



DIVISION OF
CORPORATION FINANCE

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

April 8, 2011

VIA U.S. MAIL

Thomas B. Pickens, III
Chief Executive Officer
Astrotech Corporation
401 Congress Avenue Suite 1650
Austin, TX 78701

**Re: Astrotech Corporation
Form 10-K for the fiscal year ended June 30, 2010
Filed August 30, 2010
File No. 001-34426**

Dear Mr. Pickens:

We have reviewed your filing and have the following 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.

Item 1A. Risk Factors, page 6

1. In future filings, please delete the second sentence of the introductory paragraph. If a risk is not deemed material, it should not be referenced here.

Current Directors, page 48

2. In future filings, please revise your directors' biographies to discuss the specific experience, qualifications, attributes, or skills that led to the conclusion that the person should serve as a director. Refer to Item 401(e) of Regulation S-K.

Compensation Discussion and Analysis, page 53

The Compensation Program, page 54

3. We note your disclosure that you benchmark your Named Executive Officers' compensation to a peer group of public companies. In future filings, please identify the companies to which you benchmark and disclose the degree to which the compensation committee considers such companies comparable to you. If all or part of your NEOs' compensation is benchmarked to a percentile range of the peer group, disclose the percentiles. Refer to Item 402(b)(2)(xiv) of Regulation S-K.

Short-Term Cash Incentives, page 55

4. In future filings, please quantify all performance targets under the Bonus Plan that must be achieved in order for your executive officers to earn their incentive compensation. To the extent you believe that disclosure of the targets is not required because it would result in competitive harm such that the targets could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide on a supplemental basis a detailed explanation for such conclusion. Please also note that to the extent that you have an appropriate basis for omitting the specific targets, you must discuss how difficult it would be for the named executive officers or how likely it will be for you to achieve the undisclosed target levels or other factors. General statements regarding the level of difficulty, or ease, associated with achieving performance goals either corporately or individually are not sufficient.

Summary Compensation Table, page 57

5. With respect to the stock and option awards reported in columns (c) and (d), clarify in the footnotes the assumptions made in valuation by reference to a discussion of those assumptions in your financial statements, footnotes to the financial statements, or discussion in Management's Discussion and Analysis. Refer to the Instruction to Item 402(c)(2)(v) and (vi) of Regulation S-K.

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;

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- 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 J. Nolan McWilliams at (202) 551-3217 or me at (202) 551-3324 with any questions.

Sincerely,

John Stickel
Attorney-Advisor