



DIVISION OF
CORPORATION FINANCE

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

August 24, 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 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 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 filing and the information you provide in response to these comments, we may have additional comments.

Executive Compensation, page 54

1. We note from your disclosure under "Base Salary" that you have incorporated by reference from page 14 of your proxy statement that you target base salaries within 10% of the median of salaries for executives in similar positions at comparable companies. Similarly, you disclose under "Stock Option and Restricted Stock Awards" on page 16 that grants approximate median market consensus of your peer group companies. Given that you target the elements of your compensation packages, please briefly discuss in your applicable future filings how each element of compensation you provide to the named executive officers relates to the data you have analyzed from the peer companies

and include an analysis of where actual payments under each element of compensation fell within the targeted range. If any of your named executive officers are compensated at levels that are materially different from the targeted levels of compensation, please also provide discussion and analysis as to why.

2. We note from your discussion under "Annual Cash Incentive Bonus" on page 14 of the proxy statement that you have not disclosed the specific "company-wide, non-financial measures" for Fiscal Year 2009. Please provide such disclosure in your future filings, as applicable. To the extent you believe that disclosure of such information, on a historical basis, would result in competitive harm such that the information could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide us with a detailed explanation supporting your conclusion. To the extent that it is appropriate to omit specific targets or performance objectives, you are required to provide appropriate disclosure pursuant to Instruction 4 to Item 402(b) of Regulation S-K. Refer also to Question 118.04 of the Regulation S-K Compliance and Disclosure Interpretations available on our website at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>. In discussing how difficult or likely it will be to achieve the target levels or other factors, you should provide as much detail as necessary without disclosing information that poses a reasonable risk of competitive harm.
3. While we note your disclosure on page 11 of the proxy statement regarding compensation disclosure risks, it does not appear you have provided disclosure in response to Item 402(s) of Regulation S-K regarding compensation policies and practices that create risks that are reasonably likely to have a material adverse effect on the company. Please tell us the basis for your conclusion that disclosure is not necessary and describe the process you undertook to reach that conclusion.

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

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- 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, reviewing 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
(via facsimile)