

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

1. Name and Address of Reporting Person* <u>Isabelle Warren John</u> (Last) (First) (Middle) <u>303 GEORGE STREET</u> <u>SUITE 420</u> (Street) <u>NEW BRUNSWICK NJ 08901</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>SENESCO TECHNOLOGIES INC [SNT]</u> 3. Date of Earliest Transaction (Month/Day/Year) <u>02/19/2010</u> 4. If Amendment, Date of Original Filed (Month/Day/Year)	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person
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Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	02/19/2010		P		16,745	A	\$0 ⁽¹⁾	18,967	D	

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Common Stock Warrant	\$1.01	02/19/2010		P		9,691	02/19/2010	06/30/2012	Common Stock	9,691	\$0 ⁽¹⁾	13,719	D	
Common Stock Warrant	\$1.01	02/19/2010		P		16,152	02/19/2010	12/20/2012	Common Stock	16,152	\$0 ⁽¹⁾	29,871	D	
Common Stock Warrant	\$1.01	02/19/2010		P		10,768	02/19/2010	06/30/2013	Common Stock	10,768	\$0 ⁽¹⁾	40,639	D	
Common Stock Warrant	\$0.83	02/19/2010		P		16,152	02/19/2010	12/20/2012	Common Stock	16,152	\$0 ⁽¹⁾	56,791	D	
Common Stock Warrant	\$0.83	02/19/2010		P		10,768	02/19/2010	06/30/2013	Common Stock	10,768	\$0 ⁽¹⁾	67,559	D	
Convertible Debenture Due 12/31/2010	\$0.22 ⁽²⁾	02/19/2010		P		\$64,607	02/19/2010	12/31/2010	Common Stock	287,626	\$0 ⁽¹⁾	287,626	D	

Explanation of Responses:

1. Mr. Isabelle entered into agreements to purchase an aggregate of 16,745 shares of common stock, 63,531 common stock warrants and \$64,607 of convertible debentures. The total purchase price was \$11,500, which was not allocated among the various components.
2. The conversion rate used is the rate that the convertible debentures may convert at as of February 19, 2010. However, the conversion rate may change as the convertible debentures convert at a floating conversion rate equal to the lower of \$0.83, subject to adjustment, or 80% of the lowest daily VWAP for the five day period immediately preceding the conversion date.

Warren J. Isabelle 02/23/2010
** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.