



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

DIVISION OF
CORPORATION FINANCE

October 25, 2013

Via E-Mail

Leslie J. Browne, Ph.D.
Chief Executive Officer
Senesco Technologies, Inc.
721 Route 202/206, Suite 130
Bridgewater, NJ 08807

**Re: Senesco Technologies, Inc.
Registration Statement on Form S-1
Filed October 17, 2013
File No. 333-191785**

Dear Dr. Browne:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

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1. Although Rule 430A of the Securities Act of 1933 permits registrants to omit certain pricing-related information from a registration statement that is declared effective, your filing must include the amount of securities to be offered in a pre-effective amendment. Accordingly, please revise your disclosure on the cover page and throughout the prospectus, to specify:
 - the number of units being offered; and
 - the number of shares of common stock per unit

Exhibit 5.1

2. We note that your Exhibit 5.1 refers to the proposed sale of up to \$15,000,000 of shares of common stock. This reference appears to be inconsistent with your current proposed offering. Please revise your legal opinion to refer to the proposed units offering.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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Please contact Christina De Rosa at (202) 551-3577, Daniel Greenspan at (202) 551-3623 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-Mail
Emilio Ragosa
Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540