFORMATION.

Item 1A. Risk Factors.

The more prominent risks and uncertainties inherent in our business are described below. However, additional risks and uncertainties may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations may suffer.

Risks Related to Our Business

We have a limited operating history and have incurred substantial losses and expect future losses.

We are a development stage biotechnology company with a limited operating history and limited assets and capital. We have incurred losses each year since inception and had an accumulated deficit of $33,028,777 at December 31, 2008. We have generated minimal revenues by licensing our technology for certain crops to companies willing to share in our development costs. In addition, our technology may not be ready for commercialization for several years. We expect to continue to incur losses for the next several years because we anticipate that our expenditures on research and development, and administrative activities will significantly exceed our revenues during that period. We cannot predict when, if ever, we will become profitable.

We may need additional capital to fund our operations until we are able to generate a profit.

Our operations to date have required significant cash expenditures. Our future capital requirements will depend on the results of our research and development activities, preclinical and clinical studies, and competitive and technological advances.

In addition, the recent financings with YA Global Investments, L.P., referred to herein as YA Global, and Stanford Venture Capital Holdings, Inc., referred to herein as Stanford, are secured by all of our assets. If we default under the convertible notes, the investors may foreclose on our assets and our business. As a result, we may need to obtain more funding in the future through collaborations or other arrangements with research institutions and corporate partners, or public and private offerings of our securities, including debt or equity financing. We may not be able to obtain adequate funds for our operations from these sources when needed or on acceptable terms. Future collaborations or similar arrangements may require us to license valuable intellectual property to, or to share substantial economic benefits with, our collaborators. If we raise additional capital by issuing additional equity or securities convertible into equity, our stockholders may experience dilution and our share price may decline. Any debt financing may result in restrictions on our spending.

If we are unable to raise additional funds, we will need to do one or more of the following:

- delay, scale-back or eliminate some or all of our research and product development programs;
- license third parties to develop and commercialize products or technologies that we would otherwise seek to develop and commercialize ourselves;

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- seek strategic alliances or business combinations;
- attempt to sell our company;
- cease operations; or
- declare bankruptcy.

We believe that at the projected rate of spending we should have sufficient cash and investments to maintain our present operations for the next 7 months as of December 31, 2008.

We may be adversely affected by the current economic environment.

Our ability to obtain financing, invest in and grow our business, and meet our financial obligations depends on our operating and financial performance, which in turn is subject to numerous factors. In addition to factors specific to our business, prevailing economic conditions and financial, business and other factors beyond our control can also affect our business and ability to raise capital. We cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

We depend on a single principal technology and, if our technology is not commercially successful, we will have no alternative source of revenue.

Our primary business is the development and licensing of technology to identify, isolate, characterize and promote or silence genes which control the death of cells in humans and plants. Our future revenue and profitability critically depend upon our ability to successfully develop apoptosis and senescence gene technology and later license or market such technology. We have conducted experiments on certain crops with favorable results and have conducted certain preliminary cell-line and animal experiments, which have provided us with data upon which we have designed additional research programs. However, we cannot give any assurance that our technology will be commercially successful or economically viable for any crops or human health applications.

In addition, no assurance can be given that adverse consequences might not result from the use of our technology such as the development of negative effects on humans or plants or reduced benefits in terms of crop yield or protection. Our failure to obtain market acceptance of our technology or of our current or potential licensees to successfully commercialize such technology would have a material adverse effect on our business.

We outsource all of our research and development activities and, if we are unsuccessful in maintaining our alliances with these third parties, our research and development efforts may be delayed or curtailed.

We rely on third parties to perform all of our research and development activities. Our research and development efforts take place at the University of Waterloo in Ontario, Canada, where our technology was discovered, Mayo Clinic, the University of Virginia, and with our commercial partners. At this time, we do not have the internal capabilities to perform our research and development activities. Accordingly, the failure of third-party research partners to perform under agreements entered into with us, or our failure to renew important research agreements with these third parties, may delay or curtail our research and development efforts.

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We have significant future capital needs and may be unable to raise capital when needed, which could force us to delay or reduce our research and development efforts.

As of December 31, 2008, we had cash and highly-liquid investments of $3,615,788 and working capital of $3,562,743. Using our available reserves as of December 31, 2008, we believe that we can operate according to our current business plan for the next 7 months from December 31, 2008. To date, we have generated minimal revenues and anticipate that our operating costs will exceed any revenues generated over the next several years. Therefore, we will be required to raise additional capital in the future in order to operate in accordance with our current business plan, and this funding may not be available on favorable terms, if at all. If we are unable to raise additional funds, we will need to do one or more of the following:

- delay, scale back or eliminate some or all of our research and development programs;
- provide a license to third parties to develop and commercialize our technology that we would otherwise seek to develop and commercialize ourselves;
- seek strategic alliances or business combinations;
- attempt to sell our company;
- cease operations; or
- declare bankruptcy.

In addition, in connection with any funding, if we need to issue more equity securities than our certificate of incorporation currently authorizes, or more than 20% of the shares of our common stock outstanding, we may need stockholder approval. If stockholder approval is not obtained or if adequate funds are not available, we may be required to curtail operations significantly or to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain of our technologies, product candidates, products or potential markets. Investors may experience dilution in their investment from future offerings of our common stock. For example, if we raise additional capital by issuing equity securities, such an issuance would reduce the percentage ownership of existing stockholders. In addition, assuming the exercise of all options and warrants outstanding and the conversion of the notes into common stock, as of December 31, 2008, we had 3,657,813 shares of common stock authorized but unissued and unreserved, which may be issued from time to time by our board of directors without stockholder approval. The total number of shares that may be issued under the financing is subject to certain caps as more fully described in this Form 10-Q. Furthermore, we may need to issue securities that have rights, preferences and privileges senior to our common stock. Failure to obtain financing on acceptable terms would have a material adverse effect on our liquidity.

Since our inception, we have financed all of our operations through private equity and debt financings. Our future capital requirements depend on numerous factors, including:

- the scope of our research and development;
- our ability to attract business partners willing to share in our development costs;
- our ability to successfully commercialize our technology;
- competing technological and market developments;
- our ability to enter into collaborative arrangements for the development, regulatory approval and commercialization of other products; and
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights.

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Our business depends upon our patents and proprietary rights and the enforcement of these rights. Our failure to obtain and maintain patent protection may increase competition and reduce demand for our technology.

As a result of the substantial length of time and expense associated with developing products and bringing them to the marketplace in the biotechnology and agricultural industries, obtaining and maintaining patent and trade secret protection for technologies, products and processes is of vital importance. Our success will depend in part on several factors, including, without limitation:

- our ability to obtain patent protection for our technologies and processes;
- our ability to preserve our trade secrets; and
- our ability to operate without infringing the proprietary rights of other parties both in the United States and in foreign countries.

As of December 31, 2008, we have been issued nineteen (19) patents by the PTO and twenty-three (23) patents from foreign countries. We have also filed numerous patent applications for our technology in the United States and in several foreign countries, which technology is vital to our primary business, as well as several Continuations in Part on these patent applications. Our success depends in part upon the grant of patents from our pending patent applications.

Although we believe that our technology is unique and that it will not violate or infringe upon the proprietary rights of any third party, we cannot assure you that these claims will not be made or if made, could be successfully defended against. If we do not obtain and maintain patent protection, we may face increased competition in the United States and internationally, which would have a material adverse effect on our business.

Since patent applications in the United States are maintained in secrecy until patents are issued, and since publication of discoveries in the scientific and patent literature tend to lag behind actual discoveries by several months, we cannot be certain that we were the first creator of the inventions covered by our pending patent applications or that we were the first to file patent applications for these inventions.

In addition, among other things, we cannot assure you that:

- our patent applications will result in the issuance of patents;
- any patents issued or licensed to us will be free from challenge and if challenged, would be held to be valid;
- any patents issued or licensed to us will provide commercially significant protection for our technology, products and processes;
- other companies will not independently develop substantially equivalent proprietary information which is not covered by our patent rights;
- other companies will not obtain access to our know-how;
- other companies will not be granted patents that may prevent the commercialization of our technology; or

- we will not incur licensing fees and the payment of significant other fees or royalties to third parties for the use of their intellectual property in order to enable us to conduct our business.

Our competitors may allege that we are infringing upon their intellectual property rights, forcing us to incur substantial costs and expenses in resulting litigation, the outcome of which would be uncertain.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. We are like most biotechnology companies in that our patent protection is highly uncertain and involves complex legal and technical questions for which legal principles are not yet firmly established. In addition, if issued, our patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage.

The PTO and the courts have not established a consistent policy regarding the breadth of claims allowed in biotechnology patents. The allowance of broader claims may increase the incidence and cost of patent interference proceedings and the risk of infringement litigation. On the other hand, the allowance of narrower claims may limit the scope and value of our proprietary rights.

The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have encountered significant problems and costs in protecting their proprietary rights in these foreign countries.

We could become involved in infringement actions to enforce and/or protect our patents. Regardless of the outcome, patent litigation is expensive and time consuming and would distract our management from other activities. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we could because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of any patent litigation could limit our ability to continue our operations.

If our technology infringes the intellectual property of our competitors or other third parties, we may be required to pay license fees or damages.

If any relevant claims of third-party patents that are adverse to us are upheld as valid and enforceable, we could be prevented from commercializing our technology or could be required to obtain licenses from the owners of such patents. We cannot assure you that such licenses would be available or, if available, would be on acceptable terms. Some licenses may be non-exclusive and, therefore, our competitors may have access to the same technology licensed to us. In addition, if any parties successfully claim that the creation or use of our technology infringes upon their intellectual property rights, we may be forced to pay damages, including treble damages.

Our security measures may not adequately protect our unpatented technology and, if we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology may be adversely affected.

Our success depends upon know-how, unpatentable trade secrets, and the skills, knowledge and experience of our scientific and technical personnel. As a result, we require all employees to agree to a confidentiality provision in their employment agreement that prohibits the disclosure of confidential information to anyone outside of our company, during the term of

employment and thereafter. We also require all employees to disclose and assign to us the rights to their ideas, developments, discoveries and inventions. We also attempt to enter into similar agreements with our consultants, advisors and research collaborators. We cannot assure you that adequate protection for our trade secrets, know-how or other proprietary information against unauthorized use or disclosure will be available.

We occasionally provide information to research collaborators in academic institutions and request that the collaborators conduct certain tests. We cannot assure you that the academic institutions will not assert intellectual property rights in the results of the tests conducted by the research collaborators, or that the academic institutions will grant licenses under such intellectual property rights to us on acceptable terms, if at all. If the assertion of intellectual property rights by an academic institution is substantiated, and the academic institution does not grant intellectual property rights to us, these events could limit our ability to commercialize our technology.

As we evolve from a company primarily involved in the research and development of our technology into one that is also involved in the commercialization of our technology, we may have difficulty managing our growth and expanding our operations.

As our business grows, we may need to add employees and enhance our management, systems and procedures. We may need to successfully integrate our internal operations with the operations of our marketing partners, manufacturers, distributors and suppliers to produce and market commercially viable products. We may also need to manage additional relationships with various collaborative partners, suppliers and other organizations. Although we do not presently conduct research and development activities in-house, we may undertake those activities in the future. Expanding our business may place a significant burden on our management and operations. We may not be able to implement improvements to our management information and control systems in an efficient and timely manner and we may discover deficiencies in our existing systems and controls. Our failure to effectively respond to such changes may make it difficult for us to manage our growth and expand our operations.

We have no marketing or sales history and depend on third-party marketing partners. Any failure of these parties to perform would delay or limit our commercialization efforts.

We have no history of marketing, distributing or selling biotechnology products and we are relying on our ability to successfully establish marketing partners or other arrangements with third parties to market, distribute and sell a commercially viable product both here and abroad. Our business plan envisions creating strategic alliances to access needed commercialization and marketing expertise. We may not be able to attract qualified sub-licensees, distributors or marketing partners, and even if qualified, these marketing partners may not be able to successfully market agricultural products or human health applications developed with our technology. If our current or potential future marketing partners fail to provide adequate levels of sales, our commercialization efforts will be delayed or limited and we may not be able to generate revenue.

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We will depend on joint ventures and strategic alliances to develop and market our technology and, if these arrangements are not successful, our technology may not be developed and the expenses to commercialize our technology will increase.

In its current state of development, our technology is not ready to be marketed to consumers. We intend to follow a multi-faceted commercialization strategy that involves the licensing of our technology to business partners for the purpose of further technological development, marketing and distribution. We have and are seeking business partners who will share the burden of our development costs while our technology is still being developed, and who will pay us royalties when they market and distribute products incorporating our technology upon commercialization. The establishment of joint ventures and strategic alliances may create future competitors, especially in certain regions abroad where we do not pursue patent protection. If we fail to establish beneficial business partners and strategic alliances, our growth will suffer and the continued development of our technology may be harmed.

Competition in the human health and agricultural biotechnology industries is intense and technology is changing rapidly. If our competitors market their technology faster than we do, we may not be able to generate revenues from the commercialization of our technology.

Many human health and agricultural biotechnology companies are engaged in research and development activities relating to apoptosis and senescence. The market for plant protection and yield enhancement products is intensely competitive, rapidly changing and undergoing consolidation. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for products containing our technology. Our competitors in the field of plant senescence gene technology are companies that develop and produce transgenic plants and include major international agricultural companies, specialized biotechnology companies, research and academic institutions and, potentially, our joint venture and strategic alliance partners. These companies include: Icoria (formerly Paradigm Genetics), Mendel Biotechnology, Renessen LLC, Exelixis Plant Sciences, Inc., Syngenta International AG, and Eden Bioscience, among others. Some of our competitors that are involved in apoptosis research include: Amgen; Centocor; Genzyme; OSI Pharmaceuticals, Inc.; Novartis; Introgen Therapeutics, Inc.; Genta, Inc.; and Vertex Pharmaceuticals, Inc. Many of these competitors have substantially greater financial, marketing, sales, distribution and technical resources than us and have more experience in research and development, clinical trials, regulatory matters, manufacturing and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technology may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our technology.

Our business is subject to various government regulations and, if we or our licensees are unable to obtain regulatory approval, we may not be able to continue our operations.

At present, the U.S. federal government regulation of biotechnology is divided among three agencies:

- the USDA regulates the import, field testing and interstate movement of specific types of genetic engineering that may be used in the creation of transgenic plants;

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- the EPA regulates activity related to the invention of plant pesticides and herbicides, which may include certain kinds of transgenic plants; and
- the FDA regulates foods derived from new plant varieties.

The FDA requires that transgenic plants meet the same standards for safety that are required for all other plants and foods in general. Except in the case of additives that significantly alter a food's structure, the FDA does not require any additional standards or specific approval for genetically engineered foods, but expects transgenic plant developers to consult the FDA before introducing a new food into the marketplace.

Use of our technology, if developed for human health applications, will also be subject to FDA regulation. The FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human health technology must be approved by the regulatory agencies of foreign governments. Prior to filing a new drug application or biologics license application with the FDA, we would have to perform extensive clinical trials, and prior to beginning any clinical trial, we would need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

We believe that our current activities, which to date have been confined to research and development efforts, do not require licensing or approval by any governmental regulatory agency. However, we are planning on performing clinical trials, which would be subject to FDA approval. Additionally, federal, state and foreign regulations relating to crop protection products and human health applications developed through biotechnology are subject to public concerns and political circumstances, and, as a result, regulations have changed and may change substantially in the future. Accordingly, we may become subject to governmental regulations or approvals or become subject to licensing requirements in connection with our research and development efforts. We may also be required to obtain such licensing or approval from the governmental regulatory agencies described above, or from state agencies, prior to the commercialization of our genetically transformed plants and human health technology. In addition, our marketing partners who utilize our technology or sell products grown with our technology may be subject to government regulations. If unfavorable governmental regulations are imposed on our technology or if we fail to obtain licenses or approvals in a timely manner, we may not be able to continue our operations.

Preclinical studies and clinical trials of our human health applications may be unsuccessful, which could delay or prevent regulatory approval.

Preclinical studies may reveal that our human health technology is ineffective or harmful, and/or clinical trials may be unsuccessful in demonstrating efficacy and safety of our human health technology, which would significantly limit the possibility of obtaining regulatory approval for any drug or biologic product manufactured with our technology. The FDA requires submission of extensive preclinical, clinical and manufacturing data to assess the efficacy and safety of potential products. Furthermore, the success of preliminary studies does not ensure commercial success, and later-stage clinical trials may fail to confirm the results of the preliminary studies.

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Any inability to license from third parties their proprietary technologies or processes which we use in connection with the development of our technology may impair our business.

Other companies, universities and research institutions have or may obtain patents that could limit our ability to use our technology in a product candidate or impair our competitive position. As a result, we would have to obtain licenses from other parties before we could continue using our technology in a product candidate. Any necessary licenses may not be available on commercially acceptable terms, if at all. If we do not obtain required licenses, we may not be able to develop our technology into a product candidate or we may encounter significant delays in development while we redesign methods that are found to infringe on the patents held by others.

Clinical trials for our human health technology will be lengthy and expensive and their outcome is uncertain

Before obtaining regulatory approval for the commercial sales of any product containing our technology, we must demonstrate through clinical testing that our technology and product containing our technology is safe and effective for use in humans. Conducting clinical trials is a time-consuming, expensive and uncertain process and typically requires years to complete. In our industry, the results from preclinical studies and early clinical trials often are not predictive of results obtained in later-stage clinical trials. Some products and technologies that have shown promising results in preclinical studies or early clinical trials subsequently fail to establish sufficient safety and efficacy data necessary to obtain regulatory approval. At any time during clinical trials we or the FDA might delay or halt any clinical trial for various reasons, including:

- occurrence of unacceptable toxicities or side effects;
- ineffectiveness of the product candidate;
- negative or inconclusive results from the clinical trials, or results that necessitate additional studies or clinical trials;
- delays in obtaining or maintaining required approvals from institutions, review boards or other reviewing entities at clinical sites;
- delays in patient enrollment; or
- insufficient funding or a reprioritization of financial or other resources.

Any failure or substantial delay in successfully completing clinical trials and obtaining regulatory approval for our product candidates could severely harm our business.

Even if we receive regulatory approval, consumers may not accept products containing our technology, which will prevent us from being profitable since we have no other source of revenue.

We cannot guarantee that consumers will accept products containing our technology. Recently, there has been consumer concern and consumer advocate activism with respect to genetically-engineered agricultural consumer products. The adverse consequences from heightened consumer concern in this regard could affect the markets for agricultural products developed with our technology and could also result in increased government regulation in

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response to that concern. If the public or potential customers perceive our technology to be genetic modification or genetic engineering, agricultural products grown with our technology may not gain market acceptance.

We depend on our key personnel and, if we are not able to attract and retain qualified scientific and business personnel, we may not be able to grow our business or develop and commercialize our technology.

We are highly dependent on our scientific advisors, consultants and third-party research partners. Our success will also depend in part on the continued service of our key employees and our ability to identify, hire and retain additional qualified personnel in an intensely competitive market. Although we have employment agreements with all of our key employees and a research agreement with Dr. John Thompson, these agreements may be terminated upon short or no notice. We do not maintain key person life insurance on any member of management. The failure to attract and retain key personnel could limit our growth and hinder our research and development efforts.

Certain provisions of our charter, by-laws and Delaware law could make a takeover difficult.

Certain provisions of our certificate of incorporation and by-laws could make it more difficult for a third party to acquire control of us, even if the change in control would be beneficial to stockholders. Our certificate of incorporation authorizes our board of directors to issue, without stockholder approval, except as may be required by the rules of the NYSE Alternext US, 5,000,000 shares of preferred stock with voting, conversion and other rights and preferences that could adversely affect the voting power or other rights of the holders of our common stock. Similarly, our by-laws do not restrict our board of directors from issuing preferred stock without stockholder approval.

In addition, we are subject to the Business Combination Act of the Delaware General Corporation Law which, subject to certain exceptions, restricts certain transactions and business combinations between a corporation and a stockholder owning 15% or more of the corporation’s outstanding voting stock for a period of three years from the date such stockholder becomes a 15% owner. These provisions may have the effect of delaying or preventing a change of control of us without action by our stockholders and, therefore, could adversely affect the value of our common stock.

Furthermore, in the event of our merger or consolidation with or into another corporation, or the sale of all or substantially all of our assets in which the successor corporation does not assume outstanding options or issue equivalent options, our board of directors is required to provide accelerated vesting of outstanding options.

Increasing political and social turmoil, such as terrorist and military actions, increase the difficulty for us and our strategic partners to forecast accurately and plan future business activities.

Recent political and social turmoil, can be expected to put further pressure on economic conditions in the United States and worldwide. These political, social and economic conditions may make it difficult for us to plan future business activities.

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Risks Related to Our Common Stock

Our management and other affiliates have significant control of our common stock and could significantly influence our actions in a manner that conflicts with our interests and the interests of other stockholders.

As of December 31, 2008, our executive officers, directors and affiliated entities together beneficially own approximately 59.4% of the outstanding shares of our common stock, assuming the exercise of options and warrants which are currently exercisable or will become exercisable within 60 days of December 31, 2008, held by these stockholders. As a result, these stockholders, acting together, will be able to exercise significant influence over matters requiring approval by our stockholders, including the election of directors, and may not always act in the best interests of other stockholders. Such a concentration of ownership may have the effect of delaying or preventing a change in control of us, including transactions in which our stockholders might otherwise receive a premium for their shares over then current market prices.

A significant portion of our total outstanding shares of common stock may be sold in the market in the near future, which could cause the market price of our common stock to drop significantly.

As of December 31, 2008, we had 19,027,719 shares of our common stock issued and outstanding, of which approximately 5,319,639 shares are registered pursuant to registration statements on Form S-3 and the remainder of which are either eligible to be sold under SEC Rule 144 or are in the public float. In addition, we have registered 2,632,194 shares of our common stock underlying warrants previously issued on the Form S-3 registration statement and we registered 6,000,000 shares of our common stock underlying options granted or to be granted under our stock option plan. Consequently, sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, may have a material adverse effect on our stock price.

Our common stock has a limited trading market, which could limit your ability to resell your shares of common stock at or above your purchase price.

Our common stock is quoted on the NYSE Alternext US Exchange and currently has a limited trading market. The NYSE Alternext US Exchange requires us to meet minimum financial requirements in order to maintain our listing. We currently believe that we meet the continued listing requirements of the NYSE Alternext US Exchange. However, we cannot assure you that we will continue to meet such standards. If we do not meet the continued listing standards, we could be delisted. We cannot assure you that an active trading market will develop or, if developed, will be maintained. As a result, our stockholders may find it difficult to dispose of shares of our common stock and, as a result, may suffer a loss of all or a substantial portion of their investment.

If our common stock is delisted from the NYSE Alternext US Exchange, we may not be able to list on any other stock exchange, and our common stock may be subject to the "penny stock" regulations, which may affect the ability of our stockholders to sell their shares.

The NYSE Alternext US Exchange requires us to meet minimum financial requirements in order to maintain our listing. As of December 31, 2008, we believe that we continue to be in compliance with the NYSE Alternext US Exchange's continued listing requirements. However,

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if we are unable to continue to be in compliance with the continued listing requirements, it is possible that we will be delisted. If we are delisted from the NYSE Alternext US Exchange, our common stock likely will become a "penny stock". In general, regulations of the SEC define a "penny stock" to be an equity security that is not listed on a national securities exchange or the NASDAQ Stock Market and that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. If our common stock becomes a penny stock, additional sales practice requirements would be imposed on broker-dealers that sell such securities to persons other than certain qualified investors. For transactions involving a penny stock, unless exempt, a broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. In addition, the rules on penny stocks require delivery, prior to and after any penny stock transaction, of disclosures required by the SEC.

If our stock is not accepted for listing on the NYSE Alternext US Exchange, we will make every possible effort to have it listed on the Over the Counter Bulletin Board, or the OTC Bulletin Board. If our common stock were to be traded on the OTC Bulletin Board, the Securities Exchange Act of 1934, as amended, and related SEC rules would impose additional sales practice requirements on broker-dealers that sell our securities. These rules may adversely affect the ability of stockholders to sell our common stock and otherwise negatively affect the liquidity, trading market and price of our common stock.

We believe that the listing of our common stock on a recognized national trading market, such as the NYSE Alternext US Exchange, is an important part of our business and strategy. Such a listing helps our stockholders by providing a readily available trading market with current quotations. Without that, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock would likely decline. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded it by other parties. In that regard, the absence of a listing on a recognized national trading market will also

affect our ability to benefit from the use of our operations and expansion plans, including for use in licensing agreements, joint ventures, the development of strategic relationships and acquisitions, which are critical to our business and strategy and none of which is currently the subject of any agreement, arrangement or understanding, with respect to any future financing or strategic relationship it may undertake. A delisting from the NYSE Alternext US Exchange could result in negative publicity and could negatively impact our ability to raise capital in the future.

The market price of our common stock may fluctuate and may drop below the price you paid.

We cannot assure you that you will be able to resell the shares of our common stock at or above your purchase price. The market price of our common stock may fluctuate significantly in response to a number of factors, some of which are beyond our control. These factors include:

- quarterly variations in operating results;
- the progress or perceived progress of our research and development efforts;
- changes in accounting treatments or principles;
- announcements by us or our competitors of new technology, product and service offerings, significant contracts, acquisitions or strategic relationships;
- additions or departures of key personnel;

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- future offerings or resales of our common stock or other securities;
- stock market price and volume fluctuations of publicly-traded companies in general and development companies in particular; and
- general political, economic and market conditions.

Because we do not intend to pay, and have not paid, any cash dividends on our shares of common stock, our stockholders will not be able to receive a return on their shares unless the value of our common stock appreciates and they sell their shares.

We have never paid or declared any cash dividends on our common stock and we intend to retain any future earnings to finance the development and expansion of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Therefore, our stockholders will not be able to receive a return on their investment unless the value of our common stock appreciates and they sell their shares.

Our stockholders may experience substantial dilution as a result of the conversion of outstanding convertible debentures, or the exercise of options and warrants to purchase our common stock.

As of December 31, 2008, we have granted options outside of our stock option plan to purchase 10,000 shares of our common stock and outstanding warrants to purchase 19,555,584 shares of our common stock. In addition, as of December 31, 2008, we have reserved 5,137,200 shares of our common stock for issuance upon the exercise of options granted pursuant to our stock option plan, all of which may be granted in the future. The exercise of these options and warrants will result in dilution to our existing stockholders and could have a material adverse effect on our stock price. In addition, any shares issued in connection with the YA Global financing or Stanford Financing, as further discussed elsewhere in this Form 10-Q, can also have a dilutive effect and a possible material adverse effect on our stock price. The conversion price of the warrants are also subject to certain anti-dilution adjustments. The agreements with YA Global and Stanford provide for the potential issuance of up to a total of 61,833,332 shares of our common stock, of which 13,883,332 shares are included in outstanding warrants noted above.

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Item 4. Submission of Matters to a Vote of Security Holders.

(a) Our annual meeting of stockholders was held on December 18, 2008.

(b) The following is a complete list of our directors as of December 18, 2008, each of whom was elected to a one-year term at the meeting, and whose term of office continued after the meeting.

Rudolf Stalder
Bruce C. Galton
John E. Thompson, Ph.D.
Christopher Forbes
Thomas C. Quick
David Rector
John N. Braca
Jack Van Hulst
Harlan W. Waksal, M.D.

(c) There were 14,259,653 shares of common stock present at the meeting in person or by proxy, out of a total number of 18,573,183 shares of common stock issued and outstanding and entitled to vote at the meeting.

The proposals and results of the vote of the stockholders taken at the meeting by ballot and by proxy as solicited by us on behalf of our Board of Directors were as follows:

(A) For the election of the nominees for our Board of Directors:

Nominee	For	Withheld
Rudolf Stalder	13,755,437	504,216

Bruce C. Galton	12,781,048	1,478,605
John E. Thompson, Ph.D.	13,920,478	339,175
Christopher Forbes	13,960,278	299,375
Thomas C. Quick	13,862,062	397,591
David Rector	13,920,478	339,175
John N. Braca	13,920,478	339,175
Jack Van Hulst	13,808,893	450,760
Harlan W. Waksal, M.D.	13,920,478	339,175

(B) To (i) approve the Senesco Technologies, Inc. 2008 Incentive Compensation Plan and (ii) the increase of the number of shares of common stock reserved for issuance thereunder:

For	Against	Abstain	Broker Non-Votes
6,735,907	1,469,766	95,036	5,958,944

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Item 5. Other Information

As of October 24, 2008, Harlan W. Waksal, M.D. was appointed to our board of directors, increasin g the board from eight members to nine members.

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Item 6. Exhibits.

Exhibits.

10.1*	2008 Incentive Compensation Plan (filed herewith)
31.1	Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
31.2	Certification of principal financial and accounting officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
32.1	Certification of principal executive officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350. (furnished herewith)
32.2	Certification of principal financial and accounting officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350. (furnished herewith)

* Compensation Plan and arrangements for current and former executive officers and directors.

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SIGNATURES

In accordance with the requirements of the Securities Exchange Act of 1934, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SENESCO TECHNOLOGIES, INC.

DATE: February 17, 2009

By: /s/ Bruce C. Galton
Bruce C. Galton, President
and Chief Executive Officer
(Principal Executive Officer)

DATE: February 17, 2009

By: /s/ Joel Brooks
Joel Brooks, Chief Financial Officer
and Treasurer
(Principal Financial and Accounting Officer)

SENESCO TECHNOLOGIES, INC.

2008 INCENTIVE COMPENSATION PLAN

ARTICLE ONE

GENERAL PROVISIONS

I. PURPOSE OF THE PLAN

This 2008 Incentive Compensation Plan (the "Plan") is intended to promote the interests of Senesco Technologies, Inc., a Delaware corporation, by providing eligible persons in the Corporation's service with the opportunity to participate in one or more cash or equity incentive compensation programs designed to encourage them to continue their service relationship with the Corporation.

The Plan shall serve as the successor to the Corporation's 1998 Stock Incentive Plan (the "Predecessor Plan"), and no further awards shall be granted under the Predecessor Plan after the Plan Effective Date. All awards outstanding under the Predecessor Plan on the Plan Effective Date shall continue to be governed solely by the terms of the documents evidencing such award, and no provision of the Plan shall be deemed to affect or otherwise modify the rights or obligations of the holders of such transferred awards.

Capitalized terms shall have the meanings assigned to such terms in the attached Appendix.

II. TYPES OF AWARDS

Awards may be made under the Plan in the form of (i) options, (ii) stock appreciation rights, (iii) stock awards, (iv) restricted stock units, (v) cash awards, (vi) performance units, and (vii) dividend equivalent rights.

III. ADMINISTRATION OF THE PLAN

A. The Compensation Committee shall have sole and exclusive authority to administer the Plan with respect to Section 16 Insiders. Administration of the Plan with respect to all other persons eligible to participate in the Plan may, at the Board's discretion, be vested in the Compensation Committee or a Secondary Board Committee, or the Board may retain the power to administer those programs with respect to such persons.

B. Members of the Compensation Committee or any Secondary Board Committee shall serve for such period of time as the Board may determine and may be removed by the Board at any time. The Board may also at any time terminate the functions of any Secondary Board Committee and reassume all powers and authority previously delegated to such committee.

C. To the extent permitted by and consistent with applicable law, the Board may delegate to one or more executive officers the power to grant awards to employees other than Section 16 Insiders.

D. Each Plan Administrator shall, within the scope of its administrative functions under the Plan, have full power and authority (subject to the provisions of the Plan) to establish such rules and regulations as it may deem appropriate for proper administration of the Plan and to make such determinations under, and issue such interpretations of, the provisions of the Plan and any outstanding Awards thereunder as it may deem necessary or advisable. Decisions of the Plan Administrator within the scope of its administrative functions under the Plan shall be final and binding on all parties who have an interest in the Plan under its jurisdiction or any Award thereunder.

E. Service as a Plan Administrator by the members of the Compensation Committee or the Secondary Board Committee shall constitute service as Board members, and the members of each such committee shall accordingly be entitled to full indemnification and reimbursement as Board members for their service on such committee. No member of the Compensation Committee or the Secondary Board Committee shall be liable for any act or omission made in good faith with respect to the Plan or any Award thereunder.

IV. ELIGIBILITY

A. The persons eligible to participate in the Plan are as follows:

(i) Employees,

(ii) non-employee members of the Board or the board of directors of any Parent or Subsidiary, and

(iii) consultants and other independent advisors who provide services to the Corporation (or any Parent or Subsidiary).

B. The Plan Administrator shall have full authority to determine which eligible persons are to receive Awards under the Plan, the time or times when those Awards are to be made, the number of shares to be covered by each such Award, the time or times when the Award is to become exercisable, the status of an option for federal tax purposes, the maximum term for which an option or stock appreciation right is to remain outstanding, the vesting and issuance schedules applicable to the shares which are the subject of the Award, the cash consideration (if any) payable for those shares and the form (cash or shares of Common Stock) in which the Award is to be settled and, with respect to performance–based Awards, the performance objectives for each such Award, the amounts payable at designated levels of attained performance, any applicable service vesting requirements, and the payout schedule for each such Award.

V. STOCK SUBJECT TO THE PLAN

A. The stock issuable under the Plan shall be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Corporation on the open market. The number of shares of Common Stock initially reserved for issuance over the term of the Plan shall be limited to five million one hundred and thirty seven thousand and two hundred (5,137,200) shares. Such reserve shall consist of (i) the number of shares of Common Stock estimated to remain available for issuance, as of the Plan Effective Date, under the Predecessor Plan as last approved by the Corporation's stockholders (excluding shares subject to outstanding awards under the Predecessor Plan), plus (ii) an additional increase of four million (4,000,000) shares. To the extent any options or restricted stock units outstanding under the Predecessor Plan on the Plan Effective Date expire or terminate unexercised or without the issuance of shares thereunder, the number of shares of Common Stock subject to those expired or terminated options and restricted stock units at the time of expiration or termination shall be added to the share reserve under this Plan and shall accordingly be available for issuance hereunder, up to a maximum of an additional one million (1,000,000) shares.

B. Each person participating in the Plan shall be subject the following limitations:

(i) for Awards denominated in shares of Common Stock (whether payable in Common Stock, cash or a combination of both), the maximum number of shares of Common Stock for which such Awards may be made to such person in any calendar year shall not exceed one million (1,000,000) shares of Common Stock in the aggregate, and

(ii) for Awards denominated in dollars (whether payable in cash, Common Stock or a combination of both), the maximum dollar amount for which such Awards may be made in the aggregate to such person shall not exceed one million Dollars ($1,000,000) per calendar year within the applicable service or performance measurement period.

C. Shares of Common Stock subject to outstanding Awards made under the Plan (including Awards transferred to this Plan from the Predecessor Plan) shall be available for subsequent issuance under the Plan to the extent those Awards expire or terminate for any reason prior to the issuance of the shares of Common Stock subject to those Awards. Unvested shares issued under the Plan and subsequently forfeited or repurchased by the Corporation, at a price per share not greater than the original issue price paid per share, pursuant to the Corporation's repurchase rights under the Plan shall be added back to the number of shares of Common Stock reserved for issuance under the Plan and shall accordingly be available for subsequent reissuance. Should the exercise price of an option under the Plan be paid with shares of Common Stock, then the authorized reserve of Common Stock under the Plan shall be reduced only by the net number of shares issued under the exercised stock option and not by the gross number of shares for which that option is exercised. Upon the exercise of any stock appreciation right under the Plan, the share reserve shall be reduced only by the net number of shares actually issued by the Corporation upon such exercise and not by the gross number of shares as to which such right is exercised. If shares of Common Stock otherwise issuable under the Plan are withheld by the Corporation in satisfaction of the withholding taxes incurred in connection with the exercise, vesting or settlement of an Award, then the number of shares of Common Stock available for

issuance under the Plan shall be reduced by the net number of shares issued after such share withholding.

D. Should any change be made to the Common Stock by reason of any stock split, stock dividend, recapitalization, combination of shares, exchange of shares, spin-off transaction or other change affecting the outstanding Common Stock as a class without the Corporation's receipt of consideration, or should the value of outstanding shares of Common Stock be substantially reduced as a result of a spin-off transaction or an extraordinary dividend or distribution, or should there occur any merger, consolidation or other reorganization, then equitable adjustments shall be made by the Plan Administrator to (i) the maximum number and/or class of securities issuable under the Plan, (ii) the maximum number and/or class of securities by which the share reserve under the Plan may increase by reason of the expiration or termination of options or restricted stock units under the Predecessor Plan, (iii) the maximum number and/or class of securities for which any one person may be granted Common Stock-denominated Awards under the Plan per calendar year, (iv) the number and/or class of securities and the exercise or base price per share in effect under each outstanding award under the Plan and the cash consideration (if any) payable per share, and (v) the number and/or class of securities subject to the Corporation's outstanding repurchase rights under the Plan and the repurchase price payable per share. The adjustments shall be made in such manner as the Plan Administrator deems appropriate in order to prevent the dilution or enlargement of benefits under the Plan and the outstanding Awards thereunder, and such adjustments shall be final, binding and conclusive. In the event of a Change in Control, however, the adjustments (if any) shall be made solely in accordance with the applicable provisions of the Plan governing Change in Control transactions.

E. Outstanding Awards granted pursuant to the Plan shall in no way affect the right of the Corporation to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

ARTICLE TWO

AWARDS

I. OPTIONS

A. **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant Incentive Options and Nonstatutory Options evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that each such agreement shall comply with the terms specified below. Each agreement evidencing an Incentive Option shall, in addition, be subject to the provisions of Section H below.

B. **Exercise Price**.

(i) The exercise price per share shall be fixed by the Plan Administrator; ***provided, however,*** that such exercise price shall not be less than one hundred percent (100%) of the Fair Market Value per share of Common Stock on the grant date.

(ii) The exercise price shall become immediately due upon exercise of the option and shall, subject to the provisions of the documents evidencing the option, be payable in one or more of the forms specified below:

(1) cash or check made payable to the Corporation,

(2) shares of Common Stock (whether delivered in the form of actual stock certificates or through attestation of ownership) held for the requisite period (if any) necessary to avoid any resulting charge to the Corporation's earnings for financial reporting purposes and valued at Fair Market Value on the Exercise Date, or

(3) to the extent the option is exercised for vested shares of Common Stock, through a special sale and remittance procedure pursuant to which the Participant shall concurrently provide instructions to (a) a brokerage firm (reasonably satisfactory to the Corporation for purposes of administering such procedure in compliance with the Corporation's pre-clearance/pre-notification policies) to effect the immediate sale of the purchased shares and remit to the Corporation, out of the sale proceeds available on the settlement date, sufficient funds to cover the aggregate exercise price payable for the purchased shares plus all applicable income and employment taxes required to be withheld by the Corporation by reason of such exercise and (b) the Corporation to deliver the certificates for the purchased shares directly to such brokerage firm on such settlement date in order to complete the sale.

Except to the extent such sale and remittance procedure is utilized, payment of the exercise price for the purchased shares must be made on the Exercise Date.

C. **Exercise and Term of Options.** Each option shall be exercisable at such time or times, during such period and for such number of shares as shall be determined by the Plan Administrator and set forth in the Award Agreements evidencing the option. However, no option shall have a term in excess of ten (10) years measured from the option grant date.

D. **Effect of Termination of Service**.

(i) The following provisions shall govern the exercise of any options that are outstanding at the time of the Participant's cessation of Service or death:

(1) Any option outstanding at the time of the Participant's cessation of Service for any reason shall remain exercisable for such period of time thereafter as shall be determined by the Plan Administrator and set forth in the documents evidencing the option, but no such option shall be exercisable after the expiration of the option term.

(2) Any option held by the Participant at the time of the Participant's death and exercisable in whole or in part at that time may be subsequently exercised by the personal representative of the Participant's estate or by the person or persons to whom the option is transferred pursuant to the Participant's will or the laws of inheritance or by the Participant's designated beneficiary or beneficiaries of that option.

(3) Should the Participant's Service be terminated for Misconduct or should the Participant otherwise engage in Misconduct while holding one or more outstanding options granted under this Article Two, then all of those options shall terminate immediately and cease to be outstanding.

(4) During the applicable post-Service exercise period, the option may not be exercised for more than the number of vested shares for which the option is at the time exercisable; ***provided, however,*** that one or more options may be structured so that those options continue to vest in whole or part during the applicable post-Service exercise period. Upon the expiration of the applicable exercise period or (if earlier) upon the expiration of the option term, the option shall terminate and cease to be outstanding for any shares for which the option has not been exercised.

(ii) The Plan Administrator shall have complete discretion, exercisable either at the time an option is granted or at any time while the option remains outstanding, to:

(1) extend the period of time for which the option is to remain exercisable following the Participant's cessation of Service from the limited exercise period otherwise in effect for that option to such greater period of time as the Plan Administrator shall deem appropriate, but in no event beyond the expiration of the option term;

(2) include an automatic extension provision whereby the specified post-Service exercise period in effect for any option shall automatically be extended by an additional period of time equal in duration to any interval within the specified post-Service exercise period during which the exercise of that option or the immediate sale of the shares acquired under such option could not be effected in compliance with applicable federal and state securities laws, but in no event shall such an extension result in the continuation of such option beyond the expiration date of the term of that option; and/or

(3) permit the option to be exercised, during the applicable post-Service exercise period, not only with respect to the number of vested shares of Common Stock for which such option is exercisable at the time of the Participant's cessation of Service but also with respect to one or more additional installments in which the Participant would have vested had the Participant continued in Service.

E. **Stockholder Rights.** The holder of an option shall have no stockholder rights with respect to the shares subject to the option until such person shall have exercised the option, paid the exercise price and become a holder of record of the purchased shares.

F. **Repurchase Rights.** The Plan Administrator shall have the discretion to grant options which are exercisable for unvested shares of Common Stock. Should the

Participant cease Service while such shares are unvested, the Corporation shall have the right to repurchase any or all of those unvested shares at a price per share equal to the ***lower*** of (i) the exercise price paid per share or (ii) the Fair Market Value per share of Common Stock at the time of repurchase. The terms upon which such repurchase right shall be exercisable (including the period and procedure for exercise and the appropriate vesting schedule for the purchased shares) shall be established by the Plan Administrator and set forth in the document evidencing such repurchase right.

G. **Transferability of Options**. The transferability of options granted under the Plan shall be governed by the following provisions:

(i) *Incentive Options*: During the lifetime of the Participant, Incentive Options shall be exercisable only by the Participant and shall not be assignable or transferable other than by will or the laws of inheritance following the Participant's death.

(ii) *Non-Statutory Options*. Non-Statutory Options shall be subject to the same limitation on transfer as Incentive Options, except that the Plan Administrator may structure one or more Non-Statutory Options so that the option may be assigned in whole or in part during the Participant's lifetime. The assigned portion may only be exercised by the person or persons who acquire a proprietary interest in the option pursuant to the assignment. The terms applicable to the assigned portion shall be the same as those in effect for the option immediately prior to such assignment and shall be set forth in such documents issued to the assignee as the Plan Administrator may deem appropriate.

(iii) *Beneficiary Designation*. Notwithstanding the foregoing, the Participant may designate one or more persons as the beneficiary or beneficiaries of his or her outstanding options, and those options shall, in accordance with such designation, automatically be transferred to such beneficiary or beneficiaries upon the Participant's death while holding those options. Such beneficiary or beneficiaries shall take the transferred options subject to all the terms and conditions of the applicable agreement evidencing each such transferred option, including (without limitation) the limited time period during which the option may be exercised following the Participant's death.

H. **Incentive Options**. The terms specified below shall be applicable to all Incentive Options.

(i) *Eligibility*. Incentive Options may only be granted to Employees.

(ii) *Dollar Limitation*. The aggregate Fair Market Value of the shares of Common Stock (determined as of the respective date or dates of grant) for which one or more options granted to any Employee under the Plan (or any other option plan of the Corporation or any Parent or Subsidiary) may for the first time become exercisable as Incentive Options during any one calendar year shall not exceed the sum of One Hundred Thousand Dollars ($100,000).

To the extent the Employee holds two (2) or more such options which become exercisable for the first time in the same calendar year, then for purposes of the foregoing limitations on the exercisability of those options as Incentive Options, such options

shall be deemed to become first exercisable in that calendar year on the basis of the chronological order in which they were granted, except to the extent otherwise provided under applicable law or regulation.

(iii) *10% Stockholder*. If any Employee to whom an Incentive Option is granted is a 10% Stockholder, then the exercise price per share shall not be less than one hundred ten percent (110%) of the Fair Market Value per share of Common Stock on the option grant date, and the option term shall not exceed five (5) years measured from the option grant date.

II. STOCK APPRECIATION RIGHTS

A. **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant stock appreciation rights evidenced by one or more Award Agreements in the form approved by the Plan Administrator which complies with the terms specified below.

B. **Types**. Two types of stock appreciation rights shall be authorized for issuance under this Section II: (i) tandem stock appreciation rights ("Tandem Rights") and (ii) stand-alone stock appreciation rights ("Stand-alone Rights").

C. **Tandem Rights**. The following terms and conditions shall govern the grant and exercise of Tandem Rights.

(i) One or more Participants may be granted a Tandem Right, exercisable upon such terms and conditions as the Plan Administrator may establish, to elect between the exercise of the underlying option for shares of Common Stock or the surrender of that option in exchange for a distribution from the Corporation in an amount equal to the excess of (i) the Fair Market Value (on the option surrender date) of the number of shares in which the Participant is at the time vested under the surrendered option (or surrendered portion thereof) over (ii) the aggregate exercise price payable for such vested shares.

(ii) Any distribution to which the Participant becomes entitled upon the exercise of a Tandem Right may be made in (i) shares of Common Stock valued at Fair Market Value on the option surrender date, (ii) cash or (iii) a combination of cash and shares of Common Stock, as specified in the applicable Award agreement.

D. **Stand-Alone Rights**. The following terms and conditions shall govern the grant and exercise of Stand-alone Rights:

(i) One or more Participants may be granted a Stand-alone Right not tied to any underlying option. The Stand-alone Right shall relate to a specified number of shares of Common Stock and shall be exercisable upon such terms and conditions as the Plan Administrator may establish. In no event, however, may the Stand-alone Right have a maximum term in excess of ten (10) years measured from the grant date.

(ii) Upon exercise of the Stand-alone Right, the holder shall be entitled to receive a distribution from the Corporation in an amount equal to the excess of (i) the

aggregate Fair Market Value (on the exercise date) of the shares of Common Stock underlying the exercised right over (ii) the aggregate base price in effect for those shares.

(iii) The number of shares of Common Stock underlying each Stand-alone Right and the base price in effect for those shares shall be determined by the Plan Administrator in its sole discretion at the time the Stand-alone Right is granted. In no event, however, may the base price per share be less than the Fair Market Value per underlying share of Common Stock on the grant date.

(iv) Stand-alone Rights shall be subject to the same transferability restrictions applicable to Non-Statutory Options and may not be transferred during the holder's lifetime, except to the extent otherwise provided in the applicable Award Agreement. In addition, one or more beneficiaries may be designated for an outstanding Stand-alone Right in accordance with substantially the same terms and provisions as set forth in Section I.F of this Article Two.

(v) The distribution with respect to an exercised Stand-alone Right may be made in (i) shares of Common Stock valued at Fair Market Value on the exercise date, (ii) cash or (iii) a combination of cash and shares of Common Stock, as specified in the applicable Award agreement.

(vi) The holder of a Stand-alone Right shall have no stockholder rights with respect to the shares subject to the Stand-alone Right unless and until such person shall have exercised the Stand-alone Right and become a holder of record of the shares of Common Stock issued upon the exercise of such Stand-alone Right.

E. **Post-Service Exercise**. The provisions governing the exercise of Tandem and Stand-alone Rights following the cessation of the Participant's Service shall be substantially the same as those set forth in Section I.C. of this Article Two for the options granted under the Plan, and the Plan Administrator's discretionary authority under Section I.C.(ii) of this Article Two shall also extend to any outstanding Tandem or Stand-alone Appreciation Rights.

III. STOCK AWARDS

A. **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant stock awards either as vested or unvested shares of Common Stock, through direct and immediate issuances. Each stock award shall be evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that each such agreement shall comply with the terms specified below.

B. **Issue Price/Consideration.**

(i) Shares of Common Stock may be issued under a stock award for a price per share fixed by the Plan Administrator at the time of the Award, but in no event shall such issue price be less than one hundred percent (100%) of the Fair Market Value per share of Common Stock on the Award date.

(ii) Shares of Common Stock may be issued under a stock award for any of the following items of consideration which the Plan Administrator may deem appropriate in each individual instance:

(1) cash;

(2) past services rendered or to be rendered the Corporation (or any Parent or Subsidiary); or

(3) any other valid consideration under the State in which the Corporation is at the time incorporated.

C. **Vesting Provisions.**

(i) Stock awards may, in the discretion of the Plan Administrator, be fully and immediately vested upon issuance as a bonus for Service rendered or may vest in one or more installments over the Participant's period of Service and/or upon the attainment of specified performance objectives. The elements of the vesting schedule applicable to any stock award shall be determined by the Plan Administrator and incorporated into the Award Agreement.

(ii) The Plan Administrator shall also have the discretionary authority, consistent with Code Section 162(m), to structure one or more stock awards so that the shares of Common Stock subject to those Awards shall vest upon the achievement of pre-established performance objectives based on one or more Performance Goals and measured over the performance period specified by the Plan Administrator at the time of the grant of the Award.

(iii) Should the Participant cease to remain in Service while holding one or more unvested shares of Common Stock issued under a stock award or should the performance objectives not be attained with respect to one or more such unvested shares of Common Stock, then those shares shall be immediately surrendered to the Corporation for cancellation, and the Participant shall have no further stockholder rights with respect to those shares. To the extent the surrendered shares were previously issued to the Participant for consideration paid in cash or cash equivalent, the Corporation shall repay to the Participant the ***lower*** of (i) the cash consideration paid for the surrendered shares or (ii) the Fair Market Value of those shares at the time of cancellation.

(iv) The Plan Administrator may in its discretion waive the surrender and cancellation of one or more unvested shares of Common Stock which would otherwise occur upon the cessation of the Participant's Service or the non-attainment of the performance objectives applicable to those shares. Any such waiver shall result in the immediate vesting of the Participant's interest in the shares of Common Stock as to which the waiver applies. Such waiver may be effected at any time, whether before or after the Participant's cessation of Service or the attainment or non-attainment of the applicable performance objectives. However, no vesting requirements tied to the attainment of performance objectives may be waived with respect to shares which were

intended at the time of issuance to qualify as performance-based compensation under Code Section 162(m), except in the event of the Participant's Involuntary

Termination with respect to Awards made prior to January 1, 2009 or as otherwise provided in Section VIII of this Article Two.

(v) Any new, substituted or additional securities or other property (including money paid other than as a regular cash dividend) which the Participant may have the right to receive with respect to the Participant's unvested shares of Common Stock by reason of any stock dividend, stock split, recapitalization, combination of shares, exchange of shares, spin-off transaction, extraordinary dividend or distribution or other change affecting the outstanding Common Stock as a class without the Corporation's receipt of consideration shall be issued subject to (i) the same vesting requirements applicable to the Participant's unvested shares of Common Stock and (ii) such escrow arrangements as the Plan Administrator shall deem appropriate, unless and to the extent the Plan Administrator determines at the time to vest and distribute such securities or other property. Equitable adjustments to reflect each such transaction shall also be made by the Plan Administrator to the repurchase price payable per share by the Corporation for any unvested securities subject to its existing repurchase rights under the Plan; provided the aggregate repurchase price shall in each instance remain the same.

D. **Stockholder Rights**. The Participant shall have full stockholder rights with respect to any shares of Common Stock issued to the Participant under a stock award, whether or not the Participant's interest in those shares is vested. Accordingly, the Participant shall have the right to vote such shares and to receive any dividends paid on such shares, subject to any applicable vesting requirements.

IV. RESTRICTED STOCK UNITS

A. **Authority**. The Plan Administrator shall have the full power and authority, exercisable in its sole discretion, to grant restricted stock units which entitle the Participants to receive the shares underlying those Awards upon vesting or upon the expiration of a designated time period following the vesting of those Awards. Each award of restricted stock units shall be evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that each such agreement shall comply with the terms specified below.

B. **Vesting Provisions**.

(i) Restricted stock units may, in the discretion of the Plan Administrator, vest in one or more installments over the Participant's period of Service or upon the attainment of specified performance objectives.

(ii) The Plan Administrator shall also have the discretionary authority, consistent with Code Section 162(m), to structure one or more restricted stock unit awards so that the shares of Common Stock subject to those Awards shall vest (or vest and become issuable) upon the achievement of pre-established performance objectives based on one or more Performance Goals and measured over the performance period specified by the Plan Administrator at the time of the grant of the Award.

(iii) Outstanding restricted stock units shall automatically terminate, and no shares of Common Stock shall actually be issued in satisfaction of those Awards, if the performance goals or Service requirements established for those Awards are not attained or satisfied. The Plan Administrator, however, shall have the discretionary authority to issue vested shares of Common Stock under one or more outstanding Awards of restricted stock units as to which the designated performance goals or Service requirements have not been attained or satisfied. However, no vesting requirements tied to the attainment of performance goals may be waived with respect to Awards which were intended, at the time those Awards were granted, to qualify as performance-based compensation under Code Section 162(m), except in the event of the Participant's Involuntary Termination with respect to Awards made prior to January 1, 2009 or as otherwise provided in Section VIII of this Article Two.

C. **Stockholder Rights**. The Participant shall not have any stockholder rights with respect to the shares of Common Stock subject to a restricted stock unit award until that award vests and the shares of Common Stock are actually issued thereunder. However, dividend-equivalent units may be paid or credited, either in cash or in actual or phantom shares of Common Stock, on outstanding restricted stock unit awards, subject to such terms and conditions as the Plan Administrator may deem appropriate.

V. CASH AWARDS

A. **Authority**. The Plan Administrator shall have the full power and authority, exercisable in its sole discretion, to make cash incentive awards which are to vest in one or more installments over the Participant's continued Service with the Corporation or upon the attainment of specified performance goals. Each such cash award shall be evidenced by one or more Award Agreements in the form approved by the Plan Administrator; ***provided however,*** that each such agreement shall comply with the terms specified below.

B. **Vesting Provisions**.

(i) The elements of the vesting schedule applicable to each cash award shall be determined by the Plan Administrator and incorporated into the Award Agreement.

(ii) The Plan Administrator shall also have the discretionary authority, consistent with Code Section 162(m), to structure one or more cash awards so that those Awards shall vest upon the achievement of pre-established corporate performance objectives based upon one or more Performance Goals and measured over the performance period specified by the Plan Administrator at the time of grant of the Award.

(iii) Outstanding cash awards shall automatically terminate, and no cash payment or other consideration shall be due the holders of those Awards, if the performance goals or Service requirements established for the Awards are not attained or satisfied. The Plan Administrator may, however, in its discretion waive the termination of one or more unvested cash awards which would otherwise occur upon the cessation of the

Participant's Service or the non-attainment of the performance objectives applicable to those Awards. Any such waiver shall result in the immediate vesting of the Participant's interest in the cash award as to which the waiver applies. Such wavier may be effected at any time, whether before or after the

Participant's cessation of Service or the attainment or non-attainment of the applicable performance objectives. However, no vesting requirements tied to the attainment of performance goals may be waived with respect to awards which were intended, at the time those awards were granted, to qualify as performance-based compensation under Code Section 162(m), except in the event of the Participant's Involuntary Termination with respect to Awards made prior to January 1, 2009 or as otherwise provided in Section VIII of this Article Two.

C. **Payment**. Cash awards which become due and payable following the attainment of the applicable performance goals or satisfaction of the applicable Service requirement (or the waiver of such goals or Service requirement) may be paid in (i) cash, (ii) shares of Common Stock valued at Fair Market Value on the payment date or (iii) a combination of cash and shares of Common Stock as the Plan Administrator shall determine.

VI. PERFORMANCE UNIT AWARDS

A. **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant performance unit awards in accordance with the terms of this Section VI. Each performance unit award shall be evidenced by one or more Award Agreements in the form approved by the Plan Administrator; ***provided however,*** that each such agreement shall comply with the terms specified below.

B. **Bonus Pool**. A performance unit shall represent a participating interest in a special bonus pool tied to the attainment of pre-established performance objectives based on one or more Performance Goals. The amount of the bonus pool may vary with the level at which the applicable performance objectives are attained, and the value of each Performance Unit which becomes due and payable upon the attained level of performance shall be determined by dividing the amount of the resulting bonus pool (if any) by the total number of Performance Units issued and outstanding at the completion of the applicable performance period.

C. **Service Requirement**. Performance units may also be structured to include a Service requirement which the Participant must satisfy following the completion of the performance period in order to vest in the performance units awarded with respect to that performance period.

D. **Payment**. Performance units which become due and payable following the attainment of the applicable performance objectives and the satisfaction of any applicable Service requirement may be paid in (i) cash, (ii) shares of Common Stock valued at Fair Market Value on the payment date or (iii) a combination of cash and shares of Common Stock, as determined by the Plan Administrator in its sole discretion and set forth in the Award Agreement.

VII. DIVIDEND EQUIVALENT RIGHTS

A. **Authority**. The Plan Administrator shall have the discretionary authority to grant dividend equivalent rights in accordance with the terms of this Section VII. Each such Award shall be evidenced by one or more Award Agreements in the form approved by the Plan

Administrator; provided however, that each such agreement shall comply with the terms specified below.

B. **Terms**. The dividend equivalent rights may be granted as stand-alone awards or in tandem with other Awards made under the Plan. The term of each dividend equivalent right award shall be established by the Plan Administrator at the time of grant, but no such Award shall have a term in excess of ten (10) years.

C. **Entitlement**. Each dividend equivalent right shall represent the right to receive the economic equivalent of each dividend or distribution, whether in cash, securities or other property (other than shares of Common Stock), which is made per issued and outstanding share of Common Stock during the term the dividend equivalent right remains outstanding. A special account on the books of the Corporation shall be maintained for each Participant to whom a dividend equivalent right is granted, and that account shall be credited per dividend equivalent right with each such dividend or distribution made per issued and outstanding share of Common Stock during the term of that dividend equivalent right remains outstanding.

D. **Timing of Payment**. Payment of the amounts credited to such book account may be made to the Participant either concurrently with the actual dividend or distribution made per issued and outstanding share of Common Stock or may be deferred for a period specified by the Plan Administrator at the time the dividend equivalent right is initially granted or (to the extent permitted by the Plan Administrator) designated by the Participant pursuant to a timely deferral election made in accordance with the requirements of Code Section 409A.

E. **Form of Payment**. Payment of the amounts due with respect to dividend equivalent rights may be made in (i) cash, (ii) shares of Common Stock or (iii) a combination of cash and shares of Common Stock, as determined by the Plan Administrator in its sole discretion and set forth in the Award Agreement. If payment is to be made in the form of Common Stock, the number of shares of Common Stock into which the cash dividend or distribution amounts are to be converted for purposes of the Participant's book account may be based on the Fair Market Value per share of Common Stock on the date of conversion, a prior date or an average of the Fair Market Value per share of Common Stock over a designated period, as determined by the Plan Administrator in its sole discretion.

VIII. EFFECT OF CHANGE IN CONTROL

A. In the event of an actual Change in Control transaction, each option, stock appreciation right and restricted stock unit award outstanding at that time under the Plan but not otherwise fully vested shall automatically accelerate, immediately prior to the effective date of that Change in Control, as to all the shares of Common Stock at the time subject to such Award, unless (i) such Award is to be assumed or substituted with an equivalent award by the successor corporation (or parent thereof) or is otherwise to continue in full force and effect pursuant to the terms of the Change in Control

transaction or (ii) such Award is replaced with a cash retention program of the successor corporation that preserves the spread existing at the time of the Change

in Control on the shares of Common Stock as to which the Award is not otherwise at that time vested and exercisable and provides for the subsequent vesting and payout of that spread in accordance with the same exercise/vesting schedule applicable to those shares, or (iii) the acceleration of such Award is subject to other limitations imposed by the Plan Administrator.

B. All outstanding repurchase rights shall automatically terminate, and the shares of Common Stock subject to those terminated rights shall vest in full, immediately prior to the effective date of an actual Change in Control transaction, except to the extent (i) those repurchase rights are to be assigned to the successor corporation (or parent thereof) or are otherwise to continue in full force and effect pursuant to the terms of the Change in Control transaction or (ii) such accelerated vesting is precluded by other limitations imposed by the Plan Administrator.

C. Immediately following the consummation of the Change in Control, all outstanding options, stock appreciation rights and restricted stock unit awards shall terminate and cease to be outstanding, except to the extent assumed by the successor corporation (or parent thereof) or otherwise continued in full force and effect pursuant to the terms of the Change in Control transaction.

D. Each Award denominated in shares of Common Stock which is assumed in connection with a Change in Control or otherwise continued in effect shall be appropriately adjusted, immediately after such Change in Control, to apply to the number and class of securities into which the shares of Common Stock subject to that Award would have been converted in consummation of such Change in Control had those shares actually been outstanding at that time. Appropriate adjustments to reflect such Change in Control shall also be made to (i) the exercise or base price or cash consideration payable per share in effect under each outstanding Award, provided the aggregate exercise or base price or cash consideration in effect for such securities shall remain the same, (ii) the maximum number and/or class of securities available for issuance over the remaining term of the Plan, (iii) the maximum number and/or class of securities for which any one person may be granted Common Stock-denominated Awards under the Plan per calendar year and (iv) the number and/or class of securities subject to the Corporation's outstanding repurchase rights under the Plan and the repurchase price payable per share. To the extent the actual holders of the Corporation's outstanding Common Stock receive cash consideration for their Common Stock in consummation of the Change in Control, the successor corporation may, in connection with the assumption or continuation of the outstanding Awards under the Plan and subject to the Plan Administrator's approval, substitute, for the securities underlying those assumed Awards, one or more shares of its own common stock with a fair market value equivalent to the cash consideration paid per share of Common Stock in such Change in Control transaction, provided such common stock is readily traded on an established U.S. securities exchange or market.

E. The Plan Administrator shall have the discretionary authority to structure one or more outstanding Awards so that those Awards shall, immediately prior to the effective date of an actual Change in Control transaction, vest as to all the shares of Common Stock at the time subject to those Awards, whether or not those Awards are to be assumed in the Change in Control transaction or otherwise continued in effect. In addition, the Plan Administrator shall

have the discretionary authority to structure one or more of the Corporation's repurchase rights so that those rights shall terminate immediately prior to the effective date of an actual Change in Control transaction, and the shares subject to those terminated rights shall thereupon vest in full.

F. The Plan Administrator shall have full power and authority to structure one or more outstanding Awards so that those Awards shall vest as to all the shares of Common Stock at the time subject to those Awards in the event the Participant's Service is subsequently terminated by reason of an Involuntary Termination within a designated period following the effective date of any Change in Control transaction in which those Awards do not otherwise vest on an accelerated basis. In addition, the Plan Administrator may structure one or more of the Corporation's repurchase rights so that those rights shall immediately terminate with respect to any shares held by the Participant at the time of such Involuntary Termination, and the shares subject to those terminated repurchase rights shall accordingly vest in full at that time.

G. The portion of any Incentive Option accelerated in connection with a Change in Control shall remain exercisable as an Incentive Option only to the extent the applicable One Hundred Thousand Dollar ($100,000) limitation is not exceeded. To the extent such dollar limitation is exceeded, the accelerated portion of such option shall be exercisable as a Non-statutory Option under the Federal tax laws.

H. The Plan Administrator shall have the discretionary authority to structure one or more cash, performance unit and dividend equivalent right awards so that such Awards shall automatically vest in whole or in part immediately prior to the effective date of an actual Change in Control transaction or upon the subsequent termination of the Participant's Service by reason of an Involuntary Termination within a designated period following the effective date of such Change in Control.

I. The Plan Administrator's authority under Paragraphs E, F and H of this Section VIII shall also extend to any Awards intended to qualify as performance-based compensation under Code Section 162(m), even though the automatic vesting of those Awards pursuant to Paragraphs E, F and H of this Section VIII may result in their loss of performance-based status under Code Section 162(m).

ARTICLE THREE

MISCELLANEOUS

I. DEFERRED COMPENSATION

A. The Plan Administrator may, in its sole discretion, structure one or more Awards (other than options and stock appreciation rights) so that the Participants may be provided with an election to defer the compensation associated with those Awards for federal income tax purposes. Any such deferral opportunity shall comply with all applicable requirements of Code Section 409A.

B. To the extent the Corporation maintains one or more separate non-qualified deferred compensation arrangements which allow the participants the opportunity to

make notional investments of their deferred account balances in shares of Common Stock, the Plan Administrator may authorize the share reserve under the Plan to serve as the source of any shares of Common Stock that become payable under those deferred compensation arrangements. In such event, the share reserve under the Plan shall be reduced on a share-for-one share basis for each share of Common Stock issued under the Plan in settlement of the deferred compensation owed under those separate arrangements.

II. TAX WITHHOLDING

A. The Corporation's obligation to deliver shares of Common Stock upon the exercise, issuance or vesting of an Award under the Plan shall be subject to the satisfaction of all applicable income and employment tax withholding requirements.

B. The Plan Administrator may, in its discretion, provide Participants to whom Awards are made under the Plan with the right to use shares of Common Stock in satisfaction of all or part of the Withholding Taxes to which such holders may become subject in connection with the exercise, issuance or vesting of those Awards or the issuance of shares of Common Stock thereunder. Such right may be provided to any such holder in either or both of the following formats:

(i) *Stock Withholding*: The election to have the Corporation withhold, from the shares of Common Stock otherwise issuable upon the issuance, exercise or vesting of such Award or the issuance of shares of Common Stock thereunder, a portion of those shares with an aggregate Fair Market Value equal to the percentage of the Withholding Taxes (not to exceed one hundred percent (100%)) designated by such individual. The shares of Common Stock so withheld shall not reduce the number of shares of Common Stock authorized for issuance under the Plan.

(ii) *Stock Delivery*: The election to deliver to the Corporation, at the time of the issuance, exercise or vesting of such Award or the issuance of shares of Common Stock thereunder, one or more shares of Common Stock previously acquired by such individual (other than in connection with the exercise, share issuance or share vesting triggering the Withholding Taxes) with an aggregate Fair Market Value equal to the percentage of the Withholding Taxes (not to exceed one hundred percent (100%)) designated by the individual. The shares of Common Stock so delivered shall neither reduce the number of shares of Common Stock authorized for issuance under the Plan nor be added to the number of shares of Common Stock authorized for issuance under the Plan.

III. SHARE ESCROW/LEGENDS

Unvested shares may, in the Plan Administrator's discretion, be held in escrow by the Corporation until the Participant's interest in such shares vests or may be issued directly to the Participant with restrictive legends on the certificates evidencing those unvested shares.

IV. EFFECTIVE DATE AND TERM OF THE PLAN

A. The Plan shall become effective on the Plan Effective Date.

B. The Plan shall terminate upon the ***earliest*** to occur of (i) September 21, 2018, (ii) the date on which all shares available for issuance under the Plan shall have been issued as fully vested shares or (iii) the termination of all outstanding Awards in connection with a Change in Control. Should the Plan terminate on September 21, 2018, then all Awards outstanding at that time shall continue to have force and effect in accordance with the provisions of the documents evidencing those Awards.

V. AMENDMENT OF THE PLAN

A. The Board shall have complete and exclusive power and authority to amend or modify the Plan in any or all respects, subject to stockholder approval to the extent required under applicable law or regulation or pursuant to the listing standards of the Stock Exchange on which the Common Stock is at the time primarily traded. However, no such amendment or modification shall adversely affect the rights and obligations with respect to Awards at the time outstanding under the Plan unless the Participant consents to such amendment or modification.

B. The Compensation Committee shall have the discretionary authority to adopt and implement from time to time such addenda or subplans to the Plan as it may deem necessary in order to bring the Plan into compliance with applicable laws and regulations of any foreign jurisdictions in which Awards are to be made under the Plan and/or to obtain favorable tax treatment in those foreign jurisdictions for the individuals to whom the Awards are made.

C. Awards may be made under the Plan that involve shares of Common Stock in excess of the number of shares then available for issuance under the Plan, provided no shares shall actually be issued pursuant to those Awards until the number of shares of Common Stock available for issuance under the Plan is sufficiently increased by stockholder approval of an amendment of the Plan authorizing such increase. If such stockholder approval is not obtained within twelve (12) months after the date the first excess Award is made, then all Awards granted on the basis of such excess shares shall terminate and cease to be outstanding.

VI. USE OF PROCEEDS

Any cash proceeds received by the Corporation from the sale of shares of Common Stock under the Plan shall be used for general corporate purposes.

VII. REGULATORY APPROVALS

A. The implementation of the Plan, the granting of any Award under the Plan and the issuance of any shares of Common Stock in connection with the issuance, exercise or vesting of any Award under the Plan shall be subject to the Corporation's procurement of all approvals and permits required by regulatory authorities having jurisdiction over the Plan, the Awards made under the Plan and the shares of Common Stock issuable pursuant to those Awards.

B. No shares of Common Stock or other assets shall be issued or delivered under the Plan unless and until there shall have been compliance with all applicable requirements

of applicable securities laws, including the filing and effectiveness of the Form S-8 registration statement for the shares of Common Stock issuable under the Plan, and all applicable listing requirements of any Stock Exchange on which Common Stock is then listed for trading.

VIII. NO EMPLOYMENT/SERVICE RIGHTS

Nothing in the Plan shall confer upon the Participant any right to continue in Service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Corporation (or any Parent or Subsidiary employing or retaining such person) or of the Participant, which rights are hereby expressly reserved by each, to terminate such person's Service at any time for any reason, with or without cause.

APPENDIX

The following definitions shall be in effect under the Plan:

A. **Award** shall mean any of the following awards authorized for issuance or grant under the Plan: options, stock appreciation rights, stock awards, restricted stock units, performance units, dividend equivalent rights and cash incentive awards.

B. **Award Agreement** shall mean the written agreement(s) between the Corporation and the Participant evidencing a particular Award made to that individual under the Plan, as such agreement(s) may be in effect from time to time.

C. **Board** shall mean the Corporation's Board of Directors.

D. **Change in Control** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Change in Control shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Change in Control definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Change in Control shall mean a change in ownership or control of the Corporation effected through any of the following transactions:

a. a merger, consolidation or other reorganization approved by the Corporation's stockholders, unless securities representing more than fifty percent (50%) of the total combined voting power of the voting securities of the successor corporation are immediately thereafter beneficially owned, directly or indirectly and in substantially the same proportion, by the persons who beneficially owned the Corporation's outstanding voting securities immediately prior to such transaction,

b. a sale, transfer or other disposition of all or substantially all of the Corporation's assets, or

c. the closing of any transaction or series of related transactions pursuant to which any person or any group of persons comprising a "group" within the meaning of Rule 13d-5(b)(1) of the 1934 Act (other than the Corporation or a person that, prior to such transaction or series of related transactions, directly or indirectly controls, is controlled by or is under common control with, the Corporation) becomes directly or indirectly (whether as a result of a single acquisition or by reason of one or more acquisitions within the twelve (12)-month period ending with the most recent acquisition) the beneficial owner (within the meaning of Rule 13d-3 of the 1934 Act) of securities possessing (or convertible into or exercisable for securities possessing) fifty percent (50%) or more of the total combined voting power of the Corporation's securities (as measured in terms of the power to vote with respect to

the election of Board members) outstanding immediately after the consummation of such transaction or series of related transactions, whether such transaction involves a direct issuance from the Corporation or the acquisition of outstanding securities held by one or more of the Corporation's existing stockholders.

d. a change in the composition of the Board over a period of twelve (12) consecutive months or less such that a majority of the Board members ceases, by reason of one or more contested elections for Board membership, to be comprised of individuals who either (A) have been Board members continuously since the beginning of such period or (B) have been elected or nominated for election as Board members during such period by at least a majority of the Board members described in clause (A) who were still in office at the time the Board approved such election or nomination.

E. **Code** shall mean the Internal Revenue Code of 1986, as amended.

F. **Common Stock** shall mean the Corporation's Common Stock.

G. **Compensation Committee** shall mean the Compensation Committee of the Board comprised of two (2) or more non-employee Board members.

H. **Corporation** shall mean Senesco Technologies, Inc., a Delaware corporation, and any corporate successor to all or substantially all of the assets or voting stock of Senesco Technologies, Inc. which has by appropriate action assumed the Plan.

I. **Employee** shall mean an individual who is in the employ of the Corporation (or any Parent or Subsidiary, whether now existing or subsequently established), subject to the control and direction of the employer entity as to both the work to be performed and the manner and method of performance.

J. **Exercise Date** shall mean the date on which the Corporation shall have received written notice of the option exercise.

K. **Fair Market Value** per share of Common Stock on any relevant date shall be the closing selling price per share of Common Stock at the close of regular hours trading (i.e., before after-hours trading begins) on date on question on the Stock Exchange serving as the primary market for the Common Stock, as such price is reported by the National Association of Securities Dealers (if primarily traded on the Nasdaq Global or Global Select Market) or as officially quoted in the composite tape of transactions on any other Stock Exchange on which the Common Stock is then primarily traded. If there is no closing selling price for the Common Stock on the date in question, then the Fair Market Value shall be the closing selling price on the last preceding date for which such quotation exists.

L. **Good Reason** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Good Reason shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Good Reason definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Good Reason shall mean an individual's voluntary resignation following (A) a change in his or her position with the Corporation (or any Parent or Subsidiary) which materially reduces his or her duties, responsibilities or authority, (B) a material diminution in the duties, responsibilities or authority of the person to whom such individual reports, (C) a material reduction in such individual's level of base compensation, with a reduction of more than fifteen percent (15%) to be deemed material for such purpose, or (D) a material relocation of such individual's place of employment, with a relocation of more than fifty (50) miles to be deemed material for such purpose, ***provided, however,*** that a resignation for Good Reason may be effected only after (i) the individual provides written notice to the Corporation of the event or transaction constituting grounds for such resignation within sixty (60) days after the occurrence of that event or transaction and (ii) the Corporation fails to take the requisite remedial action with respect to such event or transaction within thirty (30) days after receipt of such notice.

M. **Incentive Option** shall mean an option which satisfies the requirements of Code Section 422.

N. **Involuntary Termination** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Involuntary Termination shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Involuntary Termination definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Involuntary Termination shall mean such individual's involuntary dismissal or discharge by the Corporation (or any Parent or Subsidiary) for reasons other than Misconduct, or such individual's voluntary resignation for Good Reason.

O. **Misconduct** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Misconduct shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Misconduct definition in the Award Agreement for a particular Award (or in any other agreement incorporated by reference into the Award Agreement), Misconduct shall mean the commission of any act of fraud, embezzlement or dishonesty by the Participant, any unauthorized use or disclosure by such person of confidential information or trade secrets of the Corporation (or any Parent or Subsidiary), or any other intentional misconduct by such person adversely affecting the business or affairs of the Corporation (or any Parent or Subsidiary) in a material manner. The foregoing definition shall not in any way preclude or restrict the right of the Corporation (or any Parent or Subsidiary) to discharge or dismiss any Participant or other person in the Service of the Corporation (or any Parent or Subsidiary) for any other acts or omissions, but such other acts or omissions shall not be deemed, for purposes of the Plan, to constitute grounds for termination for Misconduct.

P. **1934 Act** shall mean the Securities Exchange Act of 1934, as amended.

Q. **Non-Statutory Option** shall mean an option not intended to satisfy the requirements of Code Section 422.

R. **Parent** shall mean any corporation (other than the Corporation) in an unbroken chain of corporations ending with the Corporation, provided each corporation in the unbroken chain (other than the Corporation) owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

S. **Participant** shall mean any person who is granted an Award under the Plan.

T. **Performance Goals** shall mean any of the following performance criteria upon which the vesting of one or more Awards under the Plan may be based: (i) pre-tax or after-tax earnings, profit or net income, (ii) revenue or revenue growth, (iii) earnings per share, (iv) return on assets, capital or stockholder equity, (v) total stockholder return, (vi) gross or net profit margin, (vii) cash flow, (viii) earnings or operating income before interest, taxes, depreciation, amortization and/or charges for stock-based compensation, (ix) market share, (x) increases in customer base, (xi) operating income, net operating income or net operating income after recorded tax expense; (xii) operating profit, net operating profit or net operating profit after recorded tax expense, (xiii) operating margin, (xiv) cost reductions or other expense control objectives, (xv) market price of the Common Stock, whether measured in absolute terms or in relationship to earnings or operating income, (xvi) budget objectives and research and development milestones, (xvii) working capital, (xviii) mergers, acquisitions or divestitures or (xix) measures of customer satisfaction. Each performance criteria may be based upon the attainment of specified levels of the Corporation's performance under one or more of the measures described above relative to the performance of other entities and may also be based on the performance of any of the Corporation's business units or divisions or any Parent or Subsidiary. Each applicable Performance Goal may include a minimum threshold level of performance below which no Award will be earned, levels of performance at which specified portions of an Award will be earned and a maximum level of performance at which an Award

will be fully earned. Each applicable Performance Goal may be structured at the time of the Award to provide for appropriate adjustment for one or more of the following items: (A) asset impairments or write-downs; (B) litigation judgments or claim settlements; (C) the effect of changes in tax law, accounting principles or other such laws or provisions affecting reported results; (D) accruals for reorganization and restructuring programs; (E) any extraordinary nonrecurring items as described in Accounting Principles Board Opinion No. 30 and/or in management's discussion and analysis of financial condition and results of operations appearing in the Corporation's annual report to shareholders for the applicable year; (F) the operations of any business acquired by the Corporation or any Parent or Subsidiary or of any joint venture in which the Corporation or any Parent or Subsidiary participates; (G) the divestiture of one or more business operations or the assets thereof; or (H) the costs incurred in connection with such acquisitions or divestitures.

U. **Permanent Disability or Permanently Disabled** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Permanent Disability or Permanently Disabled shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other definition of Permanent Disability or Permanently Disabled in the Award Agreement for a particular Award (or in any other agreement incorporated by reference into the Award Agreement), Permanent Disability or Permanently Disabled shall mean the inability of the Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment expected to result in death or to be of continuous duration of twelve (12) months or more.

V. **Plan** shall mean the Corporation's 2008 Incentive Compensation Plan, as set forth in this document.

W. **Plan Administrator** shall mean the particular entity or individual, whether the Compensation Committee (or subcommittee thereof), the Board, the Secondary Board Committee or executive officer authorized to administer the Plan with respect to one or more classes of eligible persons, to the extent such entity or individual is carrying out its administrative functions under the Plan with respect to the persons under the jurisdiction of such entity or individual.

X. **Plan Effective Date** shall mean the date upon which the Plan shall be approved by the Corporation's stockholders.

Y. **Predecessor Plan** shall mean the Corporation's 1998 Stock Incentive Plan in effect immediately prior to the Plan Effective Date hereunder.

Z. **Secondary Board Committee** shall mean a committee of one or more Board members appointed by the Board to administer the Plan with respect to eligible persons other than Section 16 Insiders.

AA. **Section 16 Insider** shall mean an officer or director of the Corporation subject to the short-swing profit liabilities of Section 16 of the 1934 Act.

BB. **Service** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Service shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other definition of Service in the Award Agreement for a particular Award (or in any other agreement incorporated by reference into the Award Agreement), Service shall mean the performance of services for the Corporation (or any Parent or Subsidiary, whether now existing or subsequently established) by a person in the capacity of an Employee, a non-employee member of the board of directors or a consultant or independent advisor, except to the extent otherwise specifically provided in the documents evidencing the option grant or stock issuance. For purposes of this particular definition of Service, a Participant shall be deemed to cease Service immediately upon the occurrence of the either of the following events: (i) the Participant no longer performs services in any of the foregoing capacities for the Corporation or any Parent or Subsidiary or (ii) the

entity for which the Participant is performing such services ceases to remain a Parent or Subsidiary of the Corporation, even though the Participant may subsequently continue to perform services for that entity.

(iii) Service shall not be deemed to cease during a period of military leave, sick leave or other personal leave approved by the Corporation; ***provided, however,*** that should such leave of absence exceed three (3) months, then for purposes of determining the period within which an Incentive Option may be exercised as such under the federal tax laws, the Participant's Service shall be deemed to cease on the first day immediately following the expiration of such three (3)-month period, unless Participant is provided with the right to return to Service following such leave either by statute or by written contract. Except to the extent otherwise required by law or expressly authorized by the Plan Administrator or by the Corporation's written policy on leaves of absence, no Service credit shall be given for vesting purposes for any period the Participant is on a leave of absence.

CC. **Stock Exchange** shall mean the American Stock Exchange, the Nasdaq Global or Global Select Market or the New York Stock Exchange.

DD. **Subsidiary** shall mean any corporation (other than the Corporation) in an unbroken chain of corporations beginning with the Corporation, provided each corporation (other than the last corporation) in the unbroken chain owns, at the time of the determination, stock

possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

EE. **10% Stockholder** shall mean the owner of stock (as determined under Code Section 424(d)) possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Corporation (or any Parent or Subsidiary).

FF. **Withholding Taxes** shall mean the applicable federal, state and foreign income and employment withholding taxes and other payments to which the holder of an Award under the Plan may become subject in connection with the issuance, exercise or vesting of that Award or the issuance of shares of Common Stock thereunder.

Exhibit 31.1

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Bruce C. Galton, President and Chief Executive Officer of Senesco Technologies, Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Senesco Technologies, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the

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audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 17, 2009

/s/ Bruce C. Galton
Bruce C. Galton
President and Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Joel Brooks, Chief Financial Officer and Treasurer of Senesco Technologies, Inc., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Senesco Technologies, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the

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audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 17, 2009

/s/ Joel Brooks
Joel Brooks
Chief Financial Officer and Treasurer
(principal financial and accounting officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Senesco Technologies, Inc. for the period ended December 31, 2008 as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Bruce C. Galton, President and Chief Executive Officer, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Quarterly Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: February 17, 2009

/s/ Bruce C. Galton *
Bruce C. Galton
President and Chief Executive Officer
(principal executive officer)

* A signed original of this written statement required by Section 906 has been provided to us and will be retained by us and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Senesco Technologies, Inc. for the period ended December 31, 2008 as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Joel Brooks, Chief Financial Officer and Treasurer, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Quarterly Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: February 17, 2009

/s/ Joel Brooks *
Joel Brooks
Chief Financial Officer and Treasurer
(principal financial and accounting officer)

* A signed original of this written statement required by Section 906 has been provided to us and will be retained by us and furnished to the Securities and Exchange Commission or its staff upon request.