



DIVISION OF
CORPORATION FINANCE

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

October 1, 2010

Marc N. Casper
President and Chief Executive Officer
Thermo Fisher Scientific, Inc.
81 Wyman Street
P.O. Box 9046
Waltham, MA 02454

**Re: Thermo Fisher Scientific
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed February 26, 2010
File No. 001-8002**

Dear Mr. Casper:

We have limited our review of your filing 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 within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comment applies 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 filing and the information you provide in response to the comment, we may have additional comments.

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1. We note your response to prior comment 2 and continue to believe that you could provide greater clarification regarding the company-wide non-financial measures that are utilized in determining the amount of the annual cash incentive bonuses. Please enhance your disclosure in your future applicable filings to provide greater clarification or quantification of what level of performance was necessary in order for your compensation committee to determine that each measure was achieved. For example, your disclosure should address what level of organic revenue growth relative to your peers was necessary in order for your compensation committee to determine that the

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target had been met for this measure and identify to which peer group you are referring. We note in this regard that you define three separate peer groups on page 13 of your proxy statement. Also, please clarify whether these measures were equally weighted or whether some measures were given more weight than others. Please confirm that in future filings, as applicable, you will provide greater clarification and, where applicable, quantification for each of the targets utilized in determining the incentive bonus payments made to the named executive officers in the prior year.

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 a 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 Joseph McCann at (202) 551-6262, or Tim Buchmiller, Senior Attorney, at (202) 551-3635 if you have questions on the comments.

Sincerely,

Russell Mancuso
Branch Chief

cc: Seth H. Hoogasian, Esq. – Senior Vice President and General Counsel