



DIVISION OF
CORPORATION FINANCE

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

February 26, 2015

Via E-mail

Robert M. McMahon
Chief Financial Officer
Hologic, Inc.
35 Crosby Drive
Bedford, MA 01730

**Re: Hologic, Inc.
Form 10-K for the Fiscal Year Ended September 27, 2014
Filed November 20, 2014
File No. 1-36214**

Dear Mr. McMahon:

We have limited our review of your filing to your contacts with countries that have been identified as state sponsors of terrorism, and we have the following comments. Our review with respect to this issue does not preclude further review by the Assistant Director group with respect to other issues. In our comments we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

General

1. In your letter to us dated March 21, 2012, you discussed contacts with Syria. We note that Hologic Worldwide's website provides distributor contact information for Syria, Sudan and Cuba. Syria, Sudan and Cuba are designated by the State Department as state sponsors of terrorism, and are subject to U.S. economic sanctions and export controls. You do not provide disclosure about these countries in the Form 10-K. Please describe to us the nature and extent of your past, current, and anticipated contacts with Syria since your 2012 letter, and with Sudan and Cuba, whether through subsidiaries, affiliates, distributors, resellers or other direct or indirect arrangements. You should describe any products or services provided, directly or indirectly, and any agreements, commercial arrangements, or other contacts with the governments of those countries or entities they control.

2. Please discuss the materiality of any contacts with Syria, Sudan and Cuba you describe in response to the comment above, and whether those contacts constitute a material investment risk for your security holders. You should address materiality in quantitative terms, including the approximate dollar amounts of any associated revenues, assets, and liabilities for the last three fiscal years and the subsequent interim period. Also, address materiality in terms of qualitative factors that a reasonable investor would deem important in making an investment decision, including the potential impact of corporate activities upon a company's reputation and share value. As you know, various state and municipal governments, universities, and other investors have proposed or adopted divestment or similar initiatives regarding investment in companies that do business with U.S.-designated state sponsors of terrorism. You should address the potential impact of the investor sentiment evidenced by such actions directed toward companies that have operations associated with Syria, Sudan and Cuba.
3. Please tell us whether any your contacts with Syria, Sudan or Cuba involve products or technology that are dual use, or are listed on the Department of Commerce's Commerce Control List.

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 Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to the company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please contact Jennifer Hardy, Special Counsel, at (202) 551-3767 or me at (202) 551-3470 if you have any questions about the comments or our review.

Robert M. McMahon
Hologic, Inc.
February 26, 2015
Page 3

Sincerely,

/s/ Cecilia Blye

Cecilia Blye, Chief
Office of Global Security Risk

cc: Amanda Ravitz
Assistant Director
Division of Corporation Finance