

**UNITED STATES  
SECURITIES AND EXCHANGE  
COMMISSION**

Washington, D.C. 20549

**SCHEDULE 13D**

(Rule 13d-101)

**INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO RULE 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO  
RULE 13d-2(a)**

**Under the Securities Exchange Act of 1934  
(Amendment No. 4)\***

**Senesco Technologies, Inc.**

(Name of Issuer)

**Common Stock, \$0.01 par value**

(Title of Class of Securities)

**817208 40 8**

(CUSIP Number)

**Joel Brooks, 303 George Street, Suite 420, New Brunswick, New Jersey 08901 (732-296-8400)**

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

**December 31, 2004**

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. ☐

**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 817208 40 8

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)  
John E. Thompson, Ph.D.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a) ☐

(b) ☐

3. SEC Use Only

4. Source of Funds (See Instructions)

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) ☐

6. Citizenship or Place of Organization  
Canada

7. Sole Voting Power  
690,334

Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With

8. Shared Voting Power  
N/A

9. Sole Dispositive Power  
690,334

10. Shared Dispositive Power  
N/A

11. Aggregate Amount Beneficially Owned by Each Reporting Person  
690,334

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) ☐

13. Percent of Class Represented by Amount in Row (11)  
4.96%

14. Type of Reporting Person (See Instructions)  
IN

## Item 1. Security and Issuer

The title of the class of equity securities to which this statement relates is common stock, \$0.01 par value (the “Common Stock”), of Senesco Technologies, Inc., a Delaware corporation (the “Company”). The address of the principal executive offices of the Company is 303 George Street, Suite 420, New Brunswick, New Jersey 08901.

## Item 2. Identity and Background

(a) The name of the person filing this statement is John E. Thompson, Ph.D.;

(b) The business address of Dr. Thompson is c/o Senesco Technologies, Inc., 303 George Street, Suite 420, New Brunswick, New Jersey 08901;

- (c) The present principal occupation or employment of Dr. Thompson is Executive Vice President and Chief Scientific Officer of the Company;
- (d) During the last five years, Dr. Thompson has not been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors);
- (e) During the last five years, Dr. Thompson was not a party to a civil proceeding of a judicial or administrative body of competent jurisdiction as a result of which proceeding it was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws; and
- (f) Dr. Thompson is a citizen of Canada.

### **Item 3. Source and Amount of Funds or Other Consideration**

On October 9, 1998, Senesco, Inc., a New Jersey corporation (“Senesco”), Nava Leisure USA, Inc., an Idaho corporation (“Nava”), Nava Leisure Acquisition Corp., a New Jersey corporation and wholly-owned subsidiary of Nava (“NAC”), and the Principal Stockholders (as defined therein), entered into an Agreement and Plan of Merger, providing for the merger of NAC with and into Senesco, and the issuance to the shareholders of Senesco one newly issued share of Common Stock of Nava for each share of Common Stock of Senesco whereby the shareholders of Senesco acquired a majority of the issued and outstanding shares of Common Stock of Nava (the “Merger”). The Merger was consummated on January 22, 1999, the date upon which the Certificate of Merger filed with the Secretary of State of the State of New Jersey was declared effective. Upon the consummation of the Merger, Senesco was the surviving corporation and remained a subsidiary of Nava which changed its name to Senesco Technologies, Inc., an Idaho corporation (“STI”).

Dr. Thompson was a shareholder of Senesco and beneficially owned 425,000 shares of Common Stock of Senesco. As a result of the Merger, on January 22, 1999, Dr. Thompson received 425,000 shares of Common Stock of STI (formerly Nava), consisting of 15.74% of the 2,700,008 shares of STI Common Stock issued and outstanding.

On September 7, 1999, STI granted to Dr. Thompson options to purchase 40,000 shares of STI Common Stock, on a post stock split adjusted basis (as described below), at an exercise price equal to \$3.85 per share. Dr. Thompson received such options as consideration for his services as an executive officer of STI.

On September 29, 1999, STI declared a two-for-one forward stock split of its issued and outstanding Common Stock and, as a result, Dr. Thompson’s holdings of STI Common Stock increased to 850,000 shares, excluding any options to purchase shares of STI Common Stock.

On September 30, 1999, STI merged with and into the Company, for the sole purpose of reincorporating the corporation from the State of Idaho to the State of Delaware.

On December 1, 2001, the Company granted to Dr. Thompson options to purchase 80,000 shares of Common Stock pursuant to the Company’s 1998 Stock Incentive Plan, as amended, at an exercise price equal to \$2.05 per share. Dr. Thompson received such options as consideration for his services as an executive officer of the Company. All such options are currently exercisable.

On January 7, 2003, the Company granted to Dr. Thompson options to purchase 20,000 shares of Common Stock pursuant to the Company’s 1998 Stock Incentive Plan, as amended, at an exercise price equal to \$2.35 per share. One-third (1/3) of such options became exercisable on January 7, 2004, one-third (1/3) of such options became exercisable on January 7, 2005, and one-third (1/3) of such options shall become exercisable on January 7, 2006. Dr. Thompson received such options as consideration for his services as an executive officer of the Company.

On December 16, 2003, the Company granted to Dr. Thompson options to purchase 20,000 shares of Common Stock pursuant to the Company’s 1998 Stock Incentive Plan, as amended, at an exercise price equal to \$3.15 per share. One-third (1/3) of such options were exercisable on the date of grant, one-third (1/3) of such options became exercisable on December 16, 2004, and one-third (1/3) of such options shall become exercisable on December 16, 2005. Dr. Thompson received such options as consideration for his services as an executive officer of the Company.

### **Item 4. Purpose of Transaction**

On September 7, 2004, options to purchase 40,000 shares of Common Stock pursuant to the Company’s 1998 Stock Incentive Plan, as amended, expired.

On December 16, 2004, the Company granted to Dr. Thompson options to purchase 55,000 shares of Common Stock pursuant to the Company’s 1998 Stock Incentive Plan, as amended, at an exercise price equal to \$3.45 per share. One-third (1/3) of such options were exercisable on the date of grant, one-third (1/3) of such options shall become exercisable on December 16, 2005, and one-third (1/3) of such options shall become exercisable on December 16, 2006.

Dr. Thompson may from time to time, depending upon market conditions, the state of affairs of the Company and other factors, acquire additional shares of Common Stock of the Company, subject to applicable laws and to the availability of shares at prices deemed favorable. Additionally, Dr. Thompson may dispose of shares of Common Stock. Dr. Thompson will continue to consider his equity interests in the

Company and he reserves the right to formulate such plans or proposals, and to take such action, as he may deem appropriate in light of future circumstances.

Except as set forth above, Dr. Thompson does not have any present plans or intentions which would result in or relate to any of the following:

- (a) The acquisition by any person of additional securities of the Company, or the disposition of securities of the Company;
- (b) An extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Company;
- (c) A sale or transfer of a material amount of assets of the Company;

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- (d) Any change in the present board of directors or management of the Company, including any plans or proposals to change the number or terms of directors or to fill any existing vacancies on the board;
- (e) Any material change in the present capitalization or dividend policy of the Company;
- (f) Any other material change in the Company's business or corporate structure;
- (g) Changes in the Company's charter, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Company by any person;
- (h) Causing a class of securities of the Company to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association;
- (i) A class of equity securities of the Company becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Act; or
- (j) Any action similar to any of those enumerated above.

**Item 5. Interest in Securities of the Issuer**

- (a) Dr. Thompson beneficially owns 690,334 shares of Common Stock, including options to purchase 118,334 shares of Common Stock. Dr. Thompson's 690,334 shares of Common Stock represents 4.96% of the issued and outstanding shares of Common Stock of the Company as of December 31, 2004, based on 13,809,750 shares issued and outstanding and assuming the exercise of all options exercisable within 60 days held by Dr. Thompson.
- (b) Dr. Thompson has the sole power to vote or to direct the vote of all of the 690,334 shares of Common Stock, assuming the exercise of all options exercisable within 60 days.
- (c) No other person is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, such securities.
- (d) Not applicable.

**Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

There is no contract, arrangement, understanding or relationship (legal or otherwise) between Dr. Thompson and the Company with respect to any securities of the Company, including but not limited to, transfer of voting of any of the securities, finder's fees, joint ventures, loan or option arrangements, puts or calls, guarantees of profits, division of profits or loss, or the giving or withholding of proxies.

**Item 7. Material to Be Filed as Exhibits**

None.

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**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement, *provided, however*, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

**Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).**