

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 3)\*

SENESCO TECHNOLOGIES, INC.  
(Name of Issuer)

COMMON STOCK  
(Title of Class of Securities)

817208408  
(CUSIP Number)

DECEMBER 31, 2006  
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which  
this Schedule is filed:

☒ Rule 13d-1(b)  
☐ Rule 13d-1(c)  
☐ Rule 13d-1(d)

\*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 the disclosures provided  
in a prior cover page.

The information required in 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. 817208408

1. NAME OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

HEARTLAND ADVISORS, INC.

#39-1078128

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a) ☐  
(b) ☐

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

WISCONSIN, U.S.A.

-----  
NUMBER OF  
SHARES BENEFICIALLY  
OWNED BY

5. SOLE VOTING POWER

None

EACH  
REPORTING  
PERSON  
WITH

6. SHARED VOTING POWER

1,329,925

7. SOLE DISPOSITIVE POWER

None

8. SHARED DISPOSITIVE POWER

1,329,925

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9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

1,329,925

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES \_\_\_\_\_

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

7.6%

12. TYPE OF REPORTING PERSON

IA

CUSIP No. 817208408

1. NAME OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

WILLIAM J. NASGOVITZ

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a) [ ]  
(b) [ ]

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

U.S.A.

-----

NUMBER OF  
SHARES BENEFICIALLY  
OWNED BY  
EACH  
REPORTING  
PERSON  
WITH

5. SOLE VOTING POWER

None

6. SHARED VOTING POWER

1,329,925

7. SOLE DISPOSITIVE POWER

None

8. SHARED DISPOSITIVE POWER

1,329,925

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9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

1,329,925

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES \_\_\_\_\_

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

7.6%

12. TYPE OF REPORTING PERSON

IN

Item 1.

(a) Name of Issuer: Senesco Technologies, Inc.

(b) Address of Issuer's Principal Executive Offices:  
303 George Street, Suite 420  
New Brunswick, NJ 08901

Item 2.

(a) Name of Person Filing: (1) Heartland Advisors, Inc.

(2) William J. Nasgovitz

(b) Address of Principal Business Office:  
(1) 789 North Water Street (2) 789 North Water Street  
Milwaukee, WI 53202 Milwaukee, WI 53202

(c) Citizenship: Heartland Advisors is a Wisconsin corporation.  
William J. Nasgovitz - U.S.A

(d) Title of Class of Securities: Common Stock

(e) CUSIP Number: 817208408

Item 3. The persons filing this Schedule 13G are Heartland Advisors, Inc., an investment adviser registered with the SEC, and William J. Nasgovitz, President and principal shareholder of Heartland Advisors, Inc. Mr. Nasgovitz joins in this filing pursuant to SEC staff positions authorizing certain individuals in similar situations to join in a filing with a controlled entity eligible to file on Schedule 13G. The reporting persons do not admit that they constitute a group.

Item 4. Ownership.

(a) Amount beneficially owned:

1,329,925 shares may be deemed beneficially owned within the meaning of Rule 13d-3 of the Securities Exchange Act of 1934 by (1) Heartland Advisors, Inc. by virtue of its investment discretion and voting authority granted by certain clients, which may be revoked at any time; and (2) William J. Nasgovitz, as a result of his ownership interest in Heartland Advisors, Inc. Heartland Advisors, Inc. and Mr. Nasgovitz each specifically disclaim beneficial ownership of any shares reported on the Schedule.

(b) Percent of Class: 7.6%

(c) For information on voting and dispositive power with respect to the above listed shares, see Items 5-9 of the Cover Pages.

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following:[ ]

Item 6. Ownership of more than Five Percent on Behalf of Another Person.

The clients of Heartland Advisors, Inc., a registered investment adviser, including an investment company registered under the Investment Company Act of 1940 and other managed accounts, have the right to receive or the power to direct the receipt of dividends and proceeds from the sale of shares included on this Schedule. The Heartland Value Fund, a series of the Heartland Group, Inc., a registered investment company, owns 1,329,925 shares or 7.6% of the class of securities reported herein. Any remaining shares disclosed in this filing are owned by various other accounts managed by Heartland Advisors, Inc. on a discretionary basis. To the best of Heartland Advisors' knowledge, none of the other accounts own more than 5% of the outstanding stock.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not Applicable.

Item 8. Identification and Classification of Members of the Group.

Not Applicable.

Item 9. Notice of Dissolution of Group.

Not Applicable.

Item 10. Certification.

By signing below, the undersigned certify that, to the best of their knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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.

DATE: February 9, 2007

WILLIAM J. NASGOVITZ

HEARTLAND ADVISORS, INC.

By: /s/ PAUL T. BESTE  
Paul T. Beste  
As Attorney in Fact for  
William J. Nasgovitz

By: /s/ PAUL T. BESTE  
Paul T. Beste  
Chief Operating Officer

EXHIBIT INDEX

Exhibit 1 Joint Filing Agreement

EXHIBIT 1

Joint Filing Agreement

The undersigned persons agree and consent to the joint filing on their behalf of this Schedule 13G in connection with their beneficial ownership of Senesco Technologies, Inc. at December 31, 2006.

WILLIAM J. NASGOVITZ

By: /s/ PAUL T. BESTE  
Paul T. Beste  
As Attorney in Fact for William J. Nasgovitz

HEARTLAND ADVISORS, INC.

By: /s/ PAUL T. BESTE  
Paul T. Beste  
Chief Operating Officer